

# F@ST 2704R

Reference Manual



**SAGEMCOM**



**Sagemcom** assiduously monitors technical developments and is constantly seeking to improve its products in order to let its clients take full advantage of them. It therefore reserves the right to modify its documentation accordingly without notice.

All brands mentioned in this guide are registered by their respective owners:

- **F@ST** is a registered trademark.
- **Sagemcom** is a registered trademark.
- **Windows™** and **Internet Explorer™** are registered trademarks of Microsoft Corporation.

The purpose of this reference manual is to give users the functions for operating and managing the equipment. The only access level required (**Administrator**) is protected by a password and allows one to access these functions in read and write mode for all the user and network parameters (Login: admin; password: etdm).



#### Note



Configuration of the router by HTTP is described in detail (cf. section 5).

To ease legibility of the reference manual, the term "router" will be used throughout the document to designate F@ST 2704R equipment.

## Guide to symbols used in this manual

Symbols	Definition
 <b>Note</b>	Gives you important information which you must take into account.
 <b>Important</b>	Warns you not to do an action, or commit a serious omission.

# How should the document be used?

This reference manual is organised into sections and annexes. These sections and annexes cover the following subjects.

<b>Section 1</b>	Presentation of F@ST 2704R equipment
<b>Section 2</b>	Description of F@ST 2704R equipment
<b>Section 3</b>	Installation of F@ST 2704R equipment
<b>Section 4</b>	Configuration of network parameters
<b>Section 5</b>	Configuration of the router by HTTP
<b>Section 6</b>	Configuration of the advanced parameters
<b>Section 7</b>	Description of Internet access service
<b>Section 8</b>	Description of TV over ADSL service
<b>Section 9</b>	Updating the application
<b>Annex A</b>	Troubleshooting
<b>Annex 10</b>	EC compliance declaration
<b>Annex 11</b>	Environment
<b>Annex 12</b>	Technical Characteristics
<b>Annex 13</b>	Default configuration
<b>Annex B</b>	Glossary
<b>Annex C</b>	Connector technology



# Contents

	Pages
<b>Guide to symbols used in this manual</b>	<b>0-1</b>
<b>How should the document be used?</b>	<b>0-2</b>
<b>Contents</b>	<b>0-3</b>
<b>List of figures</b>	<b>0-7</b>
<b>1. Introduction</b>	<b>1-1</b>
1.1 Presentation .....	1-2
1.2 Composition of router pack .....	1-4
1.3 (Minimum) prerequisites .....	1-5
<b>2. Description and connection of router</b>	<b>2-1</b>
2.1 Description .....	2-2
2.1.1 Connectors .....	2-3
2.1.2 LEDs and buttons .....	2-4
2.2 Connecting the ports of your router .....	2-6
2.3 Installation of your F@ST 2704R .....	2-7
2.3.1 Powering up .....	2-7
2.3.2 Connecting the ADSL cable .....	2-7
2.3.3 Connecting to your computer .....	2-8
2.3.4 Connecting the Ethernet interface of your router to your TV decoder .....	2-9
2.3.5 Connecting the USB interface of your router .....	2-9
2.4 Installation safety instructions .....	2-10
<b>3. Installing and configuring the F@ST 2704R router</b>	<b>3-1</b>
<b>4. Configuration of network parameters</b>	<b>4-1</b>
4.1 Configuring as a DHCP client .....	4-3
4.2 Status of the DHCP server .....	4-4
4.3 Data of the DHCP client .....	4-5
<b>5. Information / Configuration</b>	<b>5-1</b>
5.1 Accessing the welcome screen .....	5-2
5.2 Recommendations .....	5-4
5.3 ADSL connection status .....	5-5
5.4 Display frame .....	5-5

5.5 Basic parameters .....	5-6
5.5.1 My network .....	5-6
5.5.2 Configuration .....	5-9
5.5.3 Services .....	5-13
5.5.4 Management .....	5-15

## **6. Advanced parameters 6-1**

6.1 Accessing the advanced parameters .....	6-2
6.2 Device Info .....	6-5
6.2.1 Summary .....	6-5
6.2.2 WAN .....	6-6
6.2.3 3G Status .....	6-7
6.2.4 Statistics .....	6-7
6.2.5 Route .....	6-12
6.2.6 ARP .....	6-13
6.2.7 DHCP .....	6-14
6.3 Internet Connection .....	6-15
6.4 Advanced Setup .....	6-16
6.4.1 Layer2 Interface .....	6-17
6.4.2 WAN Service .....	6-22
6.4.3 3G Config .....	6-46
6.4.4 LAN .....	6-47
6.4.5 NAT .....	6-50
6.4.6 Security .....	6-57
6.4.7 Parental Control .....	6-63
6.4.8 Quality of Service .....	6-66
6.4.9 Routing .....	6-74
6.4.10 DNS .....	6-79
6.4.11 DSL .....	6-82
6.4.12 Upnp .....	6-85
6.4.13 DNS Proxy .....	6-86
6.4.14 Interface Grouping .....	6-87
6.4.15 Certificate .....	6-90
6.4.16 Power Management .....	6-94
6.4.17 Multicast .....	6-95
6.5 Wireless .....	6-97
6.5.1 Basic .....	6-97
6.5.2 Security .....	6-100
6.5.3 MAC Filter .....	6-112
6.5.4 Advanced .....	6-114
6.5.5 Station Info .....	6-118
6.6 Multimedia .....	6-119
6.6.1 Print Server .....	6-119

6.6.2	Storage Service .....	6-120
6.7	Diagnostics .....	6-121
6.8	Management .....	6-122
6.8.1	Settings .....	6-122
6.8.2	System Log .....	6-127
6.8.3	Security Log .....	6-130
6.8.4	TR-069 Client .....	6-131
6.8.5	Access Control .....	6-132
6.8.6	Update Software .....	6-133
6.8.7	System Info .....	6-134
6.8.8	Reboot .....	6-135
<b>7.</b>	<b>Internet access service</b> .....	<b>7-1</b>
<b>8.</b>	<b>TV over ADSL service</b> .....	<b>8-1</b>
8.1	Introduction .....	8-2
8.2	Access to the optional TV over ADSL service .....	8-2
<b>9.</b>	<b>Updating the firmware</b> .....	<b>9-1</b>
<b>10.</b>	<b>Annex 10 - Warnings for safety</b> .....	<b>10-1</b>
10.1	Warnings for safety .....	10-2
10.1.1	Safety levels in relation to the case .....	10-2
10.2	EC compliance declaration .....	10-2
<b>11.</b>	<b>Annex 11 - Environment</b> .....	<b>11-1</b>
11.1	Directive E 2002/96/CE .....	11-2
<b>12.</b>	<b>Annex 12 - Technical Characteristics</b> .....	<b>12-1</b>
12.1	Mechanics; Display .....	12-2
12.2	Characteristics of the different interfaces .....	12-3
12.3	Environmental characteristics .....	12-5
12.4	Application and protocols .....	12-6
<b>13.</b>	<b>Annex 13 - Default configuration</b> .....	<b>13-1</b>
13.1	Default username and password .....	13-2
13.2	Default configuration for the local network(LAN) .....	13-2
13.3	Default configuration for the local wireless network (WLAN) .....	13-2
<b>A.</b>	<b>Annex A - Troubleshooting</b> .....	<b>A-1</b>
A.1	Checking the assignment of an IP address .....	A-2
A.2	Front panel LEDs .....	A-3
A.3	Supervising your router .....	A-4
A.4	Diagnostics tool .....	A-5
A.5	Interpreting the LEDs .....	A-6

A.5.1 The "ADSL" LED blinks slowly .....	A-6
A.5.2 "Wi-Fi" LED off .....	A-6
A.5.3 All LEDs are off .....	A-6
A.6 Restarting your router .....	A-7
A.7 Resetting factory configuration .....	A-7
A.8 Offline mode .....	A-8

**B. Annex B - Glossary B-1**

**C. Annex C - Connector Technology C-1**

C.1 Pinouts of the LINE connector .....	C-2
C.2 Pinouts of the PWR connector .....	C-2
C.3 Pinouts of the LAN1, LAN2, LAN3 and LAN4 connectors .....	C-3

# List of figures

Figure 1.1 - Home Network Overview .....	1-2
Figure 2.1 - Overview of case .....	2-2
Figure 2.2 - Interconnection of ports of F@ST 2704R .....	2-6
Figure 2.3 - ADSL line / Power Supply Connection .....	2-7
Figure 2.4 - USB Interface Connection .....	2-9



# 1. Introduction

This section covers	• presentation of the F@ST 2704R router	§ 1.1
	• composition of the packaging	§ 1.2
	• required hardware and software	§ 1.3

## 1.1 Presentation

This reference manual is dedicated to the F@ST 2704R equipment. This equipment is a router which gives users broadband Internet access from their computer or their game console by various Ethernet (10 or 100 BASE-T) or Wi-Fi (IEEE 802.11n) interfaces via an ADSL/ADSL2/ ADSL2+ network.

Using these interfaces, this router enables you both to surf the Internet and to watch television. It also allows give phone calls over the Internet from an IP SIP telephone linked by Wi-Fi to your router.

### Important



F@ST 2704R products adapt the ADSL function respectively for POTS (UIT G.992.1/3/5 - Annex A) and for ISDN (UIT G.992.1/3/5 - Annex B).

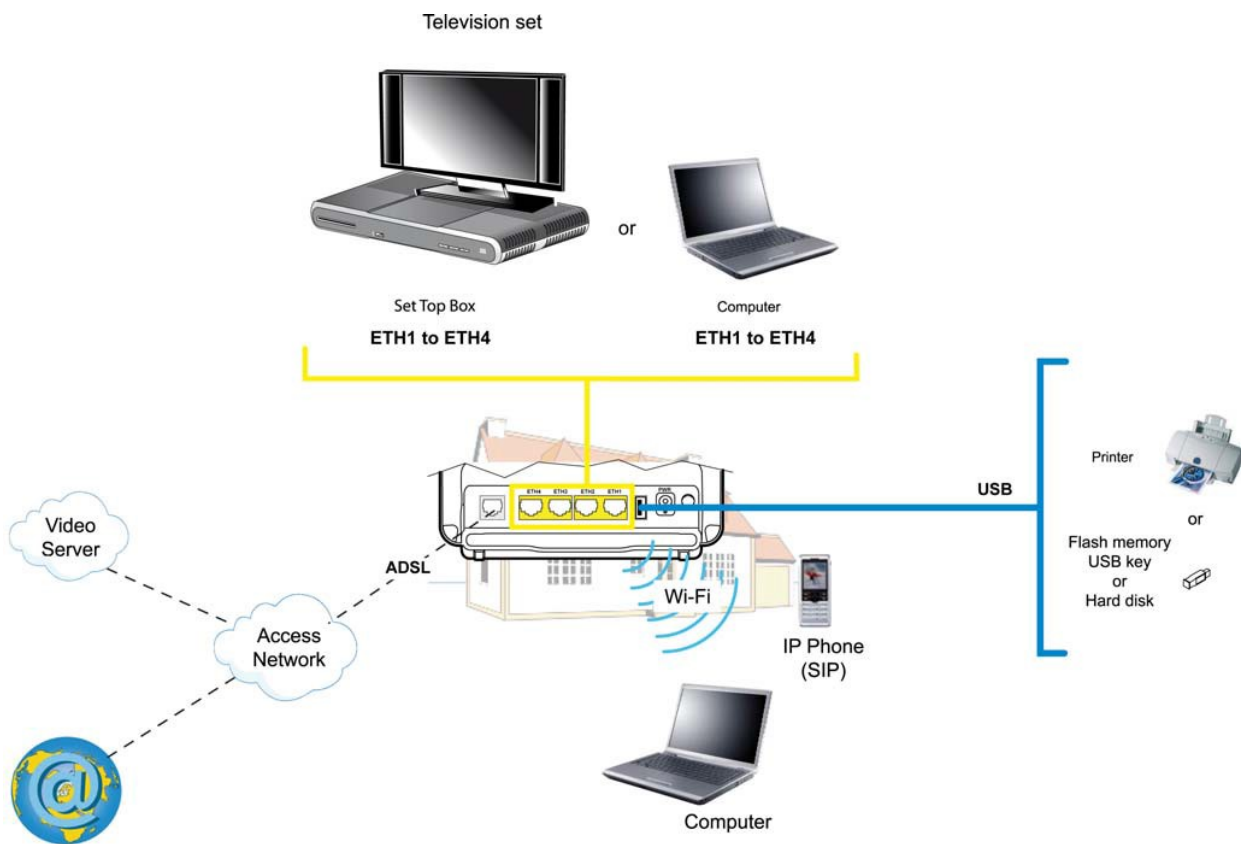


Figure 1.1 - Home Network Overview

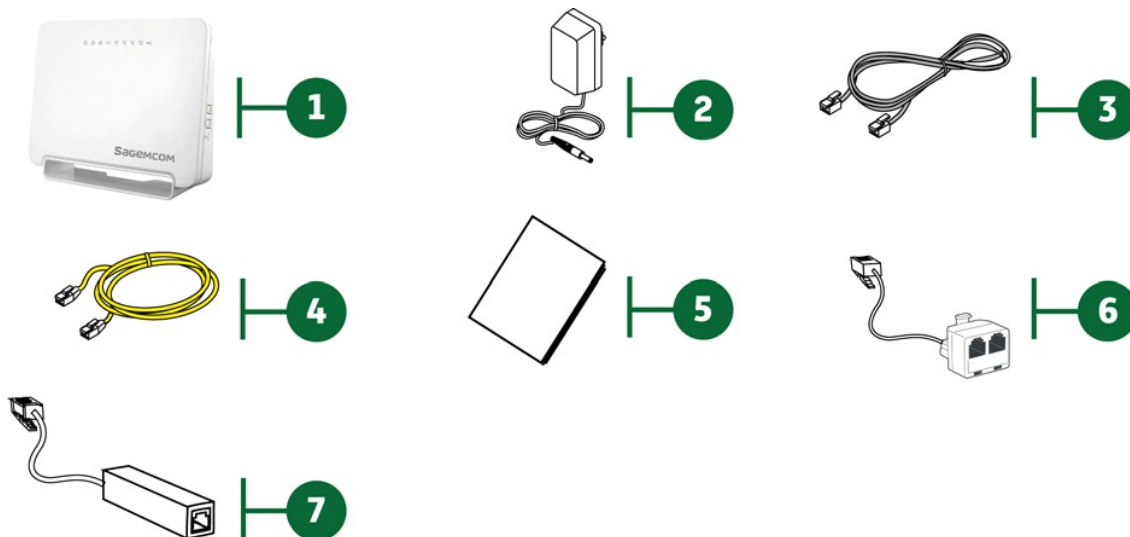


Its principal characteristics and functions are as follows:

- High-performance secure Bridge/Router with ADSL/ADSL2/ADSL2+ and Fast Ethernet (for FTTH) interfaces,
- User access:
  - 4 x 10/100BT Ethernet ports,
  - 1 Wi-Fi interface (802.11n),
  - 1 USB 2.0.,
  - HSDPA backup,
  - Samba server,
  - DLNA server v 1.5 (option).
- DHCP Client/Server/Relay,
- DNS Server/Relay,
- Access control (FTP/TELNET/HTTP/SSH Client),
- NAT/PAT router - FTP Compatibility, IRC, Net2Phone, Netbios, DNS, Netmeeting, VPN passthrough (IPSec, IKE, PPTP, L2TP), CUSeeMe, RealAudio, Microsoft IM and others,
- Security,
- Firewall,
- Spanning tree,
- Multi-VC ATM and ATM Quality of service (CBR, UBR, VBR),
- UPnP,
- TR069,
- QoS,
- Upgrade Firmware (Local and Remote),
- Backup/Restore and Upgrade configuration file (Local and Remote).

## 1.2 Composition of router pack

The router pack is composed of the following elements (present content may vary):



Item	Description
1	F@ST 2704R router
2	Mains adapter
3	ADSL RJ11/11 FDT line cable (length = 3 m) used to connect your router to your telephone line
4	Ethernet RJ45/RJ45 cable (length = 1.75 m) used to connect your router to the Ethernet port of your computer
5	Quick Installation Guide
6	Filter/Splitter used to connect one phone set and your router to your telephone line*
7	Microfilter used to connect another phone set to your telephone line*
* Option depending on pack content requested	

## 1.3 (Minimum) prerequisites

Using a router requires a minimum of:

- a computer equipped with:
  - a Wi-Fi 802.11n interface,or
  - an Ethernet interface (10BASE-T or 10/100BASE-T).
- a WEB browser (Internet Explorer version 5 or higher recommended).

The minimum configuration of your computer must be:

- for Windows: Pentium II, 400 MHz, RAM: 128 MB,
- for MacOS: Power PC G3, 233 MHz, RAM: 128 MB,
- a monitor of minimum resolution: 1024 x 768.

### Note



Before installing the router, we advise you to uninstall any modem or other router (for example, an ADSL router).

---



## 2. Description and connection of router

This section covers	• the description of your router	§ 2.1
	• connecting the ports of your router	§ 2.2
	• installing your router	§ 2.3
	• installation safety instructions	§ 2.4

## 2.1 Description

The following figure gives an overview of a router F@ST 2704R.



*Figure 2.1 - Overview of case*

This case consists principally of a lid and a base. Inside is a printed circuit equipped with electronic components.

The front face of the lid has ten display LEDs (see § 2.1.2).  
The base has the LED ideograms and the manufacturer logo.

Behind the base is a label on which the product's identification code, serial number and barcode are shown.

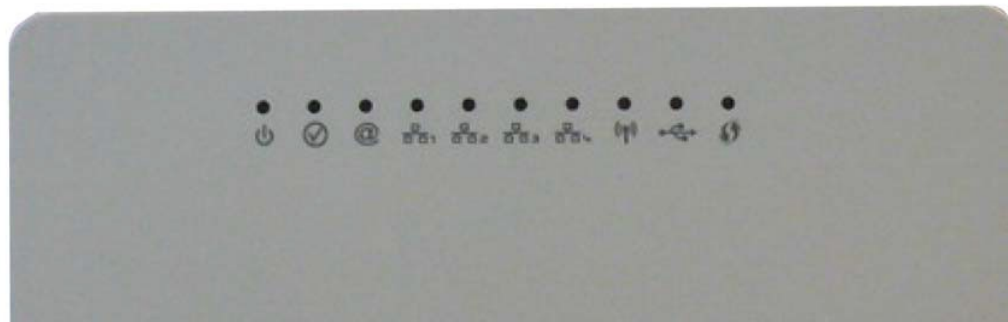
## 2.1.1 Connectors








Marking	Meaning
<b>LINE</b>	RJ11 connector - 6 pts. This connector is identified by the colour grey. It is used for the connection to an ADSL line (WAN interface).
<b>LAN x (1 to 4)</b>	RJ45 connectors - 8 pts (10/100BASE-T Ethernet Interface). These connectors are identified by the colour yellow. They are used to connect to a computer or a television set (via a TV/Video Decoder).
<b>USB</b>	USB connector.
<b>Power</b>	Miniature jack fixed connector. This connector enables the router to be supplied with direct current from a mains adapter unit.

## 2.1.2 LEDs and buttons



### 2.1.2.1 On the front panel



The following table describes the meaning of the LEDs on the front panel of the router:

LED	Status	Meaning
 <b>Power</b>	Off	Power Off
	Green	Power On
	Red	Router in rescue mode
 <b>ADSL</b>	Green steady	ADSL Up
	Green blinking	<ul style="list-style-type: none"> <li>ADSL Synchronisation in progress</li> <li>or</li> <li>down</li> </ul>
 <b>Internet</b>	Off	<ul style="list-style-type: none"> <li>Power Off</li> <li>or</li> <li>The Internet account must be configured</li> <li>or</li> <li>Bridge mode</li> </ul>
	Green steady	The Internet account is configured
	Green blinking	Tx/Rx traffic
	Red	Invalid or unauthorised Internet account
 <b>LAN x</b> <b>(1 to 4)</b>	Off	No link detected on the Ethernet port
	Green steady	Ethernet port has detected a link with 100 Mbps device
	Green blinking	Tx/Rx traffic at 100 Mbps
 <b>WLAN</b>	Off	Wi-Fi deactivated
	Green steady	Wi-Fi activated
	Green blinking	Wi-Fi Tx/Rx





LED	Status	Meaning
 <b>USB</b>	Off	No USB connection
	Green steady	USB connection available
	Green blinking	USB connection reading in progress
 <b>WPS</b>	Off	WPS deactivated
	Blinking green	WPS activation in progress

### 2.1.2.2 On the right panel



The following table describes the meaning of the buttons on the right panel of the router:

Button	Action
 <b>WPS</b>	This button allows the router to switch to easy-pairing mode.
 <b>WLAN/WPS</b>	This button allows to activate or deactivate the WiFi connection.
<b>Reset</b>	This button allows the router to be reset to the initial configuration (see § A.7). <b>Hold reset button 20 seconds</b> for resetting to initial configuration. <b>Note:</b> This operation deletes the entire personalized configuration of your router: Password, Configuration, etc.

## 2.2 Connecting the ports of your router

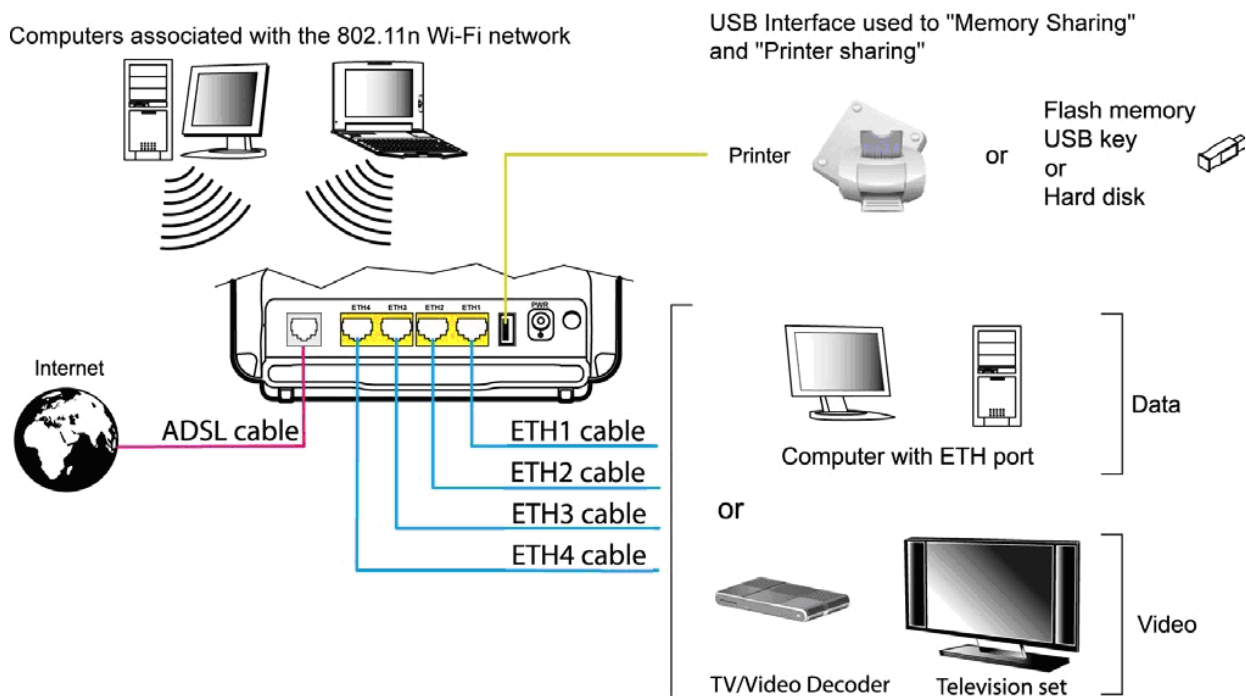







Figure 2.2 - Interconnection of ports of F@ST 2704R

## 2.3 Installation of your F@ST 2704R

### 2.3.1 Powering up

1. First connect the end of the mains adapter lead, supplied with the equipment, to the Power socket on your router.
2. Connect the other end of the mains adapter lead to a nearby power outlet.
3. The router switches on automatically.
4. The  LED will light up first, followed by the four Ethernet LEDs (1 to 4), then these last four LEDs will be off. The  and Ethernet (which corresponds to the connected interface) LEDs should be steady and the  LED blinks during the establishment of the ADSL link, then steadies like the  LED. The  LED goes from blinking to steady when a PPP session has been created successfully.

#### Note



The powering up process lasts around one minute.

### 2.3.2 Connecting the ADSL cable

1. Connect one end of the RJ11/RJ11 cable supplied with the equipment to the LINE socket of your router.
2. Connect the other end of the cable as shown in the following figure.

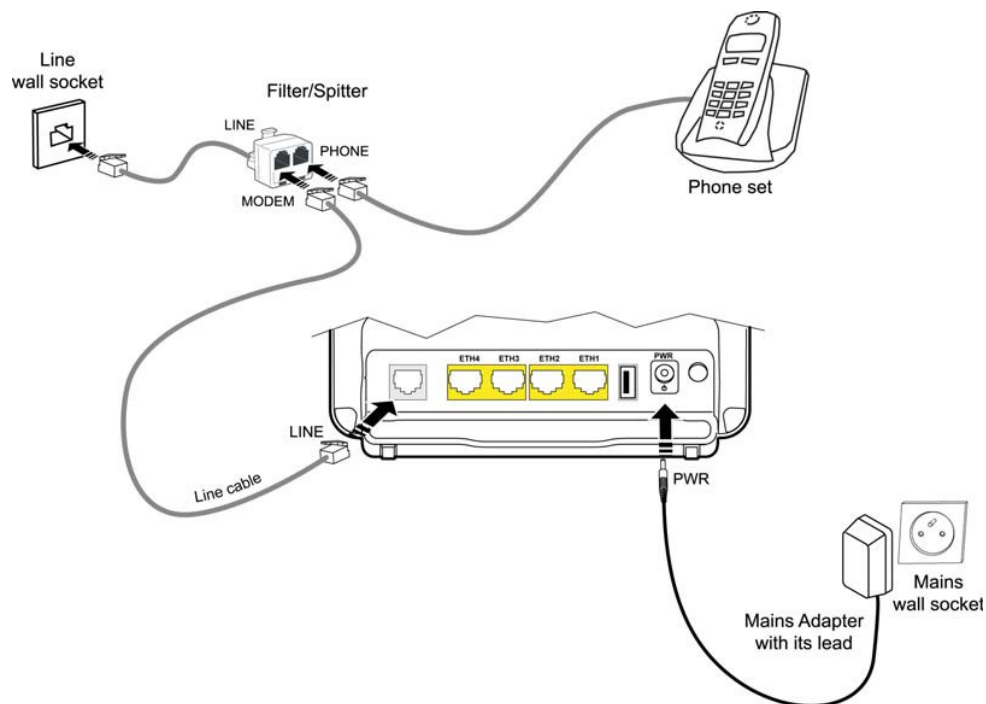


Figure 2.3 - ADSL line / Power Supply Connection

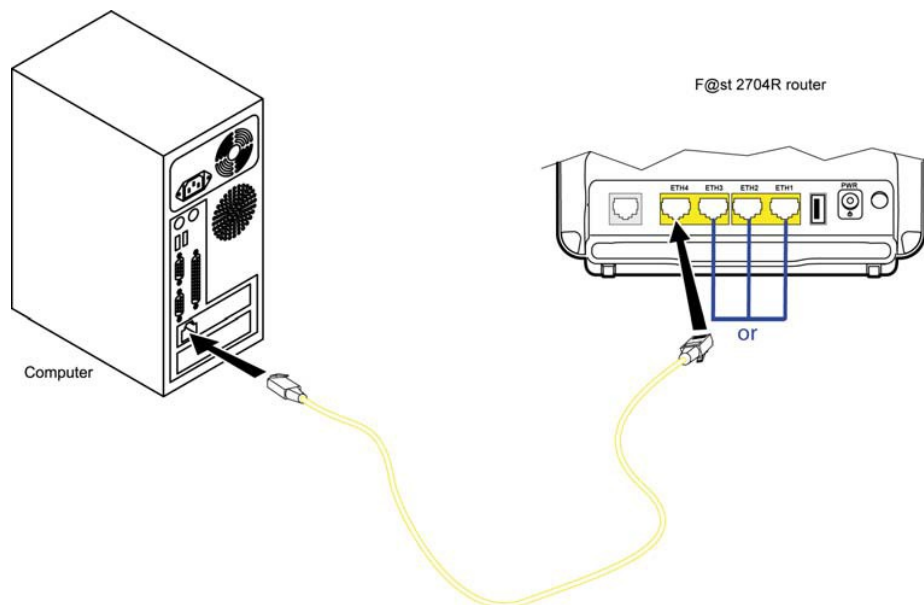
### 2.3.3 Connecting to your computer

Two kinds of connection can be made:

- Connection of the Ethernet interface of your router to your computer.
- Connection of the WLAN (Wi-Fi) interface to your computer.

#### 2.3.3.1 Connecting the Ethernet interface of your router to your computer



1. Connect the end of the yellow Ethernet cable (RJ45/RJ45) supplied in the pack to the Ethernet fixed connector (marked **LAN1**, **LAN2**, **LAN3** or **LAN4**) of your router.
2. Connect the other end of the cable to your computer.



#### 2.3.3.2 Connecting the Wi-Fi interface of your router to your computer

Wireless linking enables the router to be connected to your computer.

Before to start the following steps, check that the computer has a Wi-Fi option.

1. Check that the  LED is green steady on the front panel of the router. If not, press the  key on the right panel to activate the wireless network.
2. In your computer, open the manager software of the wireless networks and launch a search.

#### Note

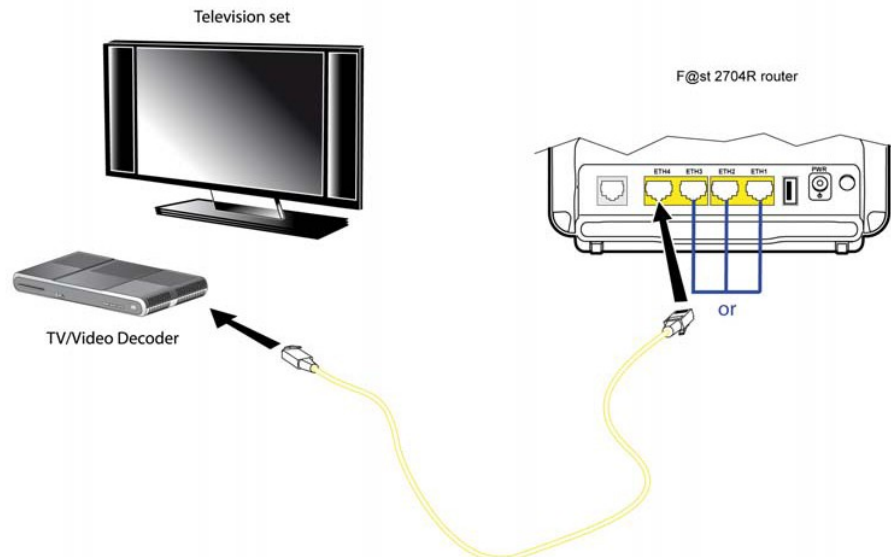


The name of network (SSID) and the encryption key are provided on the label located behind the router.

3. The wireless network selection screen appears, displaying the names of the networks found (SSID). Select the wireless network of the router (SSID) and enter the encryption key then validate.

### 2.3.4 Connecting the Ethernet interface of your router to your TV decoder

1. Connect the end of the yellow Ethernet cable (RJ45/RJ45) supplied in the pack to the Ethernet fixed connector (marked **LAN1**, **LAN2**, **LAN3** or **LAN4**) of your router.
2. Connect the other end of the cable to a TV decoder.



#### Note



For connection to the decoder, refer to the manufacturer's documentation.

### 2.3.5 Connecting the USB interface of your router

1. Connect the end of the USB cable (type B Slave female USB Connector) to the USB interface of your router.
2. Connect the other end of the cable to your USB material (printer, Flash memory, USB key or hard disk).

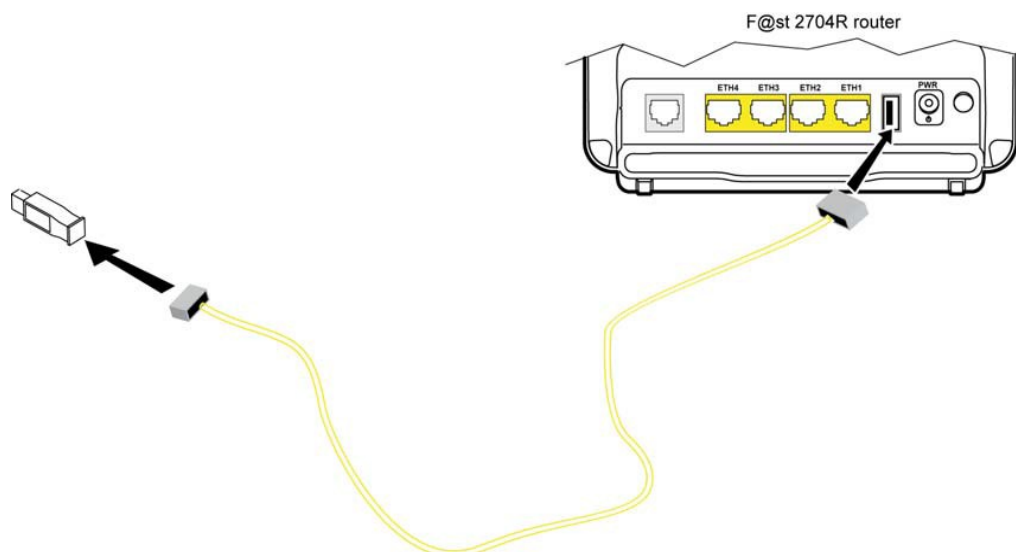


Figure 2.4 - USB Interface Connection

## 2.4 Installation safety instructions

### Power supply source

- Do not cover the router's mains adapter.
- The router comes with its own mains adapter. Do not use another adapter.
- This class II adapter does not need to be grounded (earthed). The connection to the electrical network should comply with the indications given on the label.
- Use a readily accessible mains outlet located near the router. The power supply cord is 1.5 m long.
- Arrange the power supply cord in such a way as to avoid any accidental power cut to the router.
- The router is designed to be connected to a GG- (ground-to-ground) or GN- (ground-to-neutral) type power supply network.
- The router is not designed to be connected to an electrical installation with IT type diagram (neutral connected to earth through an impedance).
- Protection against short-circuits and leaks between the phase, neutral and earth should be provided by the building's electrical installation. The power supply circuit for this equipment should be fitted with 16 A overcurrent protection and differential protection.
- Connect the router to the mains via a readily accessible wall socket ensuring the electric cutting.

### Location conditions

By choosing an appropriate location, you will preserve the longevity of the device. Ensure that the selected location has the following characteristics:

- Install and use the router inside a building.
- The room temperature must not exceed 45°C.
- The router can be placed on a desktop or fixed vertically in its wall mounting.
- Do not expose the router to strong sunlight or place it near a substantial source of heat.
- Do not place the router in an environment where it could be subjected to considerable steam condensation.
- Do not expose the router to splashes of water.
- Do not cover the router's casing.
- Do not use the router or its peripherals for outdoor transmissions.

### Maintenance

- Never open the casing. This must be done only by qualified personnel approved by your supplier.
- Do not use liquid or aerosol cleaning agents.

### 3. Installing and configuring the F@ST 2704R router

**For the installation of the F@ST 2704R,  
please refer to the Quick Installation Guide of this product.**




## 4. Configuration of network parameters

This section covers	• configuring as a DHCP client	§ 4.1
	• reading status of the DHCP server	§ 4.2
	• reading data of the DHCP client	§ 4.3

The aim of this section is:

1. to configure your computer so that it is able to communicate with your router.
2. to display the "Networks" parameters of your router.

Your router implements the DHCP (**D**ynamic **H**ost **C**onfiguration **P**rotocol) server, relay and client functions in accordance with RFC 2131 and RFC 3132, whereas the computer connected directly to the router or via a local network by its LAN interface implements only the DHCP client function.

On receipt of a DHCP query from your computer (see ) , whether or not it is connected to your router, the latter responds by indicating:

- an address from the range defined in the configuration,
- the sub-network mask,
- the default gateway (address of your router),
- the address of the gateway as DNS server. The "DNS Relay" function is activated automatically.

### Note



The configured range of IP addresses must be the same in the sub-network as in the LAN interface.

### Important



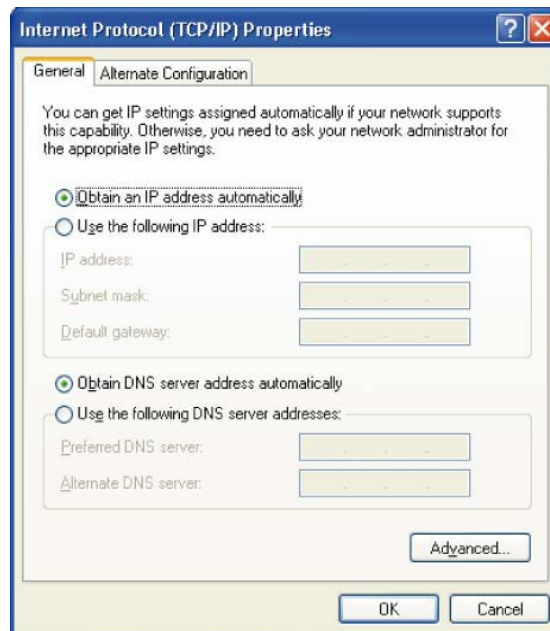
**It is imperative** that your computer is configured as a DHCP client or that it has a fixed IP address in the configuration range defined by the DHCP server.

Configuration as a DHCP client is the more commonly used solution.

## 4.1 Configuring as a DHCP client

### In Windows XP

1. Click on **Start > Control Panel > Network Connections**.
2. Right-click the appropriate network, and then select **Properties**.  
The Local Area Connection Properties appears.
3. Select the protocol TCP/IP of the network card, and then click the **Properties** button.  
The screen Internet Protocol (TCP/IP) Properties appears.
4. Select the **General** tab, then the case "**Obtain an IP address automatically**" and the case "**Obtain the addresses of the DNS servers automatically**".
5. Click the **OK** button to confirm your choice.



## 4.2 Status of the DHCP server

To obtain the status of the DHCP server:

1. Open your browser.
2. Enter the router's IP address (by default **http://192.168.1.1**) or enter the following URL **http://myrouter**
3. In the login screen that appears, enter "**admin**" in the "User Name" field and "**etdm**" in the "Password" field (see note).

### Note



The User name and Password are provided on the label located behind the router.

4. Click on the **OK** button to validate.
5. From the welcome screen, select **Management** then **Advanced**.
6. Select **Advanced Setup** menu, then select the **LAN** menu.

The following screen appears:

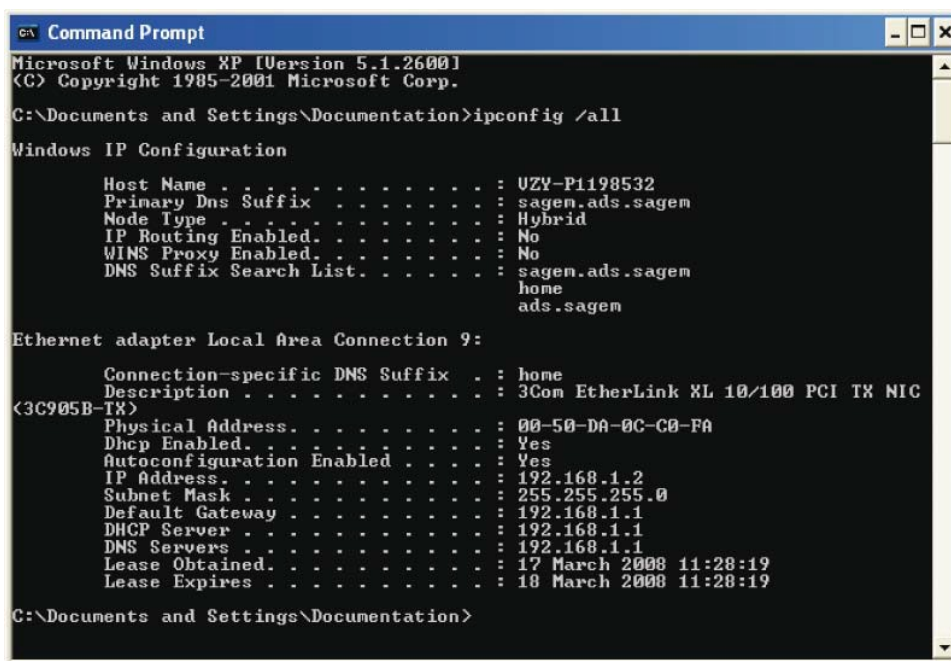
Field	Description	Display
<b>IP Address</b>	Displays the sub-network address.	192.168.1.1
<b>Subnet Mask</b>	Displays the sub-network mask of the IP network.	255.255.255.0
<b>Start IP Address</b>	Displays the first address attributed by the DHCP server. <b>Note:</b> This IP address must belong to the same sub-network as that of the local network.	192.168.1.2
<b>End IP Address</b>	Displays the last address attributed by the DHCP server. <b>Note:</b> This IP address must belong to the same sub-network as that of the local network.	192.168.1.254
<b>Leased Time (hour)</b>	Displays the period (in hours) for obtaining an IP address for a terminal.	24

## 4.3 Data of the DHCP client

To obtain this data:

### In Windows XP, 2000 and Me

1. Click on **Start > Run**, enter **cmd** and then click **OK**.  
The command prompt screen appears.
2. Enter **ipconfig /all** (or **ipconfig/all**) then press **Enter**.



```
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\Documents and Settings\Documentation>ipconfig /all

Windows IP Configuration

    Host Name . . . . . : UZY-P1198532
    Primary Dns Suffix . . . . . : sagem.ads.sagem
    Node Type . . . . . : Hybrid
    IP Routing Enabled. . . . . : No
    WINS Proxy Enabled. . . . . : No
    DNS Suffix Search List. . . . . : sagem.ads.sagem
                                        home
                                        ads.sagem

Ethernet adapter Local Area Connection 9:

    Connection-specific DNS Suffix . : home
    Description . . . . . : 3Com EtherLink XL 10/100 PCI TX NIC
    (3C905B-TX)
    Physical Address. . . . . : 00-50-DA-0C-C0-FA
    Dhcp Enabled. . . . . : Yes
    Autoconfiguration Enabled . . . . : Yes
    IP Address. . . . . : 192.168.1.2
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.168.1.1
    DHCP Server . . . . . : 192.168.1.1
    DNS Servers . . . . . : 192.168.1.1
    Lease Obtained. . . . . : 17 March 2008 11:28:19
    Lease Expires . . . . . : 18 March 2008 11:28:19

C:\Documents and Settings\Documentation>
```



## 5. Information / Configuration

This section covers	• Accessing the welcome screen	§ 5.1
	• Recommendations for using the configuration screens	§ 5.2
	• The ADSL connection status	§ 5.3
	• Indications displayed on the display frame located in the HTTP configurer window	§ 5.4

## 5.1 Accessing the welcome screen

If you are using your computer's Ethernet card to configure your router, connect it to an Ethernet port (**LAN1** to **LAN4**).

Your router is then configured using a simple Web browser (e.g. Internet Explorer).

### Note



The router's DHCP server function is activated by default with an address range defined as indicated in subsection.6.4.4.

To access the configurator, proceed as follows:

To obtain the status of the DHCP server:

1. Open your browser.
2. Enter the router's IP address (by default **http://192.168.1.1**) or enter the following URL **http://myrouter**.
3. In the login screen that appears, enter your identification information.

By default, the identification information is:

<b>Username:</b>	admin
<b>Password:</b>	etdm



### Note



The equipment's IP address (192.168.1.1) appears in the header bar.

4. Click on **OK** to validate.



5. Your computer's Web browser opens and displays the welcome screen of the router's HTTP configuration tool..






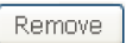

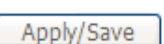



To make the F@ST 2704R configuration easier, your router divides setting parameters in two sections according to the technical knowledge level required:

- Fast configuration interface: you access basic parameters through classified menus directly from the welcome screen.
- Advanced configuration: you access advanced parameters through the menu Management > Advanced (see section 6. **Advanced parameters**).

## 5.2 Recommendations

The meaning of the main buttons most commonly present in all the configuration windows is provided in the table below.

Button	Description
	Click on this button to add a new window to fill in the fields used to add an object.
	Click on this button to return to the previous screen.
	Click on this button to close the active window and return to the main screen.
	Click on this button to display a new window to modify the fields that can be accessed for a previously selected object.
	Click on this button to display the next screen.
	Click on this button to remove a selected object from a list. <b>Note:</b> You must check the "Remove" box to delete this object.
	Click on this button to save the entry in the router's non-volatile (flash) memory. <b>Note:</b> This value will only be taken into account when you restart your router.
	Click on this button to save the entry in the router's non-volatile (flash) memory. <b>Note:</b> This value will be taken into account immediately without you having to restart your router.
	Click on this button to save the entry in the router's non-volatile (flash) memory then restart your computer.

### Basic principles

1. To make this guide easier to read and understand, it does not state that each time you enter information into a screen you must click on **Save** or **Apply/Save** or **Save/Reboot** (except, of course, if this is necessary).
2. When you select a section, the screen for the first menu in the section is displayed. In the same way, when you select a menu, the screen for the first sub-menu is displayed.
3. All the fields in the different screens are explained in a table.

## 5.3 ADSL connection status

Refer to subsection 6.2.1 - /Summary.

## 5.4 Display frame

The router's activity status is always visible at the left corner or the top right of the HTTP configuration tool.



**Basic configuration interface**



**Advanced configuration interface**

You can perform the following actions:

- click on **Refresh** to update the data displayed
- click on **Reboot** to restart your router

### ADSL information

The following table presents the possible states of the **ADSL** field:

Status	Meaning
<b>Green</b>	ADSL line synchronised
<b>Yellow</b>	ADSL line synchronising
<b>Red</b>	ADSL line not connected

The **Down** field displays the nominal downlink bit rate.

The **Up** field displays the nominal uplink bit rate.

### Internet information

The following table presents the possible states of the **Internet** field:

Status	Status	Meaning
<b>Off</b>	<b>ADSL Down</b>	ADSL line not connected or not activated
	<b>Not configured</b>	The Internet account must be configured
	<b>Router rebooting</b>	Router is rebooting
<b>Green</b>	<b>Connected</b>	The Internet connection has succeeded
<b>Yellow</b>	<b>Waiting for ISP</b>	Connecting to the Internet service
<b>Red</b>	<b>Access denied</b>	Incorrect Internet account

## 5.5 Basic parameters

The basic parameters can be configured from the welcome page.

The menu...	Allows you to...	For more details, see section...
<b>My Network</b>	<ul style="list-style-type: none"> <li>• configure virtual servers.</li> <li>• consult information from your device.</li> </ul>	<p>“Virtual servers”, page 5-6</p> <p>“Device Info”, page 5-8</p>
<b>Configuration</b>	<ul style="list-style-type: none"> <li>• configure the Internet connection settings.</li> <li>• configure security parameters of the WLAN network.</li> </ul>	<p>“Internet connection”, page 5-9</p> <p>“WLAN”, page 5-10</p>
<b>Services</b>	<ul style="list-style-type: none"> <li>• define time restriction to a special LAN device connected to the router.</li> <li>• display the sharing applications.</li> </ul>	<p>“Parental Control”, page 5-13</p> <p>“Application Sharing”, page 5-14</p>
<b>Management</b>	<ul style="list-style-type: none"> <li>• modify the password of the users.</li> <li>• access to the advanced parameters.</li> </ul>	<p>“Access Control”, page 5-15</p> <p>“Access to the advanced parameters”, page 5-16</p>

### 5.5.1 My network

#### 5.5.1.1 Virtual servers

**Object:** This menu is used to route directly to the External Ports the incoming data from a Service server (such as, for example, FTP Server, SNMP, TFTP etc.) of the remote network (WAN) to computers on the local network (LAN) via the Internal Ports.

- Press **My Network** then the **Network** menu and select **LAN** or **WLAN**.

The screenshot shows the Sagemcom web interface. At the top, there are status indicators for DSL (Downstream, Upstream, Internet, Adsl Down) and buttons for REFRESH and REBOOT. The main navigation menu includes MY NETWORK, CONFIGURATION, APPLICATION SHARING, SERVICES, and Management. The central configuration area is titled 'Use Interface' and shows 'pppoe\_0\_8\_32/ppp1' selected. Below this are fields for 'Service Name', 'Select a Service' (a dropdown menu), 'Custom Service' (a text input), 'Server IP Address' (192.168.1.2), and 'Bind MAC address' (cc:52:af:40:2c:c6). There are 'Save/Apply' and 'Remove' buttons. At the bottom, there is a table for port forwarding configuration:

External Port Start	External Port End	Protocol	Internal Port Start	Internal Port End
<input type="text"/>	<input type="text"/>	TCP	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	TCP	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	TCP	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	TCP	<input type="text"/>	<input type="text"/>

Proceed as follows:

- Select the required WAN interface in the **Use Interface** list.
- Check the **Select a Service** box, then select the service of your choice from the scroll down list, for example "SNMP".

The **External Port Start**, **External Port End**, **Internal Port Start**, **Internal Port End** and **Protocol** fields (transport protocol associated with this service) are automatically filled in the table.

#### Note



You may complete the table by adding other ports associated with a protocol.

or

- Check the **Custom Service** box, enter the name of the server you want to connect to, then:
  - Complete the ID Host of your computer's IP address (this is attributed by your router's DHCP server).
  - Fill in the **External Port Start**, **External Port End**, **Internal Port Start**, **Internal Port End** and **Protocol** fields.

#### A few rules for entering values:

- When you want to select a single port, the start port (**External Port Start** or **Internal Port Start**) and the end port (**External Port End** or **Internal Port End**) must be identical.
- When you want to select a range of ports, the start port number must be lower than the end port number.
- You must always start entering with the **External Port Start** and **External Port End** ports.
- When you allocate a number to an **External Port Start**, the same number is automatically allocated to the **Internal Port Start** and identically for **External Port End**.

### 5.5.1.2 Device Info

**Object:** This menu lets you display the current status of your Internet connection.

- Press **My Network** then the **Device Info** menu.

The following screen opens:



The following table provides the meaning of the different fields which are displayed.

Field	Meaning
<b>Board ID</b>	Router model
<b>HardWare Version</b>	Hardware version of the router
<b>Serial Number</b>	Serial number of the router
<b>Mac Address</b>	Mac address of the router
<b>Software Version</b>	Software version currently installed on the router
<b>Bootloader (CFE) Version</b>	Bootloader version currently installed on the router
<b>Wireless Driver Version</b>	Software version of the wireless card installed on the router

## 5.5.2 Configuration

### 5.5.2.1 Internet connection

**Object:** This menu lets you enter your connection ID and your connection password.

- Press **Configuration** then the **Internet** menu.

The following screen opens:



Field	Action	Default value
<b>PPP Username</b>	Enter your connection ID. This information is provided to you by your <b>Internet Service Provider (ISP)</b> .	-
<b>PPP Password</b>	Enter your connection password. This information is provided to you by your <b>Internet Service Provider (ISP)</b> .	-

#### Important



If the message "**There is no ppp connection**" appears, this means that the remote network (WAN) parameters have not been filled in (see subsection 6.4.2 - **Advanced Setup > WAN Service**).

### 5.5.2.2 WLAN

**Object:** This menu lets you set the WiFi parameters.

- Press **Configuration** then the **WLAN** menu.

The following screen opens:



To define network authentication:

1. Set the **Wireless basic** parameters of the wireless LAN interface:

Element	Description
<b>General - Basic</b>	Allows you to set features of your LAN interface.
<b>Enable Wireless</b>	Check the box to activate WiFi connection.
<b>SSID</b>	Displays the name of the wireless network. This name is indicated on the label of your router.



2. Select in the drop-down list the **Network Authentication** required:

Element	Description
<b>Manual Setup AP</b> Allows you to set network authentication method via the following parameters:	
<b>Network Authentication</b>	Select in the drop-down list the security mode adapted to your residential gateway's wireless network: <ul style="list-style-type: none"> <li>• <b>Open</b>: any wireless station can request authentication.</li> <li>• <b>Shared</b>: each wireless station is assumed to have received a secret shared key over a secure channel that is independent from the 802.11 wireless network communications channel.</li> <li>• <b>802.1X</b>: with IEEE 802.1x authentication, you can specify whether the computer attempts authentication to the network if the computer requires access to network resources whether a user is logged on or not.</li> <li>• <b>WPA</b>: WPA encrypts information, and it also checks to make sure that the network security key has not been modified.</li> <li>• <b>WPA2</b>: allows users to pre-authenticate. This feature allows the roaming to occur more rapidly than a traditional roam.</li> <li>• <b>WPA-PSK/WPA2-PSK</b>: enables users to easily set up and manage a secured WLAN and doesn't require an authentication server. Note that WPA2-PSK can only use AES with WPA2.</li> <li>• <b>Mixed WPA2/WPA</b>: this option enables WPA2 or WPA wireless devices to connect to your Box.</li> <li>• <b>Mixed WPA2/WPA-PSK</b>: this option enables WPA2 and WPA clients to authenticate using a PSK (Pre-Shared Key) instead of a RADIUS server.</li> </ul> For more details, see point 3..

3. According to the network authentication selected, configure the parameters as follows:

Field	Description
<b>If you select <u>Open</u></b>	
<b>WEP Encryption</b>	Enable or disable using the drop-down list this option to provide data protection on the network.
<b>If you select <u>Shared</u></b>	
<b>WEP Encryption</b>	This parameter is activated by default.
<b>Encryption strength</b>	Select in the drop-down list the security level: <b>64-bit</b> (weak security) or <b>128-bit</b> (a bit better security).

Field	Description
<b>Current Network key</b>	Select in the drop-down list the number of keys needed for the network.
<b>Network key X</b>	Enter in the corresponding field the Network key required. This key must follow these rules: <ul style="list-style-type: none"> <li>• 13 ASCII characters or 26 hexadecimal digits for <b>128-bit</b> encryption key.</li> <li>• 5 ASCII characters or 10 hexadecimal digits for <b>64-bit</b> encryption key.</li> </ul> Note that: <ul style="list-style-type: none"> <li>• With 128-bit encryption, enter a key to generate each key.</li> <li>• All four keys must be specified, because WEP switches between them to make your traffic more difficult to break.</li> <li>• All devices within your LAN must use the same keys.</li> </ul>
<b>If you select <u>802.1X</u></b>	For more details, see parameters explained for <b>Shared</b> encryption method above.
<b>RADIUS Server IP Address</b>	The RADIUS server typically sits in the server room of a business or department and authenticates and manages user requests for connection. Home users will generally never have to bother about RADIUS server details. Enter a RADIUS server address.
<b>RADIUS Port</b>	Enter a port on which to connect to the server,
<b>RADIUS Key</b>	Enter the shared key used to authenticate with the server.
<b>If you select <u>WPA</u></b>	For more details, see parameters explained for <b>Shared</b> and <b>802.1X</b> encryption method above.
<b>WPA Group Rekey Interval</b>	This interval corresponds to the rate that the RADIUS server sends a new Group Key out. The Re-Keying process is part of WPA's enhanced security. Enter a value.
<b>If you select <u>WPA+PSK</u></b>	
<b>WPA/WAP Prassphrase</b>	Enter the <b>Passphrase</b> key to enables WPA2 and WPA devices to authenticate using a PSK instead of a RADIUS server.
<b>WPA Group Rekey Interval</b>	This interval corresponds to the rate that the RADIUS server sends a new Group Key out. The Re-Keying process is part of WPA's enhanced security. Enter a value.
<b>WPA Encryption</b>	Select in the drop-down list the encryption method: <ul style="list-style-type: none"> <li>• <b>AES</b>, or</li> <li>• <b>TKIP+AES</b>: this last option allows either TKIP or AES wireless devices to connect to your Box.</li> </ul>

Field	Description
If you select <b>WPA2</b>	For more details, see parameters explained for <b>802.1X</b> and <b>WPA+PSK</b> encryption method above.
<b>Network Re-auth Interval</b>	Enter an interval value for the network to proceed to a pre-authentication.
If you select <b>WPA2+PSK</b>	For more details, see parameters explained for <b>WPA+PSK</b> encryption method above.
If you select <b>Mixed WPA2/WPA</b>	For more details, see parameters explained for <b>WPA2</b> encryption method above.
If you select <b>Mixed WPA2/WPA-PSK</b>	For more details, see parameters explained for <b>WPA2/WPA-PSK</b> encryption method above.

- Click on the [**Apply/Save**] button to save the settings.

## 5.5.3 Services

### 5.5.3.1 Parental Control

**Object:** This menu lets you create and manage access time restriction for LAN devices which are connected to the router.

- Press **Services** then the **Parental Control** menu.

The following screen opens:



## Add

- Click on the **Add** button to display the following screen:

Field	Action
<b>User Name</b>	Enter a representative name for the LAN device.
<b>MAC Address</b>	Enter the MAC address of the required LAN device. <b>Note:</b> To find out the MAC address of a Windows based PC, open a command window and type "ipconfig /all".
<b>Days of the week</b>	Select the days of the week on which the restriction is effective by checking the corresponding box.
<b>Start Blocking Time (hh:mm)</b>	Enter the required blocking start hour (for example 08:00).
<b>End Blocking Time (hh:mm)</b>	Enter the required blocking end hour (for example 20:00).

### 5.5.3.2 Application Sharing

**Object:** This menu lets you display the shared applications.

- Press **Services** then the **Parental Control** menu.

The following screen opens:



## 5.5.4 Management

### 5.5.4.1 Access Control

**Object:** This menu lets you manage access control parameters.

- Press **Management** then the **Access Control** menu.

The following screen opens:



Field	Action
User Name	Select a user name from the scroll down list: <ul style="list-style-type: none"> <li>admin</li> <li>support</li> <li>user</li> </ul> <b>Note:</b> This list is established in increasing order of restriction.
Old Password	Enter your old password.
New Password	Enter your old password.
Confirm Password	Confirm your new password.

### 5.5.4.2 Access to the advanced parameters

**Object:** This menu lets you access to the advanced parameter menus.

- Press **Management** then the **Advanced** menu.

The screenshot displays the Sagemcom web interface for the F@ST 2704R device. The top navigation bar includes the Sagemcom logo and status indicators for DSL (Downstream Upstream N/A), Internet (Adsl Down.), and a refresh/reboot button. A left sidebar lists menu options: Device Info, Internet Connection, Advanced Setup, Wireless, Multimedia, Diagnostics, Management, and Select Basic Settings. The main content area shows the device name 'F@ST 2704R' and a 'Device Info' table with the following details:

Board ID:	F@ST2704R
HardWare Version:	253497116
Serial Number:	PT1220801000189
Mac Address:	3c:81:d8:2b:33:25
Build Timestamp:	120705_1137
Software Version:	7.113_F2704R
Bootloader (CFE) Version:	7.113
DSL PHY and Driver Version:	A2pD035j.d24a
Wireless Driver Version:	5.100.138.2001.cpe4.12L04.3
Uptime:	0D 0H 16M 22S

Below the device info table, a note states: "This information reflects the current status of your 'WAN' connection." This is followed by a table showing WAN connection parameters:

Line Rate - Upstream (Kbps):	0
Line Rate - Downstream (Kbps):	0
LAN IPv4 Address:	192.168.1.1
WAN IPv4 Address:	
Default Gateway:	
Primary DNS Server:	0.0.0.0
Secondary DNS Server:	0.0.0.0
LAN IPv6 ULA Address:	
Default IPv6 Gateway:	

At the bottom of the page, a copyright notice reads: "© 2005-2012 SAGEMCOM Corporation. All rights reserved."

## 6. Advanced parameters

This section covers	• The " <b>Device Info</b> " section	§ 6.2
	• The " <b>Internet Connection</b> " section	§ 6.3
	• The " <b>Advanced Setup</b> " section	§ 6.4
	• The " <b>Wireless</b> " section	§ 6.5
	• The " <b>Multimedia</b> " section	§ 6.6
	• The " <b>Diagnostics</b> " section	§ 6.7
	• The " <b>Management</b> " section	§ 6.8

## 6.1 Accessing the advanced parameters

If you are using your computer's Ethernet card to configure your router, connect it to an Ethernet port (**LAN1** to **LAN4**).

Your router is then configured using a simple Web browser (e.g. Internet Explorer).

### Note



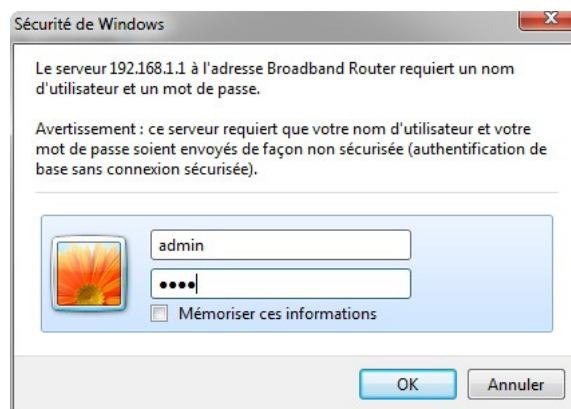
The router's DHCP server function is activated by default with an address range defined as indicated in subsection.6.4.4.

To access the configurator, proceed as follows:

1. Open your browser.
2. Enter the router's IP address (by default **http://192.168.1.1**) or enter the following URL **http://myrouter**.
3. In the login screen that appears, enter your identification information.

By default, the identification information is:

<b>Username:</b>	admin
<b>Password:</b>	etdm



### Note



The equipment's IP address (192.168.1.1) appears in the screen.

4. Click on **OK** to validate.



5. Your computer's Web browser opens and displays the welcome screen of the router's HTTP configuration tool..



6. Press **Management** then **Advanced** menu.  
The following screen opens:

Board ID:	F@ST2704R
HardWare Version:	253497116
Serial Number:	PT1220801000189
Mac Address:	3c:81:d8:2b:33:25
Build Timestamp:	120705_1137
Software Version:	7.113_F2704R
Bootloader (CFE) Version:	7.113
DSL PHY and Driver Version:	A2pD03Sj.d24a
Wireless Driver Version:	5.100.138.2001.cpe4.12L04.3
Uptime:	00 0H 2M 37S

This information reflects the current status of your 'WAN' connection.

Line Rate - Upstream (Kbps):	0
Line Rate - Downstream (Kbps):	0
LAN IPv4 Address:	192.168.1.1
WAN IPv4 Address:	
Default Gateway:	
Primary DNS Server:	0.0.0.0
Secondary DNS Server:	0.0.0.0
LAN IPv6 ULA Address:	
Default IPv6 Gateway:	

© 2005-2012 SAGEMCOM Corporation. All rights reserved.

The HTTP configuration tool opens by default on the **Device Info** menu:

- the centre panel shows router's information and the current ADSL connection status (see subsection 5.3).
- the router's activity and status is always available at the top right corner, as a box which lets you know the status of the ADSL line, lets you refresh the data displayed and restart your router at any time (see subsection 5.4).
- left hand side panel gives you access to the router's configuration menus and submenus (see subsection 6.2 to 6.8).

### Important



You can modify the password to access your router's configuration tool to optimise the safety of your network.

---

## 6.2 Device Info

Clicking on this heading displays the following menus:

- Summary (see subsection 6.2.1)
- WAN (see subsection 6.2.2)
- 3G Status (see subsection 6.2.3)
- Statistics (see subsection 6.2.4)
- Route (see subsection 6.2.5)
- ARP (see subsection 6.2.6)
- DHCP (see subsection 6.2.7)

### 6.2.1 Summary

**Object:** This menu lets you display the current status of your Internet connection.

- In the **Device Info** menu, select **Summary**.

The following screen opens:

The screenshot shows the Sagemcom F@ST 2704R web interface. At the top right, there are status indicators for DSL (orange), Downstream (green), Upstream (green), N/A, N/A, and buttons for 'refresh' and 'reboot'. Below this is a status bar for 'Internet' and 'Adsl Down.'. The left sidebar contains a menu with 'Device Info' selected. The main content area is titled 'F@ST™ 2704R Device Info' and contains two tables.

Board ID:	F@ST2704R
HardWare Version:	253497116
Serial Number:	PT1220801000189
Mac Address:	3c:81:d8:2b:33:25
Build Timestamp:	120705_1137
Software Version:	7.113_F2704R
Bootloader (CFE) Version:	7.113
DSL PHY and Driver Version:	A2pD035j.d24a
Wireless Driver Version:	5.100.138.2001.cpe4.12L04.3
Uptime:	0D 0H 2M 37S

This information reflects the current status of your 'WAN' connection.

Line Rate - Upstream (Kbps):	0
Line Rate - Downstream (Kbps):	0
LAN IPv4 Address:	192.168.1.1
WAN IPv4 Address:	
Default Gateway:	
Primary DNS Server:	0.0.0.0
Secondary DNS Server:	0.0.0.0
LAN IPv6 ULA Address:	
Default IPv6 Gateway:	

© 2005-2012 SAGEMCOM Corporation. All rights reserved.

#### Note



This screen also appears in the welcome screen (see subsection 6.1).

The following table provides the meaning of the different fields which are displayed.

Field	Meaning
<b>Board ID</b>	Router model
<b>HardWare Version</b>	Hardware version of the router
<b>Serial Number</b>	Serial number of the router
<b>Mac Address</b>	Mac address of the router
<b>Software Version</b>	Software version currently installed on the router
<b>Bootloader (CFE) Version</b>	Bootloader version currently installed on the router
<b>Wireless Driver Version</b>	Software version of the wireless card installed on the router
<b>Line Rate - Upstream (kbps)</b>	Nominal up line rate
<b>Line Rate - Downstream (kbps)</b>	Nominal down line rate
<b>LAN IPv4 Address</b>	Local network IPv4 address (LAN)
<b>WAN IPv4 Address</b>	Remote network IPv4 address (WAN)
<b>Default Gateway</b>	Default gateway address
<b>Primary DNS Server</b>	Primary DNS server address
<b>Secondary DNS Server</b>	Secondary DNS server address
<b>LAN IPv6 ULA Address</b>	Local network IPv6 address (LAN)
<b>Default IPv6 Gateway</b>	Default gateway IPv6 address

## 6.2.2 WAN

**Object:** This menu is used to display all the parameters which concern the remote network.

- In the **Device Info** menu, select **WAN**.

The following screen opens:

The screenshot shows the Sagemcom web interface. At the top, there is a status bar with 'DSL' and 'Internet' indicators, and buttons for 'refresh' and 'reboot'. Below this, the 'WAN Info' section is active, displaying a table with the following data:

Interface	Description	Type	VlanMuxId	IPv6	Igmp	MLD	NAT	Firewall	Status	IPv4 Address	IPv6 Status	IPv6 Address
ppp1	pppoe_0_8_32	PPPoE	Disabled	Disabled	Disabled	Disabled	Enabled	Enabled	Unconfigured		Unconfigured	

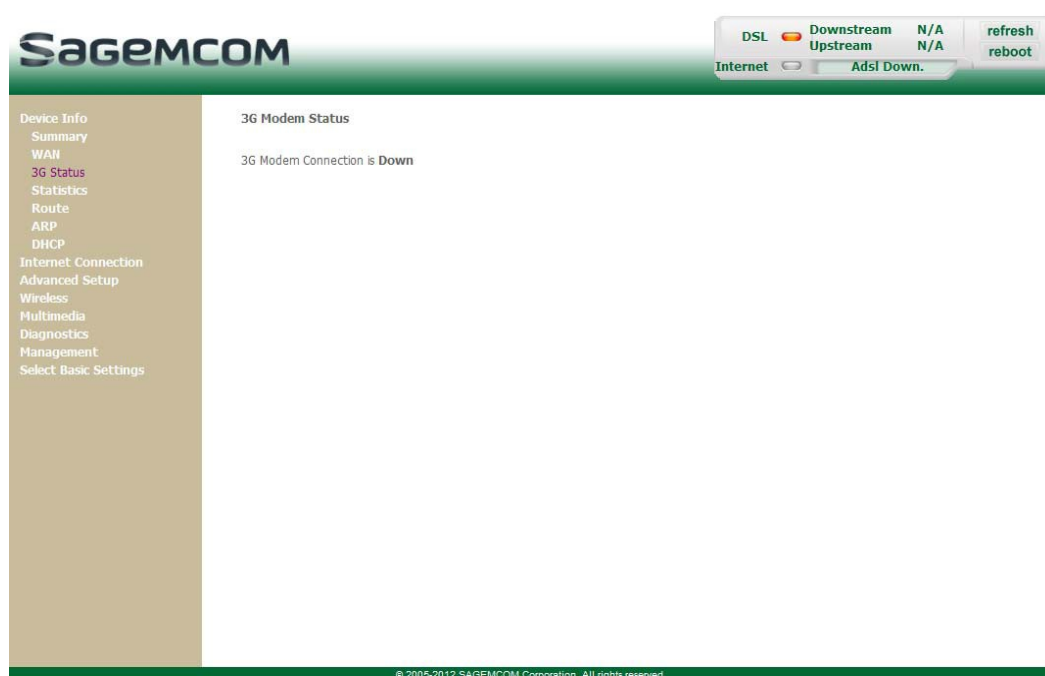
On the left side of the interface, a navigation menu is visible with options: Device Info, Summary, WAN (selected), 3G Status, Statistics, Route, ARP, DHCP, Internet Connection, Advanced Setup, Wireless, Multimedia, Diagnostics, Management, and Select Basic Settings.

## 6.2.3 3G Status

**Object:** This menu is used to display all the parameters which concern 3G connection.

- In the **Device Info** menu, select **3G Status**.

The following screen opens:



## 6.2.4 Statistics

**Object:** This menu is used to display all the router's statistics.

This menu contains the following sub menus:

- LAN (see subsection 6.2.4.1)
- WAN Service (see subsection 6.2.4.2)
- xTM (see subsection 6.2.4.3)
- xDSL (see subsection 6.2.4.4)

## 6.2.4.1 LAN

**Object:** This menu is used to display all the parameters which concern the local network (LAN).

- In the **Device Info** menu, select **Statistics** then select **LAN**.

The following screen opens:

The screenshot shows the Sagemcom web interface. At the top, there is a navigation bar with the Sagemcom logo on the left and status indicators on the right: DSL (with a red light), Downstream (N/A), Upstream (N/A), Internet (with a red light), Adsl Down., refresh, and reboot buttons. A left sidebar contains a menu with items: Device Info, Summary, WAN, 3G Status, Statistics, LAN (highlighted in red), WAN Service, xTm, xDSL, Route, ARP, DHCP, Internet Connection, Advanced Setup, Wireless, Multimedia, Diagnostics, Management, and Select Basic Settings. The main content area is titled "Statistics -- LAN" and contains a table with the following data:

Interface	Received				Transmitted			
	Bytes	Pkts	Errs	Drops	Bytes	Pkts	Errs	Drops
eth0	1333248	11605	0	0	2869214	11750	0	0
eth1	0	0	0	0	14178	120	0	0
eth2	0	0	0	0	13872	118	0	0
eth3	0	0	0	0	13872	118	0	0

Below the table is a "Reset Statistics" button. At the bottom of the page, there is a copyright notice: "© 2005-2012 SAGEMCOM Corporation. All rights reserved."

- Click on the **Reset Statistics** button to reset statistics.

### 6.2.4.2 WAN Service

**Object:** This menu is used to display all the parameters which concern the remote network (WAN).

- In the **Device Info** menu, select **Statistics** then select **WAN Service**.

The following screen opens:

The screenshot shows the Sagemcom web interface. At the top right, there is a status bar with the following information: DSL (with a red light icon), Downstream (N/A), Upstream (N/A), Internet (with a red light icon), Adsl Down., refresh, and reboot buttons. The main content area is titled "Statistics -- WAN" and contains a table with the following data:

Interface	Description	Received				Transmitted			
		Bytes	Pkts	Errs	Drops	Bytes	Pkts	Errs	Drops
ppp1	pppoe_0_8_32	0	0	0	0	0	0	0	0

Below the table is a "Reset Statistics" button. The left navigation menu includes: Device Info, Summary, WAN, 3G Status, Statistics (highlighted), LAN, WAN Service (highlighted), xTM, xDSL, Route, ARP, DHCP, Internet Connection, Advanced Setup, Wireless, Multimedia, Diagnostics, Management, and Select Basic Settings. The footer of the page contains the copyright notice: © 2005-2012 SAGEMCOM Corporation. All rights reserved.

- Click on the **Reset Statistics** button to reset statistics.

### 6.2.4.3 xTM

**Object:** This menu is used to display all the xTM statistics of the line.

- In the **Device Info** menu, select **Statistics** then select **xTM**.

The following screen opens:

The screenshot shows the Sagemcom web interface. At the top, there is a green header with the Sagemcom logo on the left and status indicators on the right: DSL (with a red light), Downstream (N/A), Upstream (N/A), Internet (with a red light), and Adsl Down. Below the header is a left sidebar with a navigation menu. The 'Statistics' menu item is highlighted, and 'xTM' is selected. The main content area is titled 'Interface Statistics' and contains a table with the following columns: Port Number, In Octets, Out Octets, In Packets, Out Packets, In OAM Cells, Out OAM Cells, In ASM Cells, Out ASM Cells, In Packet Errors, and In Cell Errors. Below the table is a 'Reset' button. At the bottom of the page, there is a copyright notice: © 2005-2012 SAGEMCOM Corporation. All rights reserved.

- Click on the **Reset** button to reset statistics.



### 6.2.4.4 xDSL

**Object:** This menu is used to display all the xDSL statistics of the line.

- In the **Device Info** menu, select **Statistics** then select **xDSL**.

The following screen opens:

The screenshot shows the Sagemcom web interface. At the top, there's a navigation bar with 'DSL' (Downstream N/A, Upstream N/A) and 'Internet' (Adsl Down.) buttons, along with 'refresh' and 'reboot' options. The main content area is titled 'Statistics -- xDSL'. On the left is a sidebar menu with 'xDSL' selected. The main area contains a table with the following data:

	Downstream	Upstream
Line Coding(Trellis):		
SNR Margin (1 dB):		
Attenuation (1 dB):		
Output Power (1 dBm):		
Attainable Rate (Kbps):		
Rate (Kbps):		
Super Frames:		
Super Frame Errors:		
RS Words:		
RS Correctable Errors:		
RS Uncorrectable Errors:		
HEC Errors:		
OCD Errors:		
LCD Errors:		
Total Cells:		
Data Cells:		
Bit Errors:		
Total ES:		
Total SES:		
Total UAS:		

At the bottom of the table area, there are two buttons: 'xDSL BER Test' and 'Reset Statistics'.

- Click on the **Reset Statistics** button to reset statistics.
- Click on the **xDSL BER Test** button to display the following screen:

The screenshot shows a browser window titled 'http://myrouteur/berstart.tst?berState=1 - Win...'. The main content is titled 'ADSL BER Test - Start'. It contains the following text:

The ADSL Bit Error Rate (BER) test determines the quality of the ADSL connection. The test is done by transferring idle cells containing a known pattern and comparing the received data with this known pattern to check for any errors.

Select the test duration below and click "Start".

Tested Time (sec): 20

At the bottom, there are two buttons: 'Start' and 'Close'.

- In the **Tested Time (sec)** field, select the test time from the scroll down list.
- Click on the **Start** button to run the test. The results are displayed once the tests are completed.
- Click on the **Close** button to close the window and return to the previous screen.

## 6.2.5 Route

**Object:** This menu is used to display all the information concerning your router's routing.

- In the **Device Info** menu, select **Route**.

The following screen opens:

**SAGEMCOM** OSL Downstream N/A refresh  
Internet AdslDown. Upstream N/A reboot

Device Info -- Route

Flags: U - up, I - reject, G - gateway, H - host, R - reinstate  
D - dynamic (redirect), M - modified (redirect).

Destination	Gateway	Subnet Mask	Metric	Service	Interface
192.168.1.0	192.168.1.1	255.255.255.0	1		eth0

## 6.2.6 ARP

**Object:** This menu is used to display all the information concerning address resolution (ARP: Address Resolution Protocol). This shows the physical address of a computer's network card, corresponding to an IP address.

- In the **Device Info** menu, select **ARP**.

The following screen opens:

The screenshot shows the Sagemcom web interface. At the top, the Sagemcom logo is on the left, and status information for DSL, Internet, Downstream, Upstream, Adsl Down, and refresh/reboot buttons are on the right. A left-hand navigation menu lists various settings, with 'ARP' highlighted in red. The main content area is titled 'Device Info -- ARP' and contains a table with the following data:

IP address	Flags	HW Address	Device
192.168.1.2	Complete	cc:52:af:40:2c:c6	br0

## 6.2.7 DHCP

**Object:** This menu is used to display all the computers which obtained an IP address from the router's DHCP server.

- In the Device Info menu, select DHCP.

The following screen opens:

The screenshot shows the SaGeMcom web interface. At the top, the logo 'SaGeMcom' is on the left, and status information is on the right: 'DSL Internet', 'Downstream Upstream Adsl Down.', 'N/A N/A', and 'refresh reboot'. A left-hand navigation menu lists various settings: 'Device Info', 'Summary', 'WAN', '3G Status', 'Statistics', 'Route', 'ARP', 'DHCP' (highlighted in red), 'Internet Connection', 'Advanced Setup', 'Wireless', 'Multimedia', 'Diagnostics', 'Management', and 'Select Basic Settings'. The main content area is titled 'Device Info -- DHCP Leases' and contains a table with the following data:

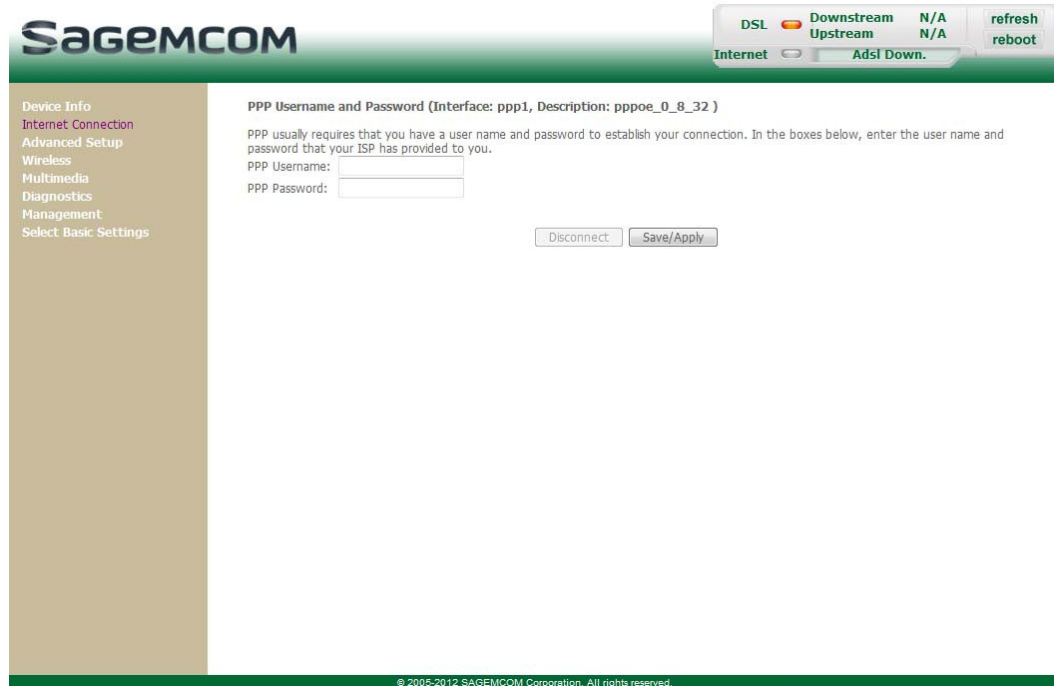
Hostname	MAC Address	rP Address	Expires In
[RMM-PP1188417	[cc:52:af:40:2c:c6	[192.168.1.2	[23 hours,30 minutes, 25 seconds

## 6.3 Internet Connection

**Object:** This menu lets you enter your connection ID and your connection password.

- Select the **Internet Connection** menu.

The following screen opens:



Field	Action	Default value
<b>PPP Username</b>	Enter your connection ID. This information is provided to you by your Internet Service Provider (ISP).	-
<b>PPP Password</b>	Enter your connection password. This information is provided to you by your Internet Service Provider (ISP).	-

### Important



If the message "**There is no ppp connection**" appears, this means that the remote network (WAN) parameters have not been filled in (see subsection 6.4.2 - **Advanced Setup > WAN Service**).

### Disconnect

When you click on the button **Disconnect**:

- **Internet access is no longer possible.**
- In the supervision box, the "**Internet**" indicator switches off and the message "**Connected**" is replaced by "**PPP disconnected**".
- On the front panel of the router, the indicator **@** goes out.

## 6.4 Advanced Setup

**Object:** This menu is used to configure the specific parameters for your router.

### Important



This menu must only be used by experienced users.

This section contains the following menus:

- Layer2 Interface (see subsection 6.4.1)
- WAN Service (see subsection 6.4.2)
- 3G Config (see subsection 6.4.3)
- LAN (see subsection 6.4.4)
- NAT (see subsection 6.4.5)
- Security (see subsection 6.4.6)
- Parental Control (see subsection 6.4.7)
- Quality of Service (see subsection 6.4.8)
- Routing (see subsection 6.4.9)
- DNS (see subsection 6.4.10)
- DSL (see subsection 6.4.11)
- Upnp (see subsection 6.4.12)
- DNS Proxy (see subsection 6.4.13)
- Interface Grouping (see subsection 6.4.14)
- Certificate (see subsection 6.4.15)
- Power Management (see subsection 6.4.16)
- Multicast (see subsection 6.4.17)

### Note



The menu **Quality of Service** only appears if you checked the "Enable Quality Of Service" box in the WAN interface configuration screen (see **Advanced Setup>WAN Service** - subsection 6.4.2>**Add**).

## 6.4.1 Layer2 Interface

**Object:** This menu is used to configure DSL interfaces.

This section contains the following menus:

- ATM Interface (see subsection 6.4.1.1)
- ETH Interface (see subsection 6.4.1.3)

### 6.4.1.1 ATM Interface

**Object:** This menu is used to configure DSL ATM interfaces.

- In the **Advanced Setup** menu, select **Layer2 Interface** then **ATM Interface**.

The following screen opens:

Field	Meaning
<b>Interface</b>	Name of the DSL ATM interface, allocated automatically.
<b>Vpi</b>	Value of the VPI.
<b>Vci</b>	Value of the VCI.
<b>DSL Latency</b>	DSL Latency.
<b>Category</b>	Type of service adapter to the traffic.
<b>Peak Cell Rate (cells/s)</b>	Maximum allowable rate at which cells can be transported along the connection in the ATM network.

Field	Meaning
<b>Sustainable Cell Rate (cells/s)</b>	Allowable, long-term cell transfer rate on the connection.
<b>Max Burst Size (bytes)</b>	Allowable burst size of cells that can be transmitted contiguously on the connection.
<b>Link Type</b>	Protocol used in the DSL ATM interface.
<b>Conn Mode</b>	Connection mode (Default mode, VLAN MUX Mode or MSC Mode).
<b>IP Qos</b>	Status (Enabled or Disabled) of the Quality of Service function.
<b>Remove</b>	Check this box and click on the [ <b>Remove</b> ] button to remove the selected object from the list.



## 6.4.1.2 Add

- Click on the **Add** button to display the following screen:

**SAGEMCOM** DSL Downstream N/A refresh  
Upstream N/A reboot  
Internet Adsl Down.

**ATM PVC Configuration**  
This screen allows you to configure a ATM PVC.

VPI: 0 [0-255]  
VCI: 35 [32-65535]

Select DSL Latency  
 Path0 (Fast)  
 Path1 (Interleaved)

Select DSL Link Type (EoA is for PPPoE, IPoE, and Bridge.)  
 EoA  
 PPPoA  
 IPoA

Encapsulation Mode: LLC/SNAP-BRIDGING

Service Category: UBR Without PCR

Select Scheduler for Queues of Equal Precedence  
 Round Robin (weight=1)  
 Weighted Fair Queuing  
Default: Queue Weight: 1 [1-63]

Default: Queue Precedence: 8 [1-8] (lower value, higher priority)  
Note: For WFQ, the default queue precedence will be applied to all other queues in the VC.

Back Apply/Save

© 2005-2012 SAGEMCOM Corporation. All rights reserved.

## ATM PVC Configuration

Field	Action	Default value
<b>VPI</b>	Enter a VPI value <sup>a</sup> between 0 and 255.	<b>0</b>
<b>VCI</b>	Enter a VPI value <sup>a</sup> between 32 and 65535.	<b>32</b>
<b>Select DSL Latency</b>	Select the DSL Latency: <ul style="list-style-type: none"> <li>Path0</li> <li>Path1</li> </ul>	
<b>Select DSL Link Type</b>	Select the type of network protocol from the scroll down list: <ul style="list-style-type: none"> <li><b>EoA:</b> Ethernet over ATM</li> <li><b>PPPoA:</b> PPP over ATM</li> <li><b>IPoA:</b> IP over ATM</li> </ul> <b>Note:</b> EoA is for PPPoE and IPoE.	<b>EoA</b>
<b>Select Connection Mode</b>	Select the connection mode: <ul style="list-style-type: none"> <li>Default Mode - Single service over one connection</li> <li>VLAN MUX Mode - Multiple Vlan service over one connection</li> </ul> For more details, a summary table is presented below for each type of protocol.	
<b>Encapsulation mode</b>	Select the encapsulation mode for the selected DSL link type. For more details, a summary table is presented below for each type of protocol.	<b>LLC/SNAP - BRIDGING</b>

Field	Action	Default value
<b>Service Category</b>	Select the type of service adapter to the traffic from the scroll down list: <ul style="list-style-type: none"> <li>• UBR without PCR: <b>Unspecified Bit Rate</b></li> <li>• UBR with PCR: <b>Unspecified Bit Rate</b></li> <li>• CBR: <b>Constant Bit Rate</b></li> <li>• Non Realtime VBR: <b>Variable Bit Rate</b></li> <li>• Realtime VBR: <b>Variable Bit Rate</b></li> </ul>	<b>UBR without PCR</b>
<b>Select Scheduler for Queues of Equal Precedence as the Default Queue</b>	These data packet scheduling techniques allow different scheduling priorities to statistically multiplexed data flows. Select in the drop-down list the required scheduler: <b>Round Robin (Weight=1)</b> or <b>Weighted Fair Queuing: (WFQ)</b> .	<b>Round Robin (Weight=1)</b>
<b>Default Queue Weight</b>	Enter the Weight Value of the default queue between <b>1</b> and <b>63</b> .	<b>1</b>
<b>Default Queue Precedence</b>	Enter the precedence of the lowest queue between <b>1</b> and <b>8</b> .	<b>8</b>
<b>Peak Cell Rate<sup>b</sup></b>	Enter a maximum number of cells transmitted per second, between 1 and 2491.	-
<b>Sustainable Cell Rate<sup>c</sup></b>	Enter an average number of cells transmitted per second. <b>Note:</b> This number must be lower than the <b>Peak Cell Rate (PCR)</b> .	-
<b>Maximum Burst Size<sup>c</sup></b>	Enter the maximum number of cells emitted in burst (value between 1 and 1000 000).	-

a. This value is delivered to you by your Internet Service Provider (ISP).

b. This field only appears when the "UBR with PCR", "CBR", "Non Realtime VBR" or "Realtime VBR" type of service is selected.

c. These fields only appear when the "Non Realtime VBR" or "Realtime VBR" type of service is selected.

## Encapsulation modes

DSL Link type	Action	Default value
<b>EoA (Ethernet over ATM)</b>	Select the encapsulation of your choice from the scroll down list. <ul style="list-style-type: none"> <li>• LLC/SNAP-BRIDGING</li> <li>• VC/MUX</li> </ul>	<b>LLC/SNAP-BRIDGING</b>
<b>PPPoA (PPP over ATM)</b>	Select the encapsulation of your choice from the scroll down list. <ul style="list-style-type: none"> <li>• VC/MUX</li> <li>• LLC/ENCAPSULATION</li> </ul>	<b>VC/MUX</b>
<b>IPoA (IP over ATM)</b>	Select the encapsulation of your choice from the scroll down list. <ul style="list-style-type: none"> <li>• LLC/SNAP-ROUTING</li> <li>• VC/MUX</li> </ul>	<b>LLC/SNAP-ROUTING</b>

### 6.4.1.3 ETH Interface

**Object:** This menu is used to configure DSL ETH interfaces.

- In the **Advanced Setup** menu, select **Layer2 Interface** then **ETH Interface**.

The following screen opens:

### 6.4.1.4 Add

- Click on the **Add** button to display the following screen:

DSL Link type	Action	Default value
Select a ETH port	Select the encapsulation of your choice from the scroll down list (from 1 to 3).	eth0/eth0

- Click on the **Apply/Save** button to confirm the creation of the new ETH interface.

## 6.4.2 WAN Service

**Object:** This menu is associated with the remote network. It is used to display the list of all the configured PVCs, and to add PVCs or remove them.

- In the **Advanced Setup** menu, select **WAN Service**.

The following screen opens:

Field	Meaning
<b>Interface</b>	Name, allocated automatically, associated with the service name (for example, ppp0).
<b>Description</b>	Name of the ATM service. This name is made up as follows: Protocol_VPI_VCI_Index For example: pppoe_0_8_32.
<b>Type</b>	Data flow encapsulation mode.
<b>Vlan8021p<sup>a</sup></b>	Value of the 802.1P Priority.
<b>VlanMuxId<sup>a</sup></b>	Value of the 802.1Q VLAN ID.
<b>Igmp</b>	Status (Enabled or Disabled) of the Igmp function. <b>Note:</b> This function enables the distribution of Multicast datagrams over the local network (LAN) and interaction between the router and the local network hosts.
<b>NAT</b>	Status (Enabled or Disabled) of the NAT.
<b>Firewall</b>	Status (Enabled or Disabled) of the Firewall.
<b>IPv6</b>	Status (Enabled or Disabled) of the IPv6.
<b>Mld</b>	Status (Enabled or Disabled) of the MLD.
<b>Remove</b>	Check this box and click on the [ <b>Remove</b> ] button to remove the selected object from the list.

- a. These values only appear if the WAN service is configured over a DSL ATM interface using VLAN MUX Mode.

## 6.4.2.1 Add

**Note**

You must have configured a DSL ATM interface (see section 6.4.1) to add a WAN service.

- Click on the **Add** button.

Interface	Description	Type	Vlan8021p	VlanMuxId	Igmp	NAT	Firewall	IPv6	Mld	Remove	Edit
ppp1	pppoe_0_8_32	PPPoE	N/A	N/A	Disabled	Enabled	Enabled	Disabled	Disabled	<input type="checkbox"/>	<input type="button" value="Edit"/>

- Select the DSL ATM interface for the WAN service.

Select a layer 2 interface for this service

Note: For ATM interface, the descriptor string is (portId\_vpl\_vc)  
 For PTM interface, the descriptor string is (portId\_high\_low)  
 Where portId=0 -> DSL Latency PATH0  
 portId=1 -> DSL Latency PATH1  
 portId=4 -> DSL Latency PATH0&1  
 low =0 -> Low PTM Priority not set  
 low =1 -> Low PTM Priority set  
 high =0 -> High PTM Priority not set  
 high =1 -> High PTM Priority set

atm0/(0\_8\_32)

- Click on the **Next** button to continue configuring the WAN service.

**Note**

Depending on the type of network protocol configured for the selected DSL ATM interface (EoA, PPPoA or IPoA), the content of the following WAN interface configuration screens differs.

Therefore, and for more clarity, each type of protocol will be dealt with separately (screens + associated summary tables) below.

### 6.4.2.2 Ethernet over ATM – PPP over Ethernet (PPPoE)

- Select the WAN service type **PPP over Ethernet (PPPoE)**.

The screenshot shows the Sagemcom WAN Service Configuration interface. The 'WAN Service Configuration' section is active, showing the following fields and options:

- Select WAN service type:**
  - PPP over Ethernet (PPPoE)
  - IP over Ethernet
  - Bridging
- Enter Service Description:** pppoe\_0\_8\_32
- For tagged service, enter valid 802.1P Priority and 802.1Q VLAN ID. For untagged service, set -1 to both 802.1P Priority and 802.1Q VLAN ID.**
- Enter 802.1P Priority [0-7]:** -1
- Enter 802.1Q VLAN ID [0-4094]:** -1
- Network Protocol Selection:(IPv6 Only not support):** IPv4 Only

Buttons: Back, Next

© 2005-2012 SAGEMCOM Corporation. All rights reserved.

Field	Action	Default value
<b>Enter Service Description</b>	Displays the name of the service being configured. This name, which is allocated automatically, is made up as follows: Protocol_VPI_Index_VCI For example: pppoe_eth0. <b>Note:</b> You may enter another service name.	<b>pppoe_eth0</b>
<b>Enter 802.1P Priority<sup>a</sup></b>	Enter a value for the 802.1P Priority. This value is between 0 and 7.	<b>-1</b>
<b>Enter 802.1Q VLAN ID<sup>a</sup>.</b>	Enter a value for the 802.1QVLAN ID. This value is between 0 and 4094.	<b>-1</b>
<b>Network Protocol Selection</b>	Select the type of network from the drop-down list: <ul style="list-style-type: none"> <li>IPv4 Only</li> <li>IPv4&amp;IPv6 (Dual Stack)</li> </ul>	<b>IPv4 Only</b>

a. These values only appear if the WAN service is configured over a DSL ATM interface using VLAN MUX Mode.

- Click on the **Next** button to continue configuring the WAN service.

**SAGEMCOM** DSL Downstream N/A Upstream N/A refresh reboot Internet Adsl Down.

**Device Info**  
 Internet Connection  
 Advanced Setup  
 Layer2 Interface  
**WAN Service**  
 Modify Connection  
 3G Config  
 LAN  
 NAT  
 Security  
 Parental Control  
 Quality of Service  
 Routing  
 DSL  
 UPnP  
 DNS Proxy  
 Interface Grouping  
 IP Tunnel  
 Certificate  
 Power Management  
 Multicast  
 Wireless  
 Multimedia  
 Diagnostics  
 Management  
 Select Basic: Settings

**PPP Username and Password**  
 PPP usually requires that you have a user name and password to establish your connection. In the boxes below, enter the user name and password that your ISP has provided to you.

PPP Username:   
 PPP Password:   
 PPPoE Service Name:   
 Authentication Method:

ppp retry on authentication error

PPP MTU (Bytes) [PPPoE:68-1492,PPPoA:68-1500]:

Use Static IPv4 Address

Enable PPP Debug Mode  
 Bridge PPPoE Frames Between WAN and Local Ports

**Multicast Proxy**  
 Enable IGMP Multicast Proxy  
 No Multicast VLAN Filter

© 2005-2012 SAGEMCOM Corporation. All rights reserved.

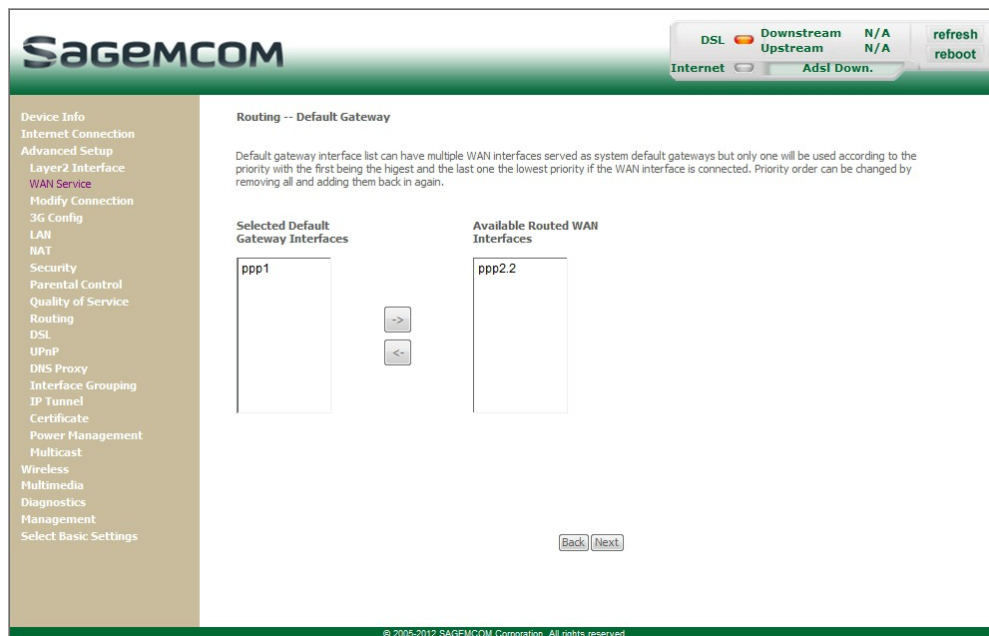
Field	Action	Default value
<b>PPP Username</b>	Enter your connection ID. This information is provided to you by your <b>Internet Service Provider (ISP)</b> .	-
<b>PPP Password</b>	Enter your connection password. This information is provided to you by your <b>Internet Service Provider (ISP)</b> .	-
<b>PPPoE Service Name</b>	Enter the name of the PPPoE service. This information is provided to you by your <b>Internet Service Provider (ISP)</b> .	-
<b>Authentication Method</b>	Select the authentication method of your choice from the scroll down list: <ul style="list-style-type: none"> <li>AUTO</li> <li>PAP</li> <li>CHAP</li> <li>MSCHAP</li> </ul>	<b>AUTO</b>
<b>PPP retry on authentication error</b>	Check the box, PPP can be retried again and again while authentication fails.	<b>Not Checked</b>
<b>PPP retry period (seconds) :[3-65535]<sup>a</sup></b>	Enter if required a retry period. This value (in seconds) is by default set to 15 seconds. You can set another value from 3 to 65535.	<b>15</b>



Field	Action	Default value
<b>PPP MTU (Bytes)</b>	Enter an MTU ( <b>Maximum Transfer Unit</b> ) value. This value (in bytes) is between 38 and 1492. <b>Note:</b> The MTU specifies the maximum size of the data used (IP packets) expressed as a number of bytes.	<b>1492</b>
<b>Use Static IPv4 Address</b>	Check the box to use the static IPv4 address.	<b>Not checked</b>
<b>IPv4 Address<sup>b</sup></b>	Enter the static IPv4 address.	<b>0.0.0.0</b>
<b>Enable PPP Debug mode</b>	Check the box to use the PPP Debug mode. In the event of connection failure, this option will enable you to trace a possible problem in the SYSLOG file.	<b>Not checked</b>
<b>Bridge PPPoE frames between WAN and Local Ports</b>	Check the box to enable the router when bridging the frames between WAN and local Ethernet ports.	<b>Not checked</b>
<b>Enable IGMP Multicast Proxy</b>	Check the box to activate the IGMP function.	<b>Not checked</b>
<b>No Multicast VLAN Filter</b>	Check the box to disable Multicast VLAN Filter.	<b>Not checked</b>

- a. This field only appears when the "PPP retry on authentication error" field is activated (box checked).
- b. This field only appears when the "Use Static IPv4 Address" field is activated (box checked).

- Click on the **Next** button to continue configuring the remote network (WAN) in PPPoE mode.
- Select a preferred WAN interface as the system default gateway.





- Click on the **Next** button to continue configuring the remote network (WAN) in PPPoE mode.

**SAGEMCOM**

DSL Downstream N/A  
Upstream N/A  
Internet Adsl Down. refresh reboot

Device Info  
Internet Connection  
Advanced Setup  
Layer2 Interface  
WAN Service  
Modify Connection  
3G Config  
LAN  
HAT  
Security  
Parental Control  
Quality of Service  
Routing  
DSL  
UPnP  
DNS Proxy  
Interface Grouping  
IP Tunnel  
Certificate  
Power Management  
Multicast  
Wireless  
Multimedia  
Diagnostics  
Management  
Select Basic Settings

**DNS Server Configuration**

Select DNS Server Interface from available WAN interfaces OR enter static DNS server IP addresses for the system. In ATM mode, if only a single PVC with IPoA or static IPoE protocol is configured, Static DNS server IP addresses must be entered.  
**DNS Server Interfaces** can have multiple WAN interfaces served as system dns servers but only one will be used according to the priority with the first being the highest and the last one the lowest priority if the WAN interface is connected. Priority order can be changed by removing all and adding them back in again.

Select DNS Server Interface from available WAN interfaces:

Selected DNS Server Interfaces Available WAN Interfaces

ppp1 ppp2.2

Use the following Static DNS IP address:



Primary DNS server:   
 Secondary DNS server:

Back Next

© 2005-2012 SAGEMCOM Corporation. All rights reserved.

Field	Action	Default value
Select DNS Server Interface from available WAN interfaces	For more details, a summary table is presented below for each column.	ppp1 pppoa2
Use the following Static DNS IP address	If you check this box, you must enter DNS server addresses.	Not checked
Primary DNS server	Enter a primary DNS server address.	-
Secondary DNS server	Enter a secondary DNS server address.	-

### Select DNS Server Interface from available WAN interfaces

Button	Action
	Transfer the interfaces selected in the <b>Available WAN Interfaces</b> area to the <b>Selected DNS Server Interfaces</b> area.
	Transfer the interfaces selected in the <b>Selected DNS Server Interfaces</b> area to the <b>Available WAN Interfaces</b> area.

- Click on the **Next** button to continue configuring the remote network (WAN) in PPPoE mode.

**SAGEMCOM**

DSL Downstream N/A  
Upstream N/A  
Internet Adsl Down. refresh reboot

Device Info  
Internet Connection  
Advanced Setup  
Layer2 Interface  
WAN Service  
Modify Connection  
3G Config  
LAN  
NAT  
Security  
Parental Control  
Quality of Service  
Routing  
DSL  
UPnP  
DNS Proxy  
Interface Grouping  
IP Tunnel  
Certificate  
Power Management  
Multicast  
Wireless  
Multimedia  
Diagnostics  
Management  
Select Basic Settings

**WAN Setup - Summary**

Make sure that the settings below match the settings provided by your ISP.

Connection Type:	PPPoE
NAT:	Enabled
Firewall:	Enabled
IGMP Multicast:	Disabled
Quality Of Service:	Disabled

Click "Apply/Save" to have this interface to be effective. Click "Back" to make any modifications.

© 2005-2012 SAGEMCOM Corporation. All rights reserved.

Field	Description
<b>NAT</b>	Displays the status of the NAT.
<b>Firewall</b>	Displays the status of the firewall.
<b>IGMP Multicast</b>	Displays the status of the IGMP function.
<b>Quality of Service</b>	Displays the status of the Quality of Service function.

- Click on the **Apply/Save** button to confirm the new WAN service.

### 6.4.2.3 Ethernet over ATM – IP over Ethernet (IPoE)

- Select the WAN service type **IP over Ethernet (IPoE)**.

The screenshot shows the Sagemcom WAN Service Configuration interface. The 'WAN Service Configuration' section is active, showing the following configuration:

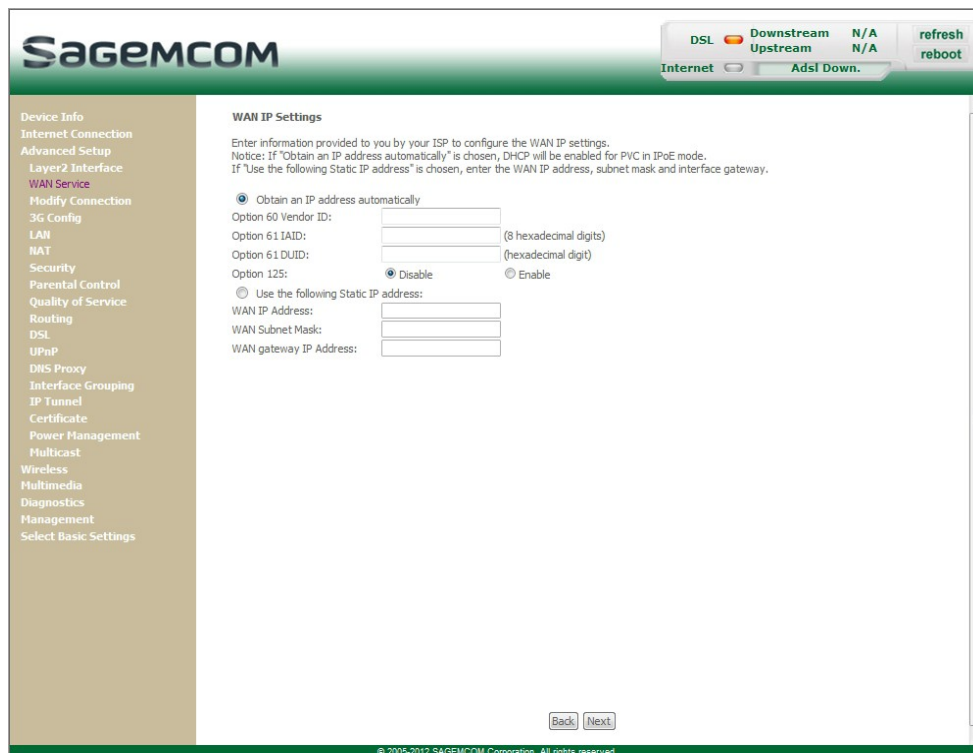
- Select WAN service type:**
  - PPP over Ethernet (PPPoE)
  - IP over Ethernet
  - Bridging
- Enter Service Description:** ipoe\_0\_8\_32
- For tagged service, enter valid 802.1P Priority and 802.1Q VLAN ID. For untagged service, set -1 to both 802.1P Priority and 802.1Q VLAN ID.**
- Enter 802.1P Priority [0-7]:** -1
- Enter 802.1Q VLAN ID [0-4094]:** -1
- Network Protocol Selection: (IPv6 Only not support)**
  - IPv4 Only

Buttons for 'Back' and 'Next' are visible at the bottom of the configuration area.

Field	Action	Default value
<b>Enter Service Description</b>	Displays the name of the service being configured. This name, which is allocated automatically, is made up as follows: Protocol_VPI_Index_VCI For example: ipoe_eth0. <b>Note:</b> You may enter another service name.	<b>ipoe_eth0</b>
<b>Enter 802.1P Priority<sup>a</sup></b>	Enter a value for the 802.1P Priority. This value is between 0 and 7.	<b>-1</b>
<b>Enter 802.1Q VLAN ID<sup>a</sup>.</b>	Enter a value for the 802.1QVLAN ID. This value is between 0 and 4094.	<b>-1</b>
<b>Network Protocol Selection</b>	Select the type of network from the drop-down list: <ul style="list-style-type: none"> <li>IPv4 Only</li> <li>IPv4&amp;IPv6 (Dual Stack)</li> </ul>	<b>IPv4 Only</b>

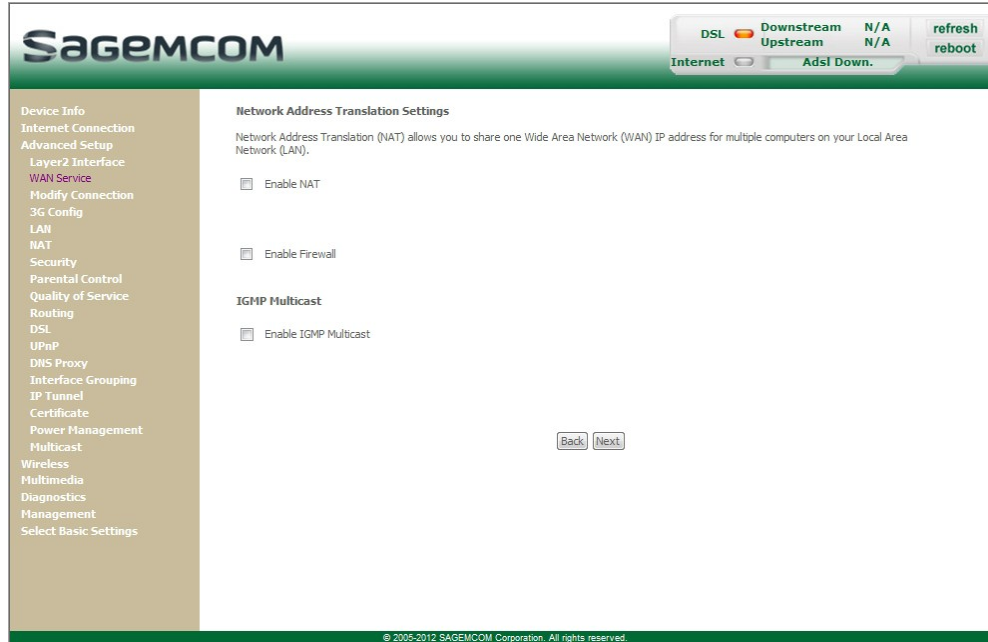
a. These values only appear if the WAN service is configured over a DSL ATM interface using VLAN MUX Mode.

- Click on the **Next** button to continue configuring the WAN service.



Field	Action	Default value
<b>Obtain an IP address automatically</b>	Check the box to obtain an IP address automatically from your router's DHCP server.	<b>Checked</b>
<b>Option 60 Vendor ID</b>	This feature allows a DHCP server to differentiate between the two kinds of client machines and process the requests from the two types of modems appropriately. If this feature is enabled on the DHCP server, and you want to use it, enter the vendor ID.	-
<b>Option 61 IAID</b>	This features allows a DHCP server to use an Identity Association <b>Identifier (IAID)</b> . If this feature is enabled on the DHCP server, and you want to use it, enter the DHCP Identity Association ID.	-
<b>Option 61 DUID</b>	This features allows a DHCP server to use a <b>DHCP Unique Identifier (DUID)</b> . If this feature is enabled on the DHCP server, and you want to use it, enter the DHCP Unique Identifier.	-
<b>Option 125</b>	This feature allows you to enable/disable the DHCP Vendor-Identifying Vendor-Specific 125 option.	<b>Disable</b>
<b>Use the following Static IP address:</b>	If you check this box, you must enter a static WAN IP address and the dedicated WAN subnet mask and WAN gateway IP address.	<b>Not checked</b>
<b>WAN IP Address</b>	Enter the static IP address.	-
<b>WAN Subnet Mask</b>	Enter the subnet mask.	-
<b>WAN gateway IP address</b>	Enter the gateway IP address.	-

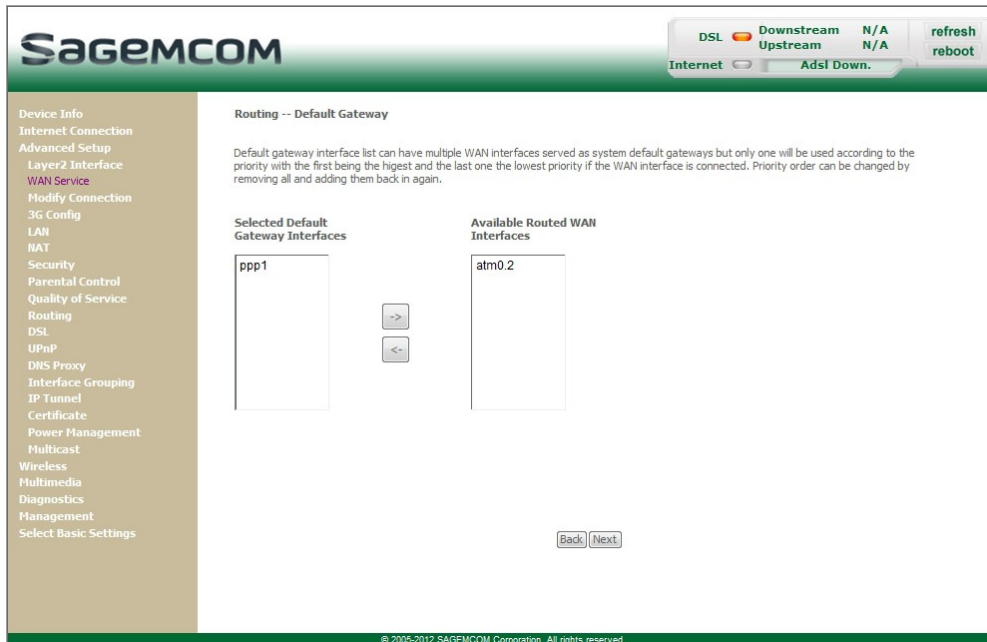
- Click on the **Next** button to continue configuring the remote network (WAN) in IPoE mode.



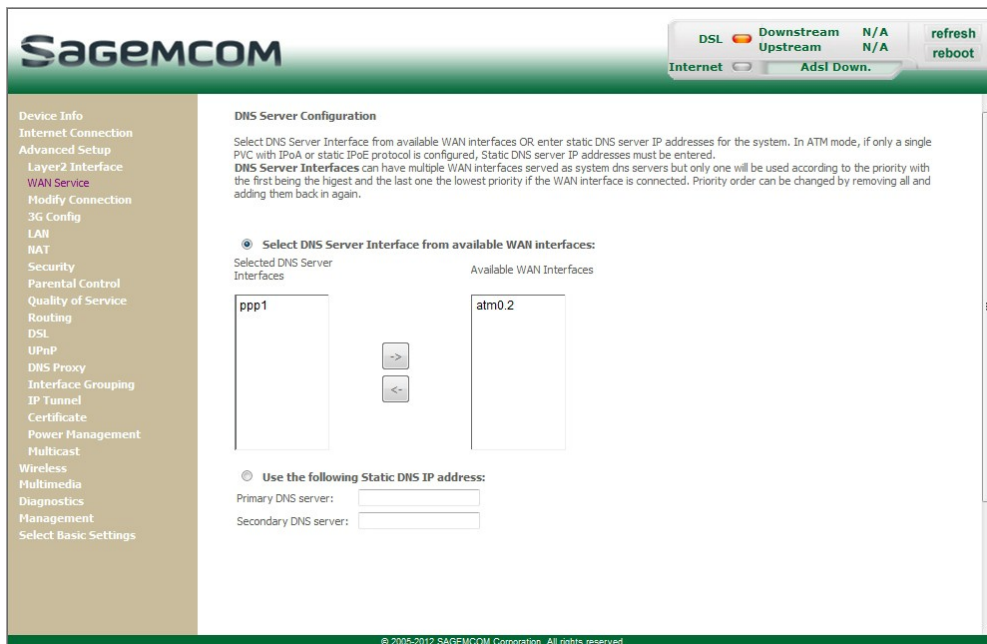
Field	Action	Default value
<b>Enable NAT</b>	Check the box to activate the NAT function. <b>Note:</b> NAT is a configurable IP address translation function which will be applied to the interfaces of your router which you will have activated for this function.	<b>Not checked</b>
<b>Enable Fullcone NAT<sup>a</sup></b>	Check the box to activate the Fullcone NAT function.	<b>Not checked</b>
<b>Enable Firewall</b>	Check the box to activate the Firewall service.	<b>Not checked</b>
<b>Enable IGMP Multicast</b>	Check the box to activate the IGMP function.	<b>Not checked</b>

a. This field only appears when the "Enable NAT" field is activated (box checked).

- Select a preferred WAN interface as the system default gateway.





- Click on the **Next** button to continue configuring the remote network (WAN) in IPoE mode.

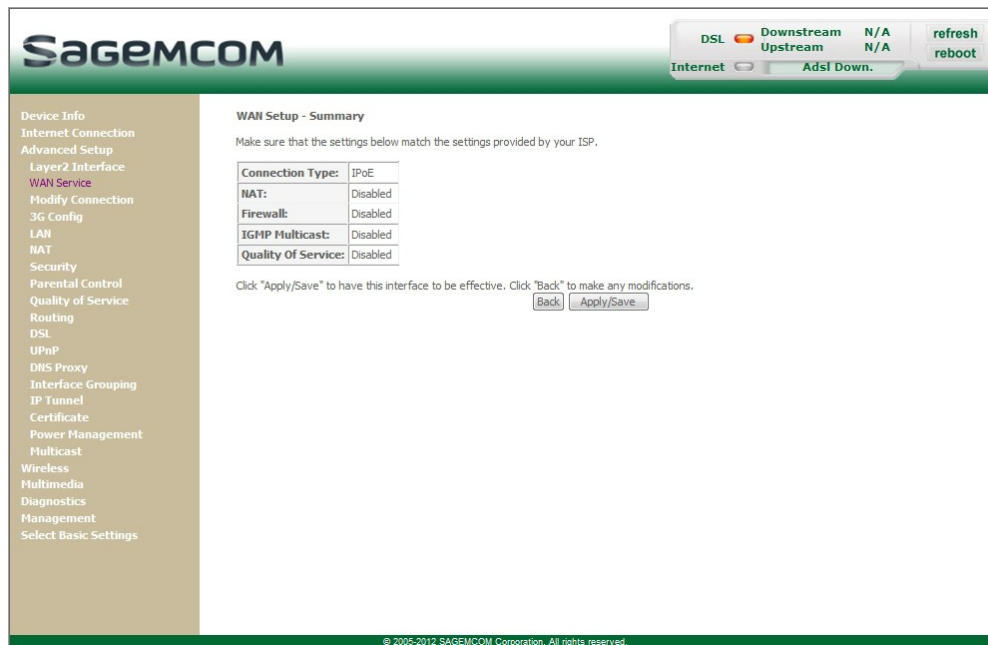


Field	Action
<b>Selected DNS Server Interfaces</b>	For more details, a summary table is presented below for each column.
<b>Available WAN Interfaces</b>	
<b>Primary DNS server</b>	Enter the primary DNS server
<b>Secondary DNS server</b>	Enter the primary DNS server

## Select DNS Server Interface from available WAN interfaces

Button	Action
	Transfer the interfaces selected in the <b>Available WAN Interfaces</b> area to the <b>Selected DNS Server Interfaces</b> area.
	Transfer the interfaces selected in the <b>Selected DNS Server Interfaces</b> area to the <b>Available WAN Interfaces</b> area.

- Click on the **Next** button to continue configuring the remote network (WAN) in IPoE mode.



**SAGEMCOM**

DSL Downstream N/A refresh  
Upstream N/A reboot  
Internet Adsl Down.

Device Info  
Internet Connection  
Advanced Setup  
Layer2 Interface  
**WAN Service**  
Modify Connection  
3G Config  
LAN  
NAT  
Security  
Parental Control  
Quality of Service  
Routing  
DSL  
UPnP  
DNS Proxy  
Interface Grouping  
IP Tunnel  
Certificate  
Power Management  
Multicast  
Wireless  
Multimedia  
Diagnostics  
Management  
Select Basic Settings

**WAN Setup - Summary**

Make sure that the settings below match the settings provided by your ISP.

Connection Type:	IPoE
NAT:	Disabled
Firewall:	Disabled
IGMP Multicast:	Disabled
Quality of Service:	Disabled

Click "Apply/Save" to have this interface to be effective. Click "Back" to make any modifications.

© 2005-2012 SAGEMCOM Corporation. All rights reserved.

Field	Description
<b>Connection Type</b>	Displays the "IPoE" protocol
<b>NAT</b>	Displays the status of the NAT.
<b>Firewall</b>	Displays the status of the firewall.
<b>IGMP Multicast</b>	Displays the status of the IGMP function.
<b>Quality Of Service</b>	Displays the status of the Quality Of Service function.

- Click on the **Apply/Save** button to confirm the new WAN service.

### 6.4.2.4 Ethernet over ATM - Bridging

- Select the WAN service type **Bridging**.

The screenshot shows the SAGEMCOM WAN Service Configuration page. The 'WAN Service Configuration' section is active, and 'Bridging' is selected as the WAN service type. The 'Enter Service Description' field contains 'br\_0\_8\_32'. Below it, there are two input fields for 'Enter 802.1P Priority [0-7]' and 'Enter 802.1Q VLAN ID [0-4094]', both containing '-1'. The page includes a navigation menu on the left and status indicators at the top right.

Field	Action	Default value
<b>Enter Service description</b>	Displays the name of the service being configured. This name, which is allocated automatically, is made up as follows: Protocol_VPI_Index_VCI For example: br_0_8_32. <b>Note:</b> You may enter another service name.	<b>br_0_8_32</b>
<b>Enter 802.1P Priority<sup>a</sup></b>	Enter a value for the 802.1P Priority. This value is between 0 and 7.	<b>-1</b>
<b>Enter 802.1Q VLAN ID<sup>a</sup>.</b>	Enter a value for the 802.1QVLAN ID. This value is between 0 and 4094.	<b>-1</b>

- a. These values only appear if the WAN service is configured over a DSL ATM interface using VLAN MUX Mode.



- Click on the **Next** button to continue configuring the remote network (WAN) in Bridge mode.

**SAGEMCOM**

DSL Downstream N/A  
Upstream N/A  
Internet Adsl Down. refresh  
reboot

Device Info  
Internet Connection  
Advanced Setup  
Layer2 Interface  
**WAN Service**  
Modify Connection  
3G Config  
LAN  
NAT  
Security  
Parental Control  
Quality of Service  
Routing  
DSL  
UPnP  
DNS Proxy  
Interface Grouping  
IP Tunnel  
Certificate  
Power Management  
Multicast  
Wireless  
Multimedia  
Diagnostics  
Management  
Select Basic Settings

**WAN Setup - Summary**

Make sure that the settings below match the settings provided by your ISP.

Connection Type:	Bridge
NAT:	Disabled
Firewall:	Disabled
IGMP Multicast:	Not Applicable
Quality Of Service:	Disabled

Click "Apply/Save" to have this interface to be effective. Click "Back" to make any modifications.

Back Apply/Save

© 2005-2012 SAGEMCOM Corporation. All rights reserved.

Field	Description
<b>NAT</b>	Displays the status of the NAT.
<b>Firewall</b>	Displays the status of the firewall.
<b>IGMP Multicast</b>	In the "Bridge" connection, this field is: <b>Not Applicable</b>
<b>Quality Of Service</b>	Displays the status of the Quality Of Service function.

- Click on the **Apply/Save** button to confirm the new WAN service.

## 6.4.2.5 PPP over ATM (PPPoA)

Field	Action	Default value
<b>Enter Service Description</b>	Displays the name of the service being configured. This name, which is allocated automatically, is made up as follows: Protocol_VPI_Index_VCI For example: pppoa_0_0_35. <b>Note:</b> You may enter another service name.	<b>pppoa_0_0_35</b>
<b>Network Protocol Selection</b>	Select the type of network from the drop-down list: <ul style="list-style-type: none"> <li>IPv4 Only</li> <li>IPv4&amp;IPv6 (Dual Stack)</li> </ul>	<b>IPv4 Only</b>

- Click on the **Next** button to continue configuring the WAN service.

The screenshot shows the Sagemcom web interface for configuring WAN service parameters. The page title is "PPP Username and Password". The main content area contains the following fields and options:

- PPP Username:** A text input field.
- PPP Password:** A text input field.
- Authentication Method:** A dropdown menu currently set to "AUTO".
- ppp retry on authentication error
- PPP MTU (Bytes) [PPPoE:68-1492,PPPoA:68-1500]:** A text input field with the value "1500".
- Use Static IPv4 Address
- Enable PPP Debug Mode
- Multicast Proxy**
  - Enable IGMP Multicast Proxy
  - No Multicast VLAN Filter

At the bottom of the page, there are "Back" and "Next" buttons. The footer contains the copyright notice: "© 2005-2012 SAGEMCOM Corporation. All rights reserved."

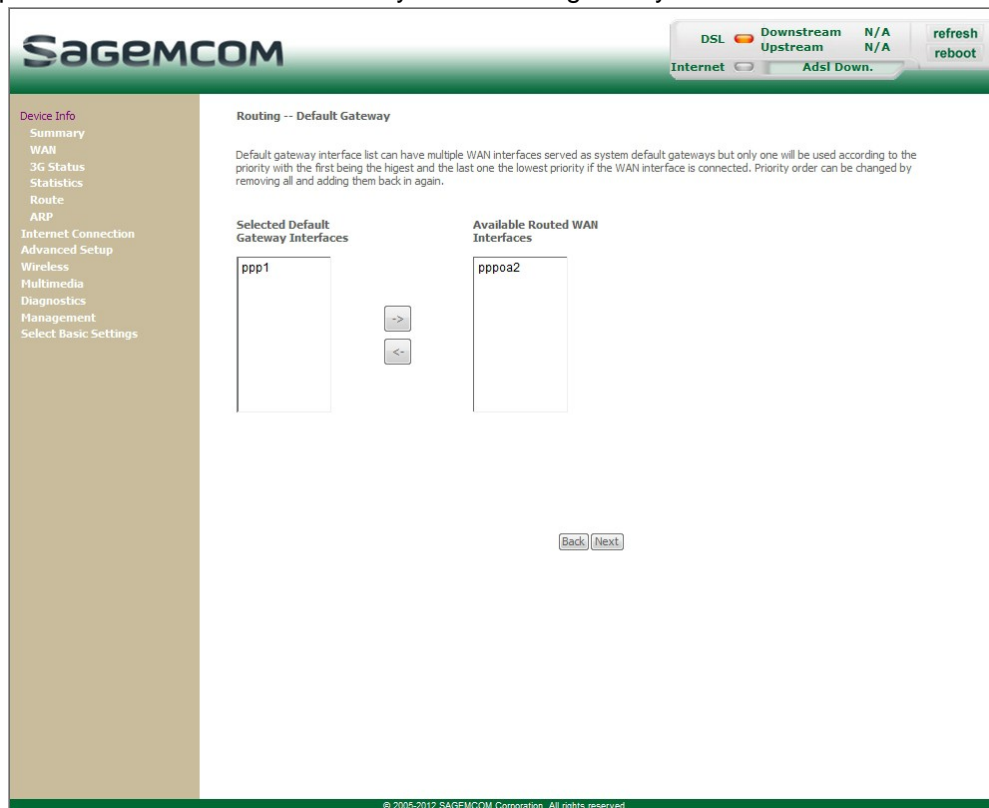
Field	Action	Default value
<b>PPP Username</b>	Enter your connection ID. This information is provided to you by your <b>Internet Service Provider (ISP)</b> .	-
<b>PPP Password</b>	Enter your connection password. This information is provided to you by your <b>Internet Service Provider (ISP)</b> .	-
<b>Authentication Method</b>	Select the authentication method of your choice from the scroll down list: <ul style="list-style-type: none"> <li>• AUTO</li> <li>• PAP</li> <li>• CHAP</li> <li>• MSCHAP</li> </ul>	<b>AUTO</b>
<b>PPP retry on authentication error</b>	Check the box, PPP can be retried again and again while authentication fails	<b>Checked</b>
<b>PPP retry period (seconds)<sup>a</sup></b>	Enter if required a retry period. This value (in seconds) is by default set to 15 seconds. You can set another value from 3 to 65535.	<b>15</b>
<b>PPP MTU (Bytes)</b>	Enter an MTU ( <b>M</b> aximum <b>T</b> ransfer <b>U</b> nit) value. This value (in bytes) is between 46 and 1500. <b>Note:</b> The MTU specifies the maximum size of the data used (IP packets) expressed as a number of bytes.	<b>1500</b>

Field	Action	Default value
<b>Use Static IPv4 Address</b>	Check the box to use the static IPv4 address.	<b>Not checked</b>
<b>IPv4 Address:<sup>b</sup></b>	Enter the static IPv4 address.	<b>0.0.0.0</b>
<b>Enable PPP Debug Mode</b>	Check the box to use the PPP Debug mode. In the event of connection failure, this option will enable you to trace a possible problem in the SYSLOG file.	<b>Not checked</b>
<b>Enable IGMP Multicast Proxy</b>	Check the box to activate the IGMP function.	<b>Not checked</b>
<b>No Multicast VLAN Filter</b>	Check the box to disable Multicast VLAN Filter.	<b>Not checked</b>

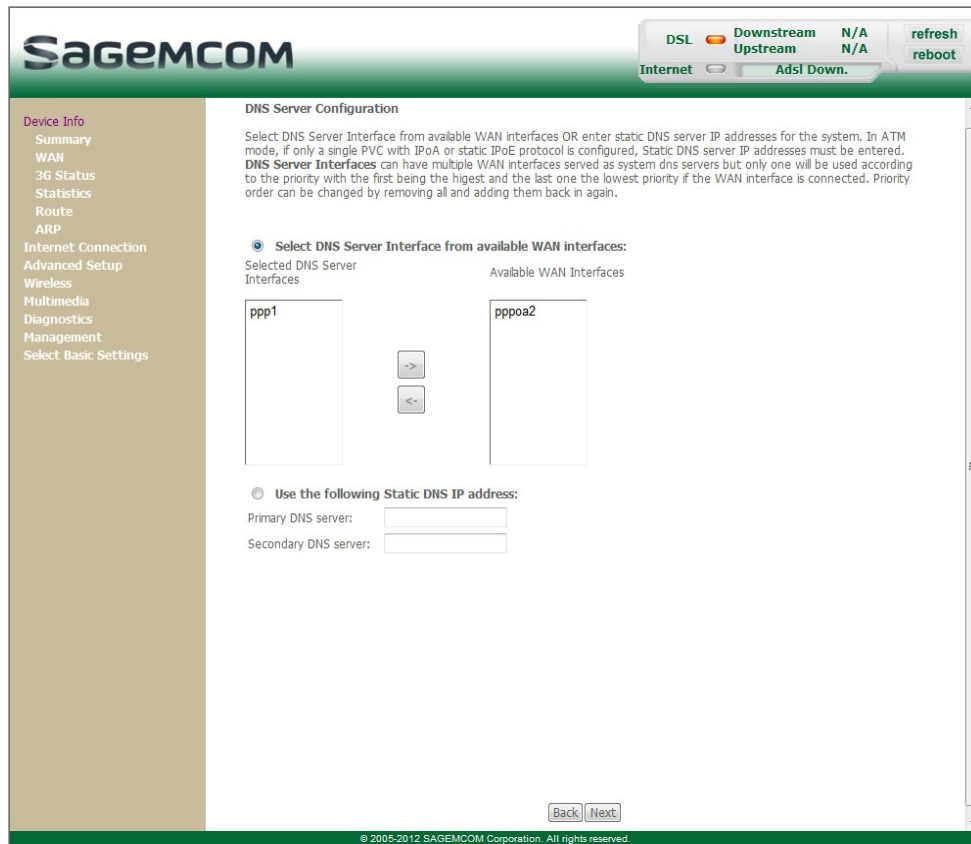
a. This field only appears when the "PPP retry on authentication error" field is activated (box checked).

b. This field only appears when the "Use Static IPv4 Address" field is activated (box checked).

- Click on the **Next** button to continue configuring the remote network (WAN) in PPPoA mode.
- Select a preferred WAN interface as the system default gateway.



- Click on the **Next** button to continue configuring the remote network (WAN) in PPPoA mode.



**SAGEMCOM**

DSL Downstream N/A  
Upstream N/A  
Internet Adsl Down. refresh reboot

**DNS Server Configuration**

Select DNS Server Interface from available WAN interfaces OR enter static DNS server IP addresses for the system. In ATM mode, if only a single PVC with IPoA or static IPoE protocol is configured, Static DNS server IP addresses must be entered. **DNS Server Interfaces** can have multiple WAN interfaces served as system dns servers but only one will be used according to the priority with the first being the highest and the last one the lowest priority if the WAN interface is connected. Priority order can be changed by removing all and adding them back in again.

**Select DNS Server Interface from available WAN interfaces:**

Selected DNS Server Interfaces Available WAN Interfaces

ppp1 pppoa2

> <

**Use the following Static DNS IP address:**

Primary DNS server:



Secondary DNS server:

Back Next

© 2005-2012 SAGEMCOM Corporation. All rights reserved.

Field	Action
<b>Selected DNS Server Interfaces</b>	For more details, a summary table is presented below for each column.
<b>Available WAN Interfaces</b>	
<b>Primary DNS server</b>	Enter the primary DNS server
<b>Secondary DNS server</b>	Enter the primary DNS server

### Select DNS Server Interface from available WAN interfaces

Button	Action
	Transfer the interfaces selected in the <b>Available WAN Interfaces</b> area to the <b>Selected DNS Server Interfaces</b> area.
	Transfer the interfaces selected in the <b>Selected DNS Server Interfaces</b> area to the <b>Available WAN Interfaces</b> area.

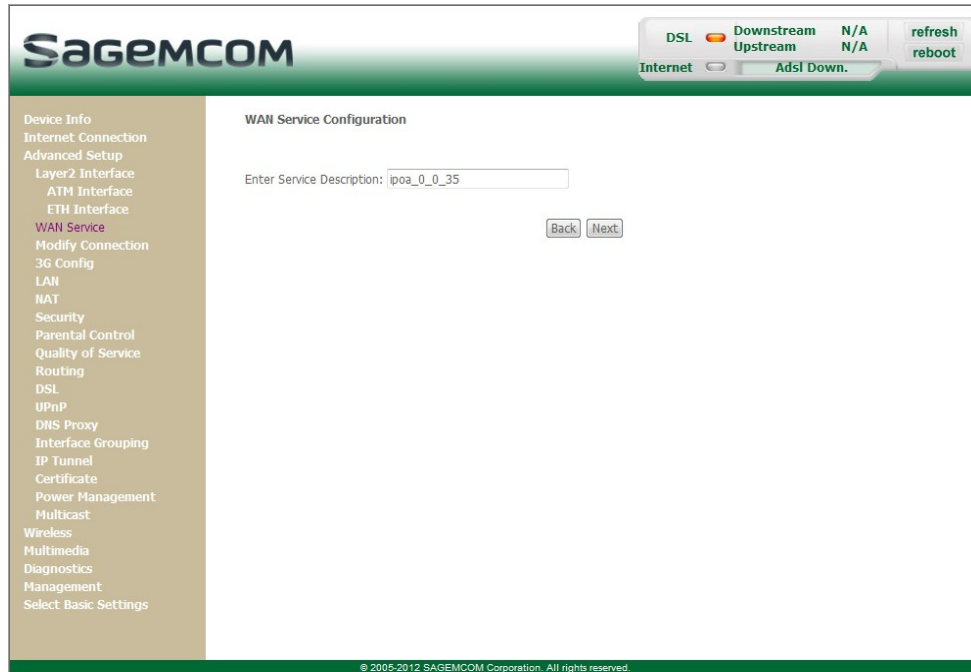
- Click on the **Next** button to continue configuring the remote network (WAN) in PPPoA mode.



Field	Description
<b>Connection Type</b>	Displays the "PPPoA" protocol.
<b>NAT</b>	Displays the status of the NAT.
<b>Firewall</b>	Displays the status of the firewall.
<b>IGMP Multicast</b>	Displays the status of the IGMP function.
<b>Quality of Service</b>	Displays the status of the Quality of Service function.

- Click on the **Apply/Save** button to confirm the new WAN service.

## 6.4.2.6 IP over ATM (IPoA)



Field	Action	Default value
<b>Enter Service Description</b>	Displays the name of the service being configured. This name, which is allocated automatically, is made up as follows: Protocol_VPI_Index_VCI For example: ipoa_1_0_35. <b>Note:</b> You may enter another service name.	<b>ipoa_1_0_35</b>

- Click on the **Next** button to continue configuring the WAN service.



Field	Action	Default value
<b>WAN IP Address</b>	Enter the static IP address.	<b>0.0.0.0</b>
<b>WAN Subnet Mask</b>	Enter a subnet mask.	<b>0.0.0.0</b>



- Click on the **Next** button to continue configuring the remote network (WAN) in IPoA mode.

**SAGEMCOM**

DSL Downstream N/A refresh  
Upstream N/A reboot  
Internet Adsl Down.

Device Info  
Internet Connection  
Advanced Setup  
Layer2 Interface  
ATM Interface  
ETH Interface  
WAN Service  
Modify Connection  
3G Config  
LAN  
NAT  
Security  
Parental Control  
Quality of Service  
Routing  
DSL  
UPnP  
DNS Proxy  
Interface Grouping  
IP Tunnel  
Certificate  
Power Management  
Multicast  
Wireless  
Multimedia  
Diagnostics  
Management  
Select Basic Settings

**Network Address Translation Settings**

Network Address Translation (NAT) allows you to share one Wide Area Network (WAN) IP address for multiple computers on your Local Area Network (LAN).

Enable NAT

Enable Firewall

**IGMP Multicast**

Enable IGMP Multicast

Back Next

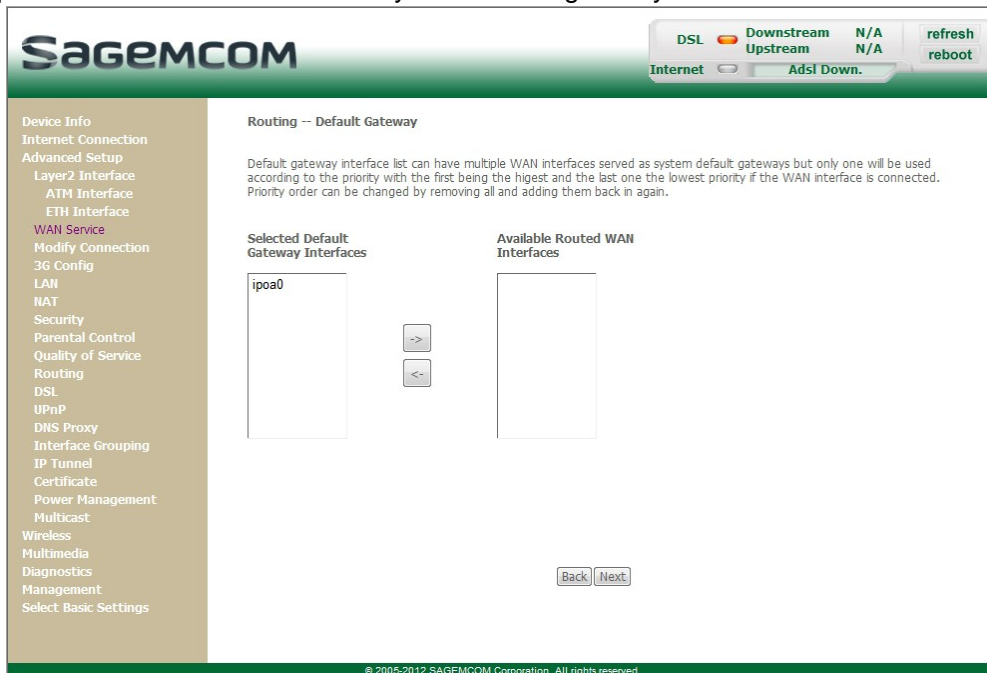
© 2005-2012 SAGEMCOM Corporation. All rights reserved.

Field	Action	Default value
<b>Enable NAT</b>	Check the box to activate the NAT function. <b>Note:</b> NAT is a configurable IP address translation function which will be applied to the interfaces of your router which you will have activated for this function.	<b>Not checked</b>
<b>Enable Fullcone NAT<sup>a</sup></b>	Check the box to activate the Fullcone NAT function.	<b>Not checked</b>
<b>Enable Firewall</b>	Check the box to activate the Firewall service.	<b>Not checked</b>
<b>Enable IGMP Multicast</b>	Check the box to activate the IGMP function.	<b>Not checked</b>

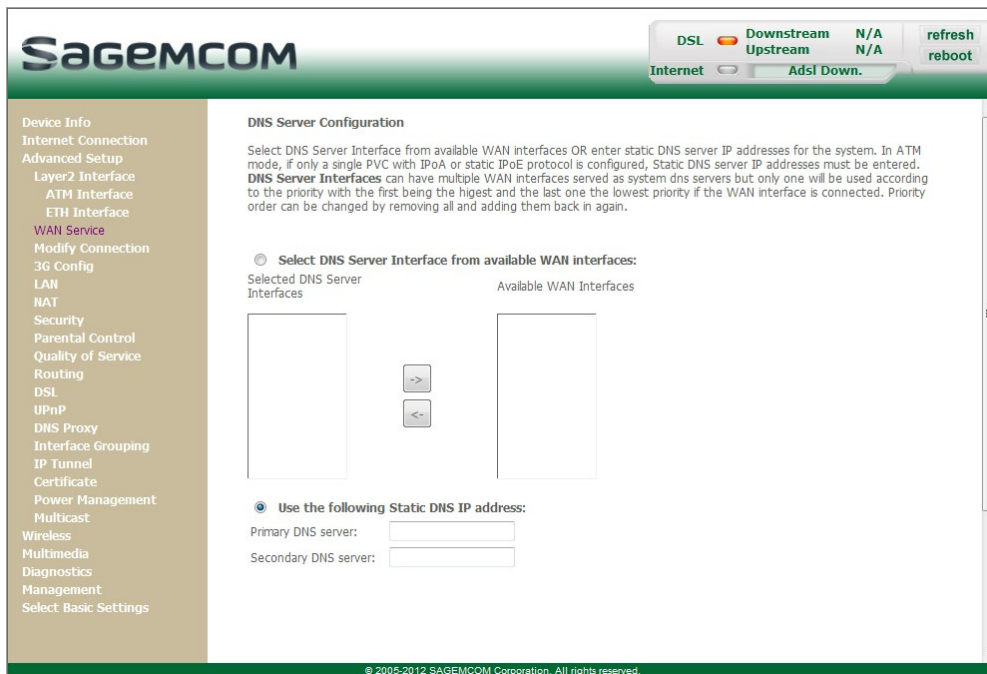
a. This field only appears when the "Enable NAT" field is activated (box checked).

- Click on the **Next** button to continue configuring the remote network (WAN) in IPoA mode.

- Select a preferred WAN interface as the system default gateway.





- Click on the **Next** button to continue configuring the remote network (WAN) in IPoA mode.




Field	Action
<b>Selected DNS Server Interfaces</b>	For more details, a summary table is presented below for each column.
<b>Available WAN Interfaces</b>	
<b>Primary DNS server</b>	Enter the primary DNS server
<b>Secondary DNS server</b>	Enter the primary DNS server

## Select DNS Server Interface from available WAN interfaces

Button	Action
	Transfer the interfaces selected in the <b>Available WAN Interfaces</b> area to the <b>Selected DNS Server Interfaces</b> area.
	Transfer the interfaces selected in the <b>Selected DNS Server Interfaces</b> area to the <b>Available WAN Interfaces</b> area.

- Click on the **Next** button to continue configuring the remote network (WAN) in IPoA mode.



**SAGEMCOM**

DSL  Downstream N/A refresh  
 Internet  Upstream N/A reboot  
 Adsl Down.

Device Info  
 Internet Connection  
 Advanced Setup  
 Layer2 Interface  
 ATM Interface  
 ETH Interface  
**WAN Service**  
 Modify Connection  
 3G Config  
 LAN  
 NAT  
 Security  
 Parental Control  
 Quality of Service  
 Routing  
 DSL  
 UPnP  
 DNS Proxy  
 Interface Grouping  
 IP Tunnel  
 Certificate  
 Power Management  
 Multicast  
 Wireless  
 Multimedia  
 Diagnostics  
 Management  
 Select Basic Settings

**WAN Setup - Summary**

Make sure that the settings below match the settings provided by your ISP.

Connection Type:	IPoA
NAT:	Disabled
Firewall:	Disabled
IGMP Multicast:	Disabled
Quality Of Service:	Enabled

Click "Apply/Save" to have this interface to be effective. Click "Back" to make any modifications.

© 2005-2012 SAGEMCOM Corporation. All rights reserved.

Field	Description
<b>Connection Type</b>	Displays the "IPoA" protocol.
<b>NAT</b>	Displays the status of the NAT.
<b>Firewall</b>	Displays the status of the firewall.
<b>IGMP Multicast</b>	Displays the status of the IGMP function.
<b>Quality of Service</b>	Displays the status of the Quality of Service function.

- Click on the **Apply/Save** button to confirm the new WAN service.

### 6.4.3 3G Config

**Object:** This menu lets you configure 3G backup support to use a 3G USB modem that connected to the USB interface of the router as a backup of ADSL Internet connection.

- In the **Advanced Setup** menu, select **3G Config**.

The following screen opens:

Field	Action	Default value
<b>Enable</b>	Check the box to enable 3G backup. This backup will make the router connect to the 3G USB modem automatically when ADSL line is broken.	<b>Disabled</b>
<b>PIN</b>	Enter the PIN number.	-
<b>APN</b>	Enter the APN (Access Point Name) protocol which allows your Box to access the Internet.	-
<b>User</b>	Enter the user name.	-
<b>Password</b>	Enter the 3G USB modem password.	-
<b>Dial Number</b>	Enter the dial number of the 3G USB modem.	-
<b>Auth Protocol</b>	Select the protocol to use in the scrolling down list: <ul style="list-style-type: none"> <li>AUTO AUTH</li> <li>PAP (<b>P</b>assword <b>A</b>uthentication <b>P</b>rotocol)</li> <li>CHAP (<b>C</b>hallenge <b>H</b>andshake <b>A</b>uthentication <b>P</b>rotocol)</li> </ul>	<b>AUTO AUTH</b>

- Click on the **Save** button to save the defined parameters.

#### Note



The router needs to be rebooted to take the parameters into account.

## 6.4.4 LAN

**Object:** This is used to configure the IP parameters for the local network (LAN).

- In the **Advanced Setup** menu, select **LAN**.

The following screen opens:

Field	Action	Default value
<b>Groupname</b>	Select the required group.	<b>Default</b>
<b>IP Address</b>	Enter the address of your local network.	<b>192.168.1.1</b>
<b>Subnet Mask</b>	Enter your network's subnet mask.	<b>255.255.255.0</b>
<b>Enable IGMP Snooping</b>	Check this box to activate the IGMP (Internet Group Management Protocol) protocol. This lets you manage the declarations of belonging to one or more groups with Multicast routers.	<b>Not checked</b>
<b>Standard Mode<sup>a</sup></b>	Check the box if you wish the IGMP snooping runs in normal mode (transparency with IGMP frames).	<b>Checked</b>
<b>Blocking Mode<sup>a</sup></b>	Check the box if you wish the IGMP snooping runs in blocking mode (interception and removal of IGMP frames).	<b>Not checked</b>
<b>Enable IGMP Proxy on Bridge</b>	Check the box to activate the IGMP Proxy on Bridge.	<b>Not checked</b>
<b>Disable DHCP Server</b>	Check this box to deactivate your router's DHCP server. <b>Note:</b> You must configure your computer with the parameters appropriate to your local network (IP address, subnet mask and default gateway) as well as enter the primary and secondary DNS server addresses.	<b>Not checked</b>

Field	Action	Default value
<b>Enable DHCP</b>	Check this box to activate your router's DHCP server. <b>Note:</b> You must configure your computer as DHCP client and DNS client (or enter the primary and secondary DNS server addresses).	<b>Checked</b>
<b>Start IP Address</b>	Enter the first address attributed by your router's DHCP server.	<b>192.168.1.2</b>
<b>End IP Address</b>	Enter the last address attributed by your router's DHCP server.	<b>192.168.1.254</b>
<b>Leased Time (hour)</b>	Enter an unavailability time (in hours) for each attributed address.	<b>24</b>
<b>Static IP Lease List</b>	Enter if required the list of static IP Lease. <b>Note:</b> A maximum of 32 entries can be configured.	-
<b>Configure the second IP Address and Subnet Mask for LAN interface</b>	Check the box to configure the IP parameters (IP address, subnet mask) of a second address for the local network (LAN).	<b>Not checked</b>
<b>IP Address<sup>b</sup></b>	Enter a second address for your local network (LAN).	-
<b>Subnet Mask<sup>b</sup></b>	Enter a subnet mask for the second address for your local network (LAN).	-

- a. These fields only appear when the "Enable IGMP Snooping" field is activated (box checked).  
b. These fields only appear when the "Configure the second IP Address and Subnet Mask for LAN interface" field is activated (box checked).

#### 6.4.4.1 IPv6 Autoconfig

**Object:** This is used to cauto-configure IP v6 protocol.

- In the **Advanced Setup** menu, select **LAN** then select **IPv6 Autoconfig**.

The following screen opens:

**SAGEMCOM** DSL Downstream Upstream N/A N/A refresh reboot  
Internet Adsl Down.

Device Info  
Internet Connection  
Advanced Setup  
Layer2 Interface  
WAN Service  
Modify Connection  
3G Config  
LAN  
IPv6 Autoconfig  
NAT  
Security  
Parental Control  
Quality of Service  
Routing  
DNS  
DSL  
UPnP  
DNS Proxy  
Interface Grouping  
IP Tunnel  
Certificate  
Power Management  
Multicast  
Wireless  
Multimedia  
Diagnostics  
Management  
Select Basic Settings

**IPv6 LAN Auto Configuration**  
Note: Stateless DHCPv6 is supported based on the assumption of prefix length less than 64. Interface ID does NOT support ZERO COMPRESSION "::". Please enter the complete information. For example: Please enter "0:0:0:2" instead of "::2".

**Static LAN IPv6 Address Configuration**  
Interface Address (prefix length is required):

**IPv6 LAN Applications**

Enable DHCPv6 Server

Stateless  
 Stateful

Start interface ID:   
End interface ID:   
Leased Time (hour):

Enable RADVD

Enable ULA Prefix Advertisement

Randomly Generate  
 Statically Configure

Prefix:   
Preferred Life Time (hour):   
Valid Life Time (hour):

Enable MLD Snooping

Standard Mode  
 Blocking Mode

© 2005-2012 SAGEMCOM Corporation. All rights reserved.

Field	Action	Default value
<b>Interface Address</b>	Enter the interface address. Note: Entering a prefix length is mandatory.	<b>Empty</b>
<b>Enable DHCPv6 Server</b>	Check the box to activate the DHCPv6 Server.	
<b>Stateless<sup>a</sup></b>	Using Stateless to achieve the IPv6 address for the LAN.	
<b>Stateful<sup>a</sup></b>	Using Stateful to achieve the IPv6 address for the LAN and fill in the following fields: <b>Start interface ID:</b> Enter the first interface identifier that is assigned during stateful address autoconfiguration. <b>End interface ID:</b> Enter the last interface identifier that is assigned during stateful address autoconfiguration. <b>Leased Time (hour):</b> Enter the time which lease for the client.	<b>0:0:0:2</b> <b>0:0:0:254</b> <b>Empty</b>
<b>Enable RADVD</b>	Uncheck the box to deactivate RADVD (Router Advertisement Daemon) function.	<b>Checked</b>
<b>Enable ULA Prefix Advertisement<sup>b</sup></b>	Enable/Disable the ULA (Unique Local Address) prefix Advertisement.	
<b>Randomly Generate<sup>b</sup></b>	Enable/disable randomly generate the bellow parameters.	
<b>Statically Configure<sup>b</sup></b>	Enable/disable manually configure the bellow parameters. <b>Prefix:</b> Enter the Prefix you wish to use. Prefix has an associated valid and preferred lifetime, which constitutes an agreement about the length of time over which the requesting router is allowed to use the prefix <b>Preferred Life Time (hour):</b> Enter the life time you wish to use. <b>Valid Life Time (hour):</b> Enter the valid time you wish to use.	
<b>Enable MLD Snooping</b>	Check this box to activate the MLD (Multicast Listener Discovery) protocol. This lets you manage the declarations of belonging to one or more groups with Multicast routers.	
<b>Standard Mode<sup>c</sup></b>	Check the box if you wish the MLD snooping runs in normal mode.	
<b>Blocking Mode<sup>c</sup></b>	Check the box if you wish the MLD snooping runs in blocking mode.	

- a. These fields only appear when the "Enable DHCPv6 Server" field is activated (box checked).  
b. These fields only appear when the "Enable RADVD" field is activated (box checked).  
c. These fields only appear when the "Enable MLD Snooping" field is activated (box checked).



## 6.4.5 NAT

**Object:** NAT is a configurable IP address translation function which is applied to the interfaces of your router which you have activated for this function.

Several translation function configurations and the NAT actions can be configured and may be activated as indicated in section **6.4.5.1 > Add**.

This section contains the following menus:

- Virtual Servers (see subsection 6.4.5.1)
- Port Triggering (see subsection 6.4.5.2)
- DMZ Host (see subsection 6.4.5.3)

### 6.4.5.1 Virtual Servers

**Object:** This menu is used to route directly to the External Ports the incoming data from a Service server (such as, for example, FTP Server, SNMP, TFTP etc.) of the remote network (WAN) to computers on the local network (LAN) via the Internal Ports.

- In the **Advanced Setup** menu, select **NAT** then select **Virtual Servers**.

The following screen opens:

The screenshot shows the Sagemcom web interface for NAT Virtual Servers Setup. The page title is "NAT -- Virtual Servers Setup". Below the title, there is a brief description: "Virtual Server allows you to direct incoming traffic from WAN side (identified by Protocol and External port) to the Internal server with private IP address on the LAN side. The Internal port is required only if the external port needs to be converted to a different port number used by the server on the LAN side. A maximum 32 entries can be configured." Below this description are "Add" and "Remove" buttons. A table is displayed with the following columns: Server Name, External Port Start, External Port End, Protocol, Internal Port Start, Internal Port End, Server IP Address, WAN Interface, and Remove. The table is currently empty. The page footer includes the copyright notice: "© 2005-2012 SAGEMCOM Corporation. All rights reserved."

Field	Meaning
<b>Server Name</b>	<ul style="list-style-type: none"> <li>• <b>Select a Service:</b> Service available over Internet (such as, for example FTP Server, SNMP, TFTP etc.).</li> <li>• <b>Custom Service:</b> Name you want to allocate to a local server.</li> </ul>
<b>External Port Start</b>	Internal start port (WAN side).



Field	Meaning
<b>External Port End</b>	Internal end port (WAN side).
<b>Protocol</b>	Transport protocol (TCP, UDP or TCP/UDP).
<b>Internal Port Start</b>	Internal start port (LAN side).
<b>Internal Port End</b>	This internal end port (LAN side) is associated with the external end port (WAN) side. <b>Note:</b> This cannot be modified.
<b>Server IP Address</b>	Computer address delivered by your router's DHCP server.
<b>WAN Interface</b>	WAN interface used.
<b>Remove</b>	Check this box and click on the <b>[Remove]</b> button to remove the selected object from the list.

## Add

- Click on the **Add** button; the following screen appears:

**SAGEMCOM**

DSL Downstream N/A  
Upstream N/A  
Internet Adsl Down. refresh reboot

Device Info  
Internet Connection  
Advanced Setup  
Layer2 Interface  
WAN Service  
Modify Connection  
3G Config  
LAN  
NAT  
Virtual Servers  
Port Triggering  
DMZ Host  
Security  
Parental Control  
Quality of Service  
Routing  
DNS  
DSL  
UPnP  
DNS Proxy  
Interface Grouping  
IP Tunnel  
Certificate  
Power Management  
Multicast  
Wireless  
Multimedia  
Diagnostics  
Management  
Select Basic Settings

**NAT -- Virtual Servers**

Select the service name, and enter the server IP address and click "Apply/Save" to forward IP packets for this service to the specified server. **NOTE: The "Internal Port End" cannot be modified directly. Normally, it is set to the same value as "External Port End". However, if you modify "Internal Port Start", then "Internal Port End" will be set to the same value as "Internal Port Start". Remaining number of entries that can be configured:32**

Use Interface:

Service Name:  
 Select a Service:   
 Custom Service:

Server IP Address:   Always use current LAN IP Address as server IP Address

External Port Start	External Port End	Protocol	Internal Port Start	Internal Port End
		TCP		
		TCP		
		TCP		
		TCP		
		TCP		
		TCP		
		TCP		
		TCP		
		TCP		
		TCP		
		TCP		
		TCP		
		TCP		
		TCP		
		TCP		
		TCP		
		TCP		
		TCP		
		TCP		
		TCP		
		TCP		
		TCP		

© 2005-2012 SAGEMCOM Corporation. All rights reserved.

Proceed as follows:

- Select the required WAN interface in the **Use Interface** list.
- Check the **Select a Service** box, then select the service of your choice from the scroll down list, for example "SNMP".

The **External Port Start**, **External Port End**, **Internal Port Start**, **Internal Port End** and **Protocol** fields (transport protocol associated with this service) are automatically filled in the table.

#### Note



You may complete the table by adding other ports associated with a protocol.

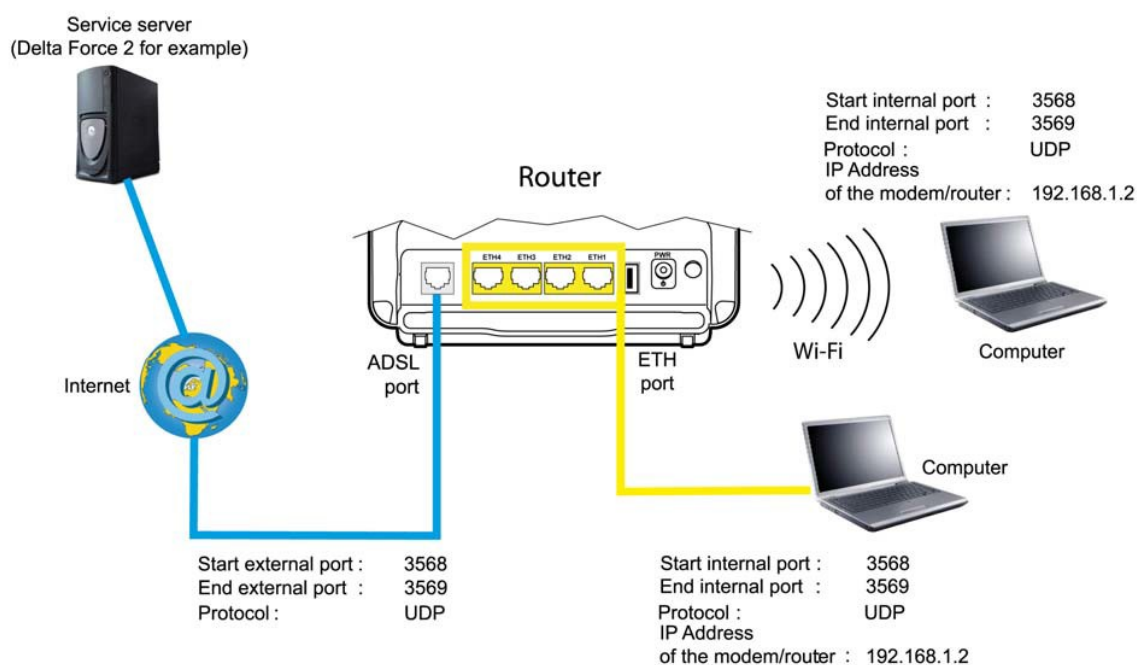
or

- Check the **Custom Service** box, enter the name of the server you want to connect to, then:
  - Complete the ID Host of your computer's IP address (this is attributed by your router's DHCP server).
  - Fill in the **External Port Start**, **External Port End**, **Internal Port Start**, **Internal Port End** and **Protocol** fields.

#### A few rules for entering values:

- When you want to select a single port, the start port (**External Port Start** or **Internal Port Start**) and the end port (**External Port End** or **Internal Port End**) must be identical.
- When you want to select a range of ports, the start port number must be lower than the end port number.
- You must always start entering with the **External Port Start** and **External Port End** ports.
- When you allocate a number to an **External Port Start**, the same number is automatically allocated to the **Internal Port Start** and identically for **External Port End**.

The following diagram contains an example:



The "Delta Force 2" service is available on your computer via the external ports 3568 and 3569 (WAN side) and via the internal ports 3568 and 3569 (LAN side).

## 6.4.5.2 Port Triggering

**Object:** The purpose of this menu is to open dynamically the firewall ports (open ports) via "Trigger Ports" when an application (such as games or video) opens a connection via the transport layer (TCP or UDP).

- In the **Advanced Setup** menu, select **NAT** then select **Port Triggering**.

The following screen opens:

The screenshot shows the Sagemcom web interface. At the top right, there are status indicators for DSL (Downstream N/A, Upstream N/A), Internet (Adsl Down.), and a refresh/reboot button. The left navigation menu includes options like Device Info, Internet Connection, Advanced Setup, Layer2 Interface, WAN Service, Modify Connection, 3G Config, LAN, NAT, Virtual Servers, Port Triggering (highlighted), DMZ Host, Security, Parental Control, Quality of Service, Routing, DNS, DSL, UPnP, DNS Proxy, Interface Grouping, IP Tunnel, Certificate, Power Management, Multicast, Wireless, Multimedia, Diagnostics, Management, and Select Basic Settings. The main content area is titled "NAT -- Port Triggering Setup" and contains a descriptive paragraph and a table for configuring port triggering rules.

**NAT -- Port Triggering Setup**

Some applications require that specific ports in the Router's firewall be opened for access by the remote parties. Port Trigger dynamically opens up the 'Open Ports' in the firewall when an application on the LAN initiates a TCP/UDP connection to a remote party using the 'Triggering Ports'. The Router allows the remote party from the WAN side to establish new connections back to the application on the LAN side using the 'Open Ports'. A maximum 32 entries can be configured.

[Add] [Remove]

Application Name	Trigger		Open		WAN Interface	Remove
	Protocol	Port Range Start End	Protocol	Port Range Start End		

© 2005-2012 SAGEMCOM Corporation. All rights reserved.

Field	Meaning
<b>Application Name</b>	Application name.
<b>Trigger</b>	<ul style="list-style-type: none"> <li><b>Protocol:</b> Transport protocol (TCP, UDP or TCP/UDP).</li> <li><b>Port Range:</b> A port range contains a Start port and an End port.</li> </ul> <p><b>Note:</b> A single port is characterised by an identical start port and end port.</p>
<b>Open</b>	<ul style="list-style-type: none"> <li><b>Protocol:</b> Transport protocol (TCP, UDP or TCP/UDP).</li> <li><b>Port Range:</b> A port range contains a Start port and an End port.</li> </ul> <p><b>Note:</b> A single port is characterised by an identical start port and end port.</p>
<b>WAN Interface</b>	WAN Interface used.
<b>Remove</b>	To remove an entry from the list, check the box and click on the <b>[Remove]</b> button.

## Add

- Click on the **Add** button; the following screen appears:

**SAGEMCOM**

DSL Downstream N/A refresh  
Upstream N/A reboot  
Internet Adsl Down.

Device Info  
Internet Connection  
Advanced Setup  
Layer2 Interface  
WAN Service  
Modify Connection  
3G Config  
LAN  
NAT  
Virtual Servers  
Port Triggering  
DMZ Host  
Security  
Parental Control  
Quality of Service  
Routing  
DNS  
DSL  
UPnP  
DNS Proxy  
Interface Grouping  
IP Tunnel  
Certificate  
Power Management  
Multicast  
Wireless  
Multimedia  
Diagnostics  
Management  
Select Basic Settings

NAT -- Port Triggering

Some applications such as games, video conferencing, remote access applications and others require that specific ports in the Router's firewall be opened for access by the applications. You can configure the port settings from this screen by selecting an existing application or creating your own (Custom application) and click "Save/Apply" to add it.  
**Remaining number of entries that can be configured:32**

Use Interface:

Application Name:

Select an application:

Custom application:

Trigger Port Start	Trigger Port End	Trigger Protocol	Open Port Start	Open Port End	Open Protocol
		TCP			TCP
		TCP			TCP
		TCP			TCP
		TCP			TCP
		TCP			TCP
		TCP			TCP
		TCP			TCP

© 2005-2012 SAGEMCOM Corporation. All rights reserved.

To configure **Trigger Port** and **Open Port**, proceed as follows:

- Select the required WAN interface in the **Use Interface** list.
- Check the **Select an application** box, then select the service of your choice from the scroll down list, for example "Aim Talk".

The **Trigger Port Start**, **Trigger Port End**, **Open Port Start**, **Open Port End** and **Protocol** fields (transport protocol associated with this service) are automatically filled in the table.

### Note



You may complete the table by adding other ports associated with a protocol.

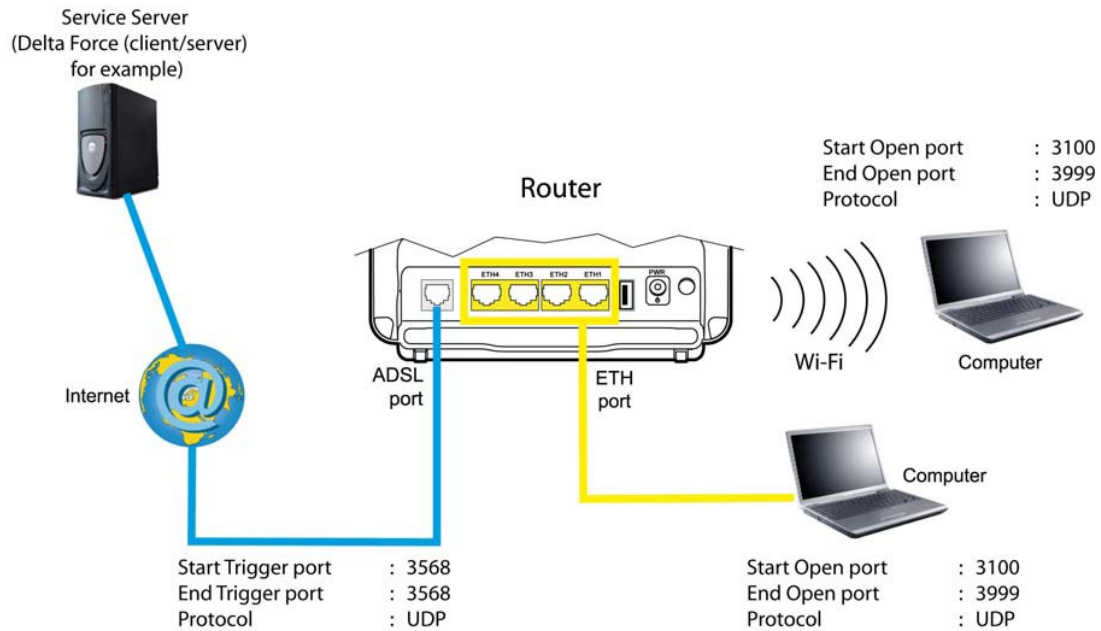
or

- Check the **Custom application** box to specify your own application, then:
  - Enter the name of your own application.
  - Fill in the **Trigger Port Start**, **Trigger Port End**, **Open Port Start**, **Open Port End** and **Protocol** fields.

### A few rules for entering values:

- When you want to select a single port, the start port (**Trigger Port Start** or **Open Port Start**) and the end port (**Trigger Port End** or **Open Port End**) must be identical.
- When you want to select a range of ports, the start port number must be lower than the end port number.

The following diagram contains an example:



Using the "Trigger" 3568 port (WAN side), the "Delta Force" service server triggers the opening of port range 3100 to 3999 for your computer to access this service.

### 6.4.5.3 DMZ Host

**Object:** This "DMZ" (**De**Militarized **Z**one) lets you access the server you selected directly via the Internet without going through the "Firewall".

#### Important



Caution, this process presents an intrusion risk. It is therefore vital that you take precautions so that no connections may be initiated to the private network.

- In the **Advanced Setup** menu, select **NAT** then select **DMZ Host**.

The following screen opens:

Field	Action	Default value
<b>DMZ Host IP Address</b>	Enter the IP address of a server to activate the "DMZ" and therefore access it directly from the Internet. To deactivate the "DMZ" zone, erase the address entered in the field. <b>Note:</b> Click on the <b>Apply/Save</b> button to take account of the address or its erasure.	-

#### Note



The **DMZ** zone is deactivated by default.

## 6.4.6 Security

### 6.4.6.1 IP Filtering

#### Outgoing

**Object:** This menu is used to create outgoing IP filters to refuse data from the LAN to the WAN and list the existing outgoing IP filters.

By default, all the outgoing data is accepted.

- In the **Advanced Setup** menu, select **Security > IP Filtering > Outgoing**.

The following screen opens:

The screenshot displays the Sagemcom web interface for 'Outgoing IP Filtering Setup'. The page includes a navigation sidebar on the left with 'Security > IP Filtering > Outgoing' selected. The main content area features a table with the following columns: Filter Name, IP Version, Protocol, SrcIP/ PrefixLength, SrcPort, DstIP/ PrefixLength, DstPort, and Remove. Below the table are 'Add' and 'Remove' buttons. The top right of the interface shows status indicators for DSL, Downstream, Upstream, and Adsl Down.

Field	Meaning
<b>Filter Name</b>	Name of the filter.
<b>IP Version</b>	IP version used.
<b>Protocol</b>	Transport protocol.
<b>SrcIP/ PrefixLength</b>	"Source" address (your computer, for example) and associated subnet mask.
<b>Source Port</b>	Source port.
<b>DstIP/ PrefixLength</b>	"Destination" address (a machine on the Internet, for example) and associated subnet mask.
<b>DstPort</b>	Destination port.
<b>Remove</b>	Check the box and click on the [ <b>Remove</b> ] button to remove the object from this list.



## Add

- Click on the **Add** button to display the following screen:

**SAGEMCOM**

DSL Downstream Upstream N/A N/A refresh reboot  
Internet Adsl Down.

Device Info  
Internet Connection  
Advanced Setup  
Layer2 Interface  
WAN Service  
Modify Connection  
3G Config  
LAN  
NAT  
Security  
IP Filtering  
Outgoing  
Incoming  
MAC Filtering  
Parental Control  
Quality of Service  
Routing  
DNS  
DSL  
UPnP  
DNS Proxy  
Interface Grouping  
IP Tunnel  
Certificate  
Power Management  
Multicast  
Wireless  
Multimedia  
Diagnostics  
Management

**Add IP Filter -- Outgoing**

The screen allows you to create a filter rule to identify outgoing IP traffic by specifying a new filter name and at least one condition below. All of the specified conditions in this filter rule must be satisfied for the rule to take effect. Click 'Apply/Save' to save and activate the filter.

Filter Name:

IP Version: IPv4

Protocol:

Source IP address[/prefix length]:

Source Port (port or port:port):

Destination IP address[/prefix length]:

Destination Port (port or port:port):

Apply/Save

© 2005-2012 SAGEMCOM Corporation. All rights reserved.

Field	Action
<b>Filter Name</b>	Enter a representative name for the filter.
<b>IP Version</b>	Select the dedicated IP version from the scroll down list (for example: IPv4).
<b>Protocol</b>	Select the dedicated protocol from the scroll down list (TCP/UDP, TCP, UDP, ICMP).
<b>Source IP address[/prefix length]</b>	Enter the Source IP address (LAN).
<b>Source Port (port or port:port)</b>	Enter a "Source" port (LAN) or range of ports. <b>Note:</b> For one port, for example, enter 80. For a range of ports, enter 80:90.
<b>Destination IP address[/prefix length]</b>	Enter the Destination IP address (WAN).
<b>Destination Port (port or port:port)</b>	Enter a "Destination" port (WAN) or range of ports. <b>Note:</b> For one port, for example, enter 80. For a range of ports, enter 80:90.



## Incoming

**Object:** This menu is used to create incoming IP filters to refuse data from the WAN to the LAN and list the existing incoming IP filters.

By default, all the incoming data is refused when the Firewall is activated.

- In the **Advanced Setup** menu, select **Security > IP Filtering > Incoming**.

The following screen opens:

**SAGEMCOM**

DSL Downstream Upstream N/A N/A refresh reboot  
Internet Adsl Down.

**Incoming IP Filtering Setup**

When the firewall is enabled on a WAN or LAN interface, all incoming IP traffic is BLOCKED. However, some IP traffic can be **ACCEPTED** by setting up filters.

Choose Add or Remove to configure incoming IP filters.

Filter Name	Interfaces	IP Version	Protocol	SrcIP/ PrefixLength	SrcPort	DstIP/ PrefixLength	DstPort	Remove
<input type="button" value="Add"/> <input type="button" value="Remove"/>								

© 2005-2012 SAGEMCOM Corporation. All rights reserved.

## Add

- Click on the **Add** button to display the following screen:

**SAGEMCOM**

DSL Downstream Upstream N/A N/A refresh reboot  
Internet Adsl Down.

**Add IP Filter -- Incoming**

The screen allows you to create a filter rule to identify incoming IP traffic by specifying a new filter name and at least one condition below. All of the specified conditions in this filter rule must be satisfied for the rule to take effect. Click 'Apply/Save' to save and activate the filter.

Filter Name:

IP Version:

Protocol:

Source IP address[/prefix length]:

Source Port (port or port:port):

Destination IP address[/prefix length]:

Destination Port (port or port:port):

**WAN Interfaces (Configured in Routing mode and with firewall enabled) and LAN Interfaces**  
Select one or more WAN/LAN interfaces displayed below to apply this rule.

Select All  
 pppoe\_0\_8\_32/ppp1  
 br0/br0

© 2005-2012 SAGEMCOM Corporation. All rights reserved.

Field	Action
<b>Filter Name</b>	Enter a representative name for the filter.
<b>IP Version</b>	Select the dedicated IP version from the scroll down list (for example: IPv4).
<b>Protocol</b>	Select the dedicated protocol from the scroll down list (TCP/UDP, TCP, UDP, ICMP).
<b>Source IP address[/prefix length]</b>	Enter the Source IP address (WAN).
<b>Source Port (port or port:port)</b>	Enter a "Source" port (WAN) or range of ports. <b>Note:</b> For one port, for example, enter 80. For a range of ports, enter 80:90.
<b>Destination IP address[/prefix length]</b>	Enter the destination IP address (LAN).
<b>Destination Port (port or port:port)</b>	Enter a "destination" port (LAN) or range of ports. <b>Note:</b> For one port, for example, enter 80. For a range of ports, enter 80:90.

### WAN interfaces

Field	Action	Default value
<b>Select All</b>	Check the box to select all WAN interfaces. <b>Note:</b> By unchecking the box, no interface is selected and the other WLAN/LAN interfaces displayed boxes become unchecked.	<b>Checked</b>
<b>pppoe_0_8_32/ppp1</b>	Check the box to select the displayed interface.	<b>Checked</b>
<b>br0/br0</b>	Check the box to select the displayed interface.	<b>Checked</b>

#### 6.4.6.2 MAC Filtering

**Object:** This menu is used to create IP filters to refuse data from the LAN to the WAN and list the existing outgoing IP filters.

- In the **Advanced Setup** menu, select **Security > IP MAC Filtering**

The following screen opens:

**SAGEMCOM**

DSL  Downstream Upstream N/A N/A refresh reboot  
Internet  Adsl Down.

Device Info  
Internet Connection  
Advanced Setup  
Layer2 Interface  
WAN Service  
Modify Connection  
3G Config  
LAN  
NAT  
Security  
IP Filtering  
MAC Filtering  
Parental Control  
Quality of Service  
Routing  
DHIS  
DSL  
UPnP  
DHIS Proxy  
Interface Grouping  
IP Tunnel  
Certificate  
Power Management  
Multicast  
Wireless  
Multimedia  
Diagnostics  
Management  
Select Basic Settings

**MAC Filtering Setup**

MAC Filtering is only effective on ATM PVCs configured in Bridge mode. **FORWARDED** means that all MAC layer frames will be **FORWARDED** except those matching with any of the specified rules in the following table. **BLOCKED** means that all MAC layer frames will be **BLOCKED** except those matching with any of the specified rules in the following table.

MAC Filtering Policy For Each Interface:  
**WARNING: Changing from one policy to another of an interface will cause all defined rules for that interface to be REMOVED AUTOMATICALLY! You will need to create new rules for the new policy.**

Interface	Policy	Change
atm0.1	FORWARD	<input type="checkbox"/>

Choose Add or Remove to configure MAC filtering rules(A maximum 32 rules can be configured)

Interface	Protocol	Destination MAC	Source MAC	Frame Direction	Remove
<input type="button" value="Add"/> <input type="button" value="Remove"/>					

© 2005-2012 SAGEMCOM Corporation. All rights reserved.

Field	Meaning
<b>Interface</b>	WAN interface used.
<b>Policy</b>	BLOCKED and FORWARD.
<b>Change</b>	Change policy between BLOCKED and FORWARD.

## Add

- Click on the **Add** button to display the following screen:

**SAGEMCOM**

DSL Downstream N/A refresh  
Upstream N/A reboot  
Internet Adsl Down.

Device Info  
Internet Connection  
Advanced Setup  
Layer2 Interface  
WAN Service  
Modify Connection  
3G Config  
LAN  
NAT  
Security  
IP Filtering  
**MAC Filtering**  
Parental Control  
Quality of Service  
Routing  
DHCP  
DSL  
UPnP  
DHCP Proxy  
Interface Grouping  
IP Tunnel  
Certificate  
Power Management  
Multicast  
Wireless  
Multimedia  
Diagnostics  
Management  
Select Basic Settings

**Add MAC Filter**

Create a filter to identify the MAC layer frames by specifying at least one condition below. If multiple conditions are specified, all of them take effect. Click "Apply" to save and activate the filter.

Protocol Type:

Destination MAC Address:

Source MAC Address:

Frame Direction: LAN<=>WAN

WAN Interfaces (Configured in Bridge mode only)

pppoe\_0\_8\_32/ppp1

Save/Apply

© 2005-2012 SAGEMCOM Corporation. All rights reserved.

Field	Action
<b>Protocol Type</b>	Protocol used.
<b>Destination MAC Address</b>	Destination MAC Address.
<b>Source MAC Address</b>	Source MAC Address.
<b>Frame Direction</b>	Select LAN->WAN, WAN->LAN, or LAN<->WAN.
<b>WAN Interfaces (Configured in Bridge mode only)</b>	WAN Interface used.

## 6.4.7 Parental Control

**Object:** This menu is used to create and manage access time and Url restrictions for LAN devices which are connected to the router.

This section contains the following menus:

- Time Restriction (see subsection 6.4.7.1)
- Url Filter (see subsection 6.4.7.2)

### 6.4.7.1 Time Restriction

**Object:** This menu is used to create and manage access time restriction for LAN devices which are connected to the router.

- In the **Advanced Setup** menu, select **Parental Control > Time Restriction**.

The following screen opens:

The screenshot shows the Sagemcom web interface for configuring Time Restriction. The page title is "Access Time Restriction -- A maximum 16 entries can be configured." The interface includes a navigation menu on the left, a status bar at the top right, and a table for configuring time restrictions.

**Navigation Menu (Left):**

- Device Info
- Internet Connection
- Advanced Setup
- Layer2 Interface
- WAN Service
- Modify Connection
- 3G Config
- LAN
- NAT
- Security
- Parental Control
- Time Restriction
- Url Filter
- Quality of Service
- Routing
- DSL
- UPnP
- DNS Proxy
- Interface Grouping
- IP Tunnel
- Certificate
- Power Management
- Multicast
- Wireless
- Multimedia
- Diagnostics
- Management
- Select Basic Settings

**Status Bar (Top Right):**

- DSL: Downstream N/A, Upstream N/A
- Internet: Adsl Down.
- Buttons: refresh, reboot

**Table (Main Content):**

Username	MAC	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Start	Stop	Remove
<input type="button" value="Add"/> <input type="button" value="Remove"/>											

**Footer:** © 2005-2012 SAGEMCOM Corporation. All rights reserved.

## Add

- Click on the **Add** button to display the following screen:

Field	Action
<b>User Name</b>	Enter a representative name for the LAN device.
<b>MAC Address</b>	Enter the MAC address of the required LAN device. <b>Note:</b> To find out the MAC address of a Windows based PC, open a command window and type "ipconfig /all".
<b>Days of the week</b>	Select the days of the week on which the restriction is effective by checking the corresponding box.
<b>Start Blocking Time (hh:mm)</b>	Enter the required blocking start hour (for example 08:00).
<b>End Blocking Time (hh:mm)</b>	Enter the required blocking end hour (for example 20:00).

### 6.4.7.2 Url Filter

**Object:** This menu is used to create and manage Url access restriction for LAN devices which are connected to the router.

- In the **Advanced Setup** menu, select **Parental Control > Url Filter**.

The following screen opens:

© 2005-2012 SAGEMCOM Corporation. All rights reserved.

#### Add

- Click on the **Add** button to display the following screen:

© 2005-2012 SAGEMCOM Corporation. All rights reserved.

Field	Action
<b>URL Address</b>	Enter the Url address whose access must be restricted.
<b>Port Number</b>	Enter the port number of the address which access must be restricted. <b>Note:</b> 80 will be applied by default.

## 6.4.8 Quality of Service

This menu contains the following sub-menus:

- Queue Config (see subsection 6.4.8.1)
- QoS Classification (see subsection 6.4.8.2)

**Object:** This menu is used to allocate different types of traffic queues with different priorities in order to improve the traffic flow. To do this, the quality of service (QoS) provides the following three services: Classification (set-1, set-2), Marking (TOS, DSCP) and queues (Queuing).

The quality of service is only significant if all the traffic (data, video) is greater than the up rate of the ADSL line.

- In the **Advanced Setup** menu, select **Quality of Service**.

The following screen opens:

The screenshot shows the Sagemcom web interface for QoS configuration. The top navigation bar includes 'DSL' (Downstream N/A, Upstream N/A) and 'Internet' (Adsl Down.) with 'refresh' and 'reboot' buttons. The left sidebar lists various configuration options, with 'Quality of Service' highlighted. The main content area is titled 'QoS -- Queue Management Configuration' and contains the following text:

If Enable QoS checkbox is selected, choose a default DSCP mark to automatically mark incoming traffic without reference to a particular classifier. Click 'Apply/Save' button to save it.

**Note:** If Enable QoS checkbox is not selected, all QoS will be disabled for all interfaces.

**Note:** The default DSCP mark is used to mark all egress packets that do not match any classification rules.

Enable QoS

Select Default DSCP Mark: No Change(-1)

Buttons: Apply/Save, refresh, reboot

© 2005-2012 SAGEMCOM Corporation. All rights reserved.



Field	Action
<b>Enable QoS</b>	Check the <b>Enable QoS</b> box to authorize QoS actions to be performed at the ingress and egress interfaces.
<b>Select Default DSCP Mark</b>	<p>The IP datagram DSCP (<b>D</b>ifferentiated <b>S</b>ervices <b>C</b>ode <b>P</b>oint, priority value from 0 to 63) identifies which output queue a packet is to be assigned to.</p> <p><b>Default DSCP Mark</b> is used to mark the priority of the packets when they are not tagged in the computer. In this case the router will do it with the values indicated.</p> <p>Select from the scroll down list:</p> <ul style="list-style-type: none"> <li>• No Change (-1) : Value of -1 indicates no change from the incoming packet,</li> <li>• Auto Marking (-2)</li> <li>• Default (000000) : Marks everything else to DSCP 0,</li> <li>• AF13 (001110)</li> <li>• AF12 (001100) : Recommended markings for Bulk-Data,</li> <li>• AF11 (001010) : Recommended markings for Bulk-Data,</li> <li>• CS1 (001000) : Recommended markings for Scavenger traffic,</li> <li>• AF23 (010110)</li> <li>• AF22 (010100) : Recommended markings for Transactional-Data,</li> <li>• AF21 (010010) : Recommended markings for Transactional-Data,</li> <li>• CS2 (010000) : Recommended markings for Network Management,</li> <li>• AF33 (011110)</li> <li>• AF32 (011100) : Recommended markings for Mission-Critical Data,</li> <li>• AF31 (011010) : Recommended markings for Mission-Critical Data,</li> <li>• CS3 (011000) : Call-Signalling markings,</li> <li>• AF43 (100110)</li> <li>• AF42 (100100) : Recommended markings for IP/VC,</li> <li>• AF41 (100010) : Recommended markings for IP/VC,</li> <li>• CS4 (100000) : Recommended markings for Streaming-Video,</li> <li>• EF (101110) : IP Phones mark Voice to EF,</li> <li>• CS5 (101000)</li> <li>• CS6 (11000) : Routers mark Routing traffic to CS6,</li> <li>• CS7 (111000)</li> </ul> <p><b>Note:</b> This drop-down list is present only if the box <b>Enable Qos</b> is checked.</p>

### 6.4.8.1 Queue Config

**Object:** This menu is used to enable or disable QoS on an interface, and to configure QoS to use policy maps attached to an interface.

- In the **Advanced Setup** menu, select **Quality of Service** then select **QoS Queue**.

The following screen opens:

The screenshot shows the Sagemcom web interface. The top navigation bar includes 'DSL' (with a status indicator), 'Downstream Upstream', 'N/A N/A', 'refresh', and 'reboot'. Below this is 'Internet' and 'Adsl Down.'. The left sidebar lists various configuration options, with 'QoS Queue' highlighted. The main content area is titled 'QoS Queue Setup' and contains the following text:

In ATM mode, maximum 16 queues can be configured.  
 In PTM mode, maximum 8 queues can be configured.  
 For each Ethernet interface, maximum 4 queues can be configured.  
 To add a queue, click the **Add** button.  
 To remove queues, check their remove-checkboxes, then click the **Remove** button.  
 The **Enable** button will scan through every queues in the table. Queues with enable-checkbox checked will be enabled. Queues with enable-checkbox un-checked will be disabled.  
 The enable-checkbox also shows status of the queue after page reload.  
 Note that if WMM function is disabled in Wireless Page, queues related to wireless will not take effects.

The QoS function has been disabled. Queues would not take effects.

Name	Key	Interface	Qid	Prec/Alg/Wght	DSL Latency	PTM Priority	Enable	Remove
<input type="button" value="Add"/> <input type="button" value="Enable"/> <input type="button" value="Remove"/>								

© 2005-2012 SAGEMCOM Corporation. All rights reserved.

Field	State
<b>Name</b>	Queue entry name
<b>Key</b>	Sequence number allocated by the system, incremented of a unit to each addition of a QoS Queue.
<b>Interface</b>	Name of the network interface configured (8/32 for example).
<b>Scheduler Alg</b>	Scheduler algorithm allocated to this queue.
<b>Precedence</b>	Priority allocated to "Queue Precedence" from 1 to 3.
<b>DSL Latency<sup>a</sup></b>	DSL Latency
<b>PTM Priority</b>	PTM priority
<b>Enable</b>	QoS enabled or disabled for this interface. <b>Note:</b> This status can be amended starting from this window.
<b>Remove</b>	Check the box and click on the [ <b>Remove</b> ] button to remove the queue from this list.

a. This field appears only if the DSL mode selected is IPOA.

## Add

- Click on the **Add** button to display the following screen:

**SAGEMCOM**

DSL Downstream Upstream N/A N/A refresh reboot  
Internet Adsl Down.

**QoS Queue Configuration**

The screen allows you to configure a QoS queue entry and assign it to a specific layer2 interface.

Name:

Enable:

Interface:

Queue Precedence:  (lower value, higher priority)

- The precedence list shows the scheduler algorithm for each precedence level.
- Queues of equal precedence will be scheduled based on the algorithm.
- Queues of unequal precedence will be scheduled based on SP.

Queue Scheduler

- Weighted Round Robin
- Weighted Fair Queuing

Queue Weight:  [1-63]

DSL Latency:

© 2005-2012 SAGEMCOM Corporation. All rights reserved.

Field	Action
<b>Name</b>	Enter a representative name.
<b>Enable</b>	Select from the scroll down list: <ul style="list-style-type: none"> <li><b>Disable</b>: To disable the QoS queue entry</li> <li><b>Enable</b>: To enable the QoS queue entry</li> </ul>
<b>Interface</b>	Select from the scroll down list: <ul style="list-style-type: none"> <li><b>Blank</b></li> <li><b>8/32</b>: Interface name.</li> </ul>
<b>Queue Precedence</b>	Select from the scroll down list: <ul style="list-style-type: none"> <li><b>Blank</b></li> <li><b>1</b>: High priority for this queue,</li> <li><b>2</b>: Medium priority for this queue,</li> <li><b>3</b>: Low priority for this queue.</li> </ul> <p><b>Note:</b> A high priority leads to low packet loss.</p>
<b>Queue Scheduler<sup>a</sup></b>	Select from the list: <ul style="list-style-type: none"> <li><b>Weighted Round Robin</b></li> <li><b>Weighted Fair Queuing</b></li> </ul>
<b>Queue Weight [1-63]<sup>a</sup></b>	Enter the corresponding value of the queue weight.
<b>DSL Latency<sup>a</sup></b>	Select the DSL latency from the scroll down list.

a. This field appears only if the DSL mode selected is IPOA.

### 6.4.8.2 QoS Classification

**Object:** This menu is used for the classification of packets into traffic classes, and for the enforcement of policies using queuing.

- In the Advanced Setup menu, select Quality of Service then select QoS Classification.

The following screen opens:

SaGeMcom

OSL Downstream N/A refresh  
Internet Cl Upstream N/A reboot  
Ad.sl Down.

- Device Info
- Internet Connection
- Advanced Setup
- Layer2 Interface
- WAN Service
- Modify Connection
- 3G Config
- LAN
- NAT
- Security
- Parental Control
- Quality of Service
- QoS Queue
- QoS Classification
- Routing
- DSL
- UPnP
- DNS Proxy
- Interface Grouping
- IP Tunnel
- Certificate
- Power Management
- Multicast
- Wireless
- Multimedia
- Diagnostics
- Management
- Select Basic Settings

QoSClassification Setup -- maximum 32 rules can be configured.

To add a rule,click the Add button.  
 To remove rules,check their remove-checkboxes, then click the Remove button.  
 The Enable button will scan through every rules in the table.Rules with enable-checkbox checked will be enabled.Rules with enable-checkbox un-checked will be disabled.  
 The enable-checkbox also shows status of the rule after page reload.  
 If you disable WMM function in Wireless Page,classification related to wireless will not take effects

The QoS function has been disabled.Classification rules would not take effects.

CLASSIFICATION CRITERIA											CLASSIFICATION RESULTS						
Class Name	Order	Class Intf	Ether Type	SrcMAC/ Mask	DstMAC/ Mask	SrcIP/ PrefixLength	DstIP/ PrefixLength	Proto	SrcPort	DstPort	DSCP Check	802.1P Check	Queue Key	DSCP Mark	802.1P Mark	Enable	Remove
<input type="button" value="Add"/> <input type="button" value="Enable"/> <input type="button" value="Remove"/>																	

Field		State
<b>Class Name</b>		Traffic Class Name.
<b>Order</b>		Sequence number.
<b>Classification Criteria</b>		
	<b>Class Intf</b>	Class Interface (Local, eth0, w10).
	<b>Ether Type</b>	Nature of the LAN port.
	<b>SrcMAC/Mask</b>	"Source" MAC address (your computer, for example) and associated subnet mask.
	<b>DstMAC/Mask</b>	"Destination" MAC address (a machine on the Internet, for example) and associated subnet mask.
	<b>SrcIP/Prefixlength</b>	"Source" address (your computer, for example) and associated subnet mask.
	<b>DstIP/Prefixlength</b>	"Destination" address (a machine on the Internet, for example) and associated subnet mask.
	<b>Proto</b>	Protocol used.
	<b>Src Port</b>	"Source" port.
	<b>Dst Port</b>	"Destination" port.
	<b>DSCP Check</b>	Differentiated Services Code Point, priority value from Default to CS7.
	<b>802.1P Check</b>	Priority field 802.1P (value between 0 and 7).
<b>Classification Results</b>		
	<b>Queue Key</b>	Queue number, allocated by the system according to the selected precedence.
	<b>DSCP Mark</b>	DSCP priority (from Default to CS7).
	<b>802.1P Mark</b>	Priority field 802.1P (value between 0 and 7).
	<b>Enable</b>	QoS enabled or disabled for this traffic class. <b>Note:</b> This status can be amended starting from this window.
	<b>Remove</b>	Check this box and click on the <b>[Remove]</b> button to remove the selected object from the list.

## Add

- Click on the **Add** button to display the following screen:

**SAGEMCOM** DSL Downstream Upstream N/A N/A refresh reboot Internet Adsl Down.

**Add Network Traffic Class Rule**

The screen creates a traffic class rule to classify the upstream traffic, assign queue which defines the precedence and the interface and optionally overwrite the IP header DSCP byte. A rule consists of a class name and at least one condition below. All of the specified conditions in this classification rule must be satisfied for the rule to take effect. Click 'Apply/Save' to save and activate the rule.

Traffic Class Name:

Rule Order:

Rule Status:

**Specify Classification Criteria**  
A blank criterion indicates it is not used for classification.

Class Interface:

Ether Type:

Source MAC Address:

Source MAC Mask:

Destination MAC Address:

Destination MAC Mask:

**Specify Classification Results** (A blank value indicates no operation.)

Specify Class Queue (Required):

- Packets classified into a queue that exit through an interface for which the queue is not specified to exist, will instead egress to a queue on the interface, whose priority is equal to or lower than the class queue.

Mark Differentiated Service Code Point (DSCP):

Mark 802.1p priority:

- Class non-vlan packets egress to an untagged vlanmux interface will be tagged with VID 0 and the class rule p-bits.]]  
 - Class vlan packets egress to an untagged vlanmux interface will have the packet p-bits re-marked by the class rule p-bits. No additional vlan tag is added.  
 - Class non-vlan packets egress to a tagged vlanmux interface will be tagged with the interface VID and the class rule p-bits.  
 - Class vlan packets egress to a tagged vlanmux interface will be additionally tagged with the packet VID, and the class rule p-bits.

© 2005-2012 SAGEMCOM Corporation. All rights reserved.

Field	Action
<b>Traffic Class Name</b>	Enter a name for the traffic class you want to create.
<b>Rule Order</b>	Select from the scroll down list: <ul style="list-style-type: none"> <li><b>Blank</b></li> <li><b>Last</b></li> <li><b>Number:</b> Number allotted by the system to the existing rules</li> </ul>
<b>Rule Status</b>	Select from the scroll down list: <ul style="list-style-type: none"> <li><b>Disable:</b> QoS disabled for this static class rule</li> <li><b>Enable:</b> QoS enabled for this static class rule</li> </ul>
<b>Class Interface</b>	Select from the scroll down list: <ul style="list-style-type: none"> <li><b>LAN</b></li> <li><b>WAN</b></li> <li><b>Local</b></li> <li><b>ipoa1</b></li> <li><b>pp1/atm0</b></li> <li><b>...</b></li> </ul>

Field	Action
<b>Ether Type</b>	Select from the scroll down list: <ul style="list-style-type: none"> <li>• IP</li> <li>• ARP</li> <li>• IPv6</li> <li>• PPPoE_DISC</li> <li>• PPPoE_SES</li> <li>• 8865</li> <li>• 8866</li> <li>• 8021Q</li> </ul>
<b>Source MAC Address</b>	Enter a "Source" MAC address.
<b>Source MAC Mask</b>	Enter a "Source" MAC mask.
<b>Destination MAC Address</b>	Enter a "Destination" MAC address.
<b>Destination MAC Mask</b>	Enter a "Destination" MAC mask.
<b>Specify Class Queue</b>	Select from the scroll down list: <ul style="list-style-type: none"> <li>• <b>Blank</b></li> <li>• <b>Number:</b> Priority number and associated queue number, defined by the system starting from the "Queue Precedence" (see subsection 6.4.8.1).</li> </ul>
<b>Mark Differentiated Service Code Point (DSCP)</b>	Select the type of Differentiated Services Code Point (DSCP) mark to be allocated (6-bit coding) from the scroll down list. Default to CS7: 000000 to 111000
<b>Mark 802.1p priority</b>	Select Blank or a priority value between 0 and 7 from the scroll down list.

## 6.4.9 Routing

This menu contains the following sub-menus:

- Default Gateway (see subsection 6.4.9.1)
- Static Route (see subsection 6.4.9.2)

### 6.4.9.1 Default Gateway



**Object:** This menu is used either to allocate dynamically a default gateway address to the router from a PVC or to enter an address or choose an interface.

- In the **Advanced Setup** menu, select **Routing** then select **Default Gateway**.

The following screen opens:

The screenshot shows the Sagemcom web interface for configuring the Default Gateway. The left sidebar contains a navigation menu with options like Device Info, Internet Connection, Advanced Setup, Layer2 Interface, WAN Service, Modify Connection, 3G Config, LAN, NAT, Security, Parental Control, Quality of Service, Routing, Default Gateway (selected), Static Route, Policy Routing, DSL, UPnP, DNS Proxy, Interface Grouping, IP Tunnel, Certificate, Power Management, Multicast, Wireless, Multimedia, Diagnostics, Management, and Select Basic Settings. The top right status bar shows DSL (Downstream Upstream N/A), Internet (Adsl Down.), and refresh/reboot buttons. The main content area is titled 'Routing -- Default Gateway' and contains a note: 'Default gateway interface list can have multiple WAN interfaces served as system default gateways but only one will be used according to the priority with the first being the highest and the last one the lowest priority if the WAN interface is connected. Priority order can be changed by removing all and adding them back in again.' Below this are two columns: 'Selected Default Gateway Interfaces' with 'ppp1' and 'Available Routed WAN Interfaces' which is empty. Between the columns are '>' and '<' buttons. Below the columns is a 'Selected WAN Interface' dropdown menu set to 'NO CONFIGURED INTERFACE' and an 'Apply/Save' button. A note at the bottom of the main area reads: 'TODO: IPV6 \*\*\*\*\* Select a preferred wan interface as the system default IPv6 gateway.'

### Default Gateway

Button	Action
	Transfer the interfaces selected in the <b>Available Routed WAN Interfaces</b> area to the <b>Selected Default Gateway Interfaces</b> area.
	Transfer the interfaces selected in the <b>Selected Default Gateway Interfaces</b> area to the <b>Available Routed WAN Interfaces</b> area.



## 6.4.9.2 Static Route

**Object:** This menu is used to add a static route.

- In the **Advanced Setup** menu, select **Routing** then select **Static Route**.

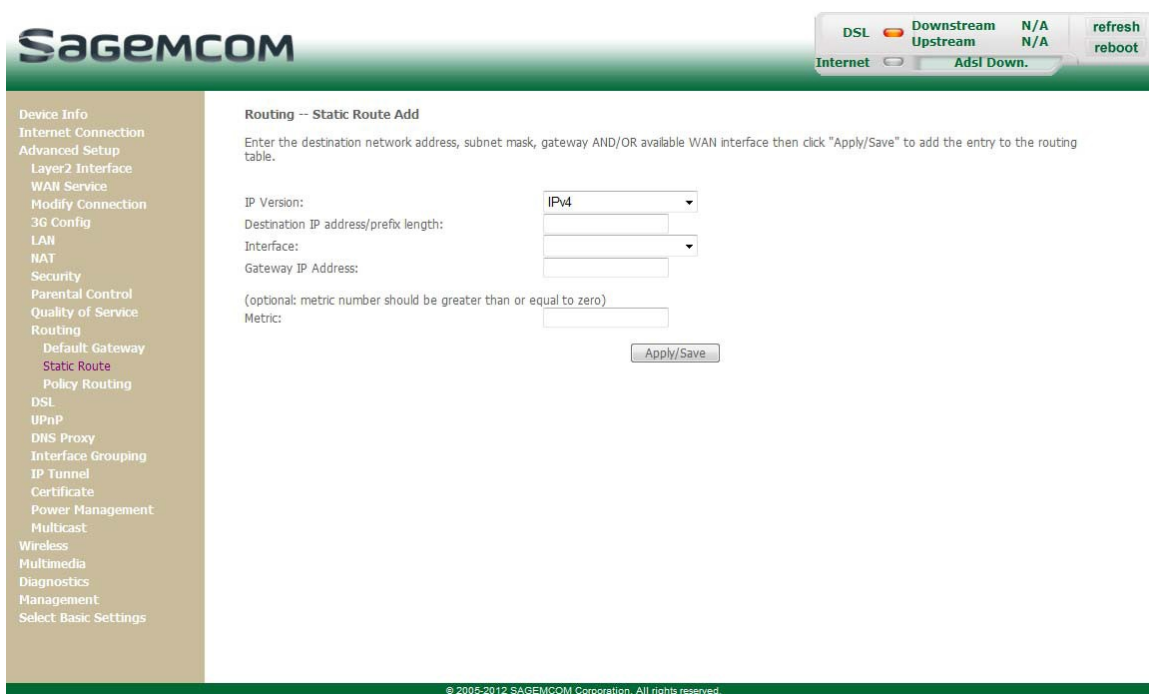
The following screen opens:

The screenshot shows the Sagemcom web interface. At the top, there's a status bar with 'DSL' (On), 'Downstream' (On), 'Upstream' (N/A), and 'Adsl Down.' (On). A 'refresh reboot' button is also present. The main content area is titled 'Routing -- Static Route (A maximum 32 entries can be configured)'. It contains a table with the following columns: IP Version, DstIP/ PrefixLength, Gateway, Interface, Metric, and Remove. Below the table are 'Add' and 'Remove' buttons. The left sidebar shows a navigation menu with 'Static Route' highlighted. The footer contains the copyright notice: '© 2005-2012 SAGEMCOM Corporation. All rights reserved.'

Field	Meaning
<b>IP Version</b>	Internet Protocol version 4.
<b>DstIP/ PrefixLength</b>	"Destination" address (a machine on the Internet, for example) and associated subnet mask.
<b>Gateway</b>	Default gateway of the remote network.
<b>Interface</b>	Remote network interface.
<b>Metric</b>	Number of hops to reach a distant terminal from the Residential Gateway.
<b>Remove</b>	Check this box and click on the <b>[Remove]</b> button to remove the selected object from the list.

## Add

- Click on the **Add** button to display the following screen:



Field	Action
<b>IP Version</b>	Internet Protocol.
<b>Destination Network Address/prefix length</b>	Enter the IP address of the remote network.
<b>Interface</b>	Select the interface you want to use from the scroll down list (pppoa_0_8_32 for example).
<b>Gateway IP Address</b>	Enter the gateway IP address.
<b>Metric</b>	Number of hops to reach a distant terminal from the Residential Gateway. <b>Note:</b> Metric number should be greater than or equal to one.

### 6.4.9.3 Policy Routing

**Object:** This menu is used to add a policy routing.

- In the **Advanced Setup** menu, select **Routing** then select **Policy Routing**.

The following screen opens:

The screenshot displays the Sagemcom web interface for Policy Routing settings. The page title is "Policy Routing Setting -- A maximum 7 entries can be configured." The interface includes a navigation menu on the left with "Policy Routing" highlighted. The main content area shows a table with columns: Policy Name, Source IP, LAN Port, WAN, Default GW, and Remove. Below the table are "Add" and "Remove" buttons. The top right of the interface shows status indicators for DSL, Internet, Downstream/Upstream, Adsl Down., and refresh/reboot buttons.

Field	Meaning
<b>Policy Name</b>	Policy name
<b>Source IP</b>	Source IP address
<b>LAN Port</b>	Nature of the LAN port
<b>WAN</b>	Interface used
<b>Default GW</b>	Default gateway

## Add

- Click on the **Add** button to display the following screen:

**SAGEMCOM**

DSL Downstream Upstream N/A N/A refresh reboot  
Internet Adsl Down.

**Policy Routing Setup**  
Enter the policy name, policies, and WAN interface then click "Save/Apply" to add the entry to the policy routing table.  
Note: If selected "IPoE" as WAN interface, default gateway must be configured.

Policy Name:

Physical LAN Port:

Source IP:

Use Interface:

Default Gateway:

Save/Apply

© 2005-2012 SAGEMCOM Corporation. All rights reserved.

Field	Action
<b>Policy Name</b>	Enter the policy name.
<b>Physical LAN port</b>	Select Blank or the interface of your choice (eth01-04 or wlan0) from the drop-down list.
<b>Source IP</b>	Enter a source IP address.
<b>Use Interface</b>	Select the interface you want to use from the drop-down list (Internet.10/ppp0.1 for example).
<b>Default Gateway IP</b>	Enter the default gateway IP address.

## 6.4.10 DNS

**Object:** This menu lets you select DNS Server Interface from available WAN interfaces or enter static DNS server IP addresses for the system.

This section contains the following subtitles:

- DNS Server (see subsection 6.4.10.1)
- Dynamic DNS (see subsection 6.4.10.2)

### 6.4.10.1 DNS Server

**Object:** This menu enables the automatic resolution of domain names by polling remote servers.

- In the **Advanced Setup** menu, select **DNS** then select **DNS Server**.

The following screen opens:

**SAGEMCOM** DSL Downstream Upstream N/A N/A refresh reboot  
Internet Adsl Down.

Device Info  
Internet Connection  
Advanced Setup  
Layer2 Interface  
WAN Service  
Modify Connection  
3G Config  
LAN  
NAT  
Security  
Parental Control  
Quality of Service  
Routing  
DNS  
DNS Server  
Dynamic DNS  
DSL  
UPnP  
DNS Proxy  
Interface Grouping  
IP Tunnel  
Certificate  
Power Management  
Multicast  
Wireless  
Multimedia  
Diagnostics  
Management  
Select Basic Settings

**DNS Server Configuration**

Select DNS Server Interface from available WAN interfaces OR enter static DNS server IP addresses for the system. In ATM mode, if only a single PVC with IPoA or static IPoE protocol is configured, Static DNS server IP addresses must be entered.  
DNS Server Interfaces can have multiple WAN interfaces served as system dns servers but only one will be used according to the priority with the first being the highest and the last one the lowest priority if the WAN interface is connected. Priority order can be changed by removing all and adding them back in again.

Select DNS Server Interface from available WAN interfaces:

Selected DNS Server Interfaces Available WAN Interfaces

Use the following Static DNS IP address:



Primary DNS server: 1.2.3.4  
Secondary DNS server: 0.0.0.0

Apply/Save

© 2005-2012 SAGEMCOM Corporation. All rights reserved.

Field	Action
<b>Selected DNS Server Interfaces</b>	For more details, a summary table is presented below for each column.
<b>Available WAN Interfaces</b>	
<b>Primary DNS server</b>	Enter the primary DNS server
<b>Secondary DNS server</b>	Enter the primary DNS server

## Select DNS Server Interface from available WAN interfaces

Button	Action
	Transfer the interfaces selected in the <b>Available WAN Interfaces</b> area to the <b>Selected DNS Server Interfaces</b> area.
	Transfer the interfaces selected in the <b>Selected DNS Server Interfaces</b> area to the <b>Available WAN Interfaces</b> area.

### 6.4.10.2 Dynamic DNS

**Object:** Enables a web surfer to access your router (having no fixed IP address but only a DNS entry) through a dynamic DNS provider such as, for example, **dyndns.org**.

- In the **Advanced Setup** menu, select **DNS** then select **Dynamic DNS**.

The following screen opens:



**SAGEMCOM**

DSL Downstream N/A  
Upstream N/A  
Internet Adsl Down. refresh reboot

Device Info  
Internet Connection  
Advanced Setup  
Layer2 Interface  
WAN Service  
Modify Connection  
3G Config  
LAN  
NAT  
Security  
Parental Control  
Quality of Service  
Routing  
DNS  
DNS Server  
Dynamic DNS  
DSL  
UPnP  
DNS Proxy  
Interface Grouping  
IP Tunnel  
Certificate  
Power Management  
Multicast  
Wireless  
Multimedia  
Diagnostics  
Management  
Select Basic Settings

**Dynamic DNS**

The Dynamic DNS service allows you to alias a dynamic IP address to a static hostname in any of the many domains, allowing your DSL router to be more easily accessed from various locations on the Internet.

Choose Add or Remove to configure Dynamic DNS.

Hostname	Username	Service	Interface	Remove

Add Remove

© 2005-2012 SAGEMCOM Corporation. All rights reserved

Refer to the next subsection (**Add**) for detailed information on the fields of the table.

#### Note



The "Service" field is automatically filled by the system in "dyndns".

## Add

The following screen opens:

The screenshot shows the Sagemcom web interface. At the top right, there is a status bar with indicators for DSL (Downstream Upstream N/A), Internet (Adsl Down.), and a 'refresh reboot' button. The left navigation menu includes options like Device Info, Internet Connection, Advanced Setup, Layer2 Interface, WAN Service, Modify Connection, 3G Config, LAN, NAT, Security, Parental Control, Quality of Service, Routing, DNS (DNS Server, Dynamic DNS), DSL, UPnP, DNS Proxy, Interface Grouping, IP Tunnel, Certificate, Power Management, Multicast, Wireless, Multimedia, Diagnostics, Management, and Select Basic Settings. The main content area is titled 'Add Dynamic DNS' and contains the following text: 'This page allows you to add a Dynamic DNS address from DynDNS.org or TZO.' Below this text are form fields for 'D-DNS provider' (a dropdown menu currently showing 'DynDNS.org'), 'Hostname' (a text input field), 'Interface' (a dropdown menu), and 'DynDNS Settings' (text input fields for 'Username' and 'Password'). An 'Apply/Save' button is positioned below the Username and Password fields. At the bottom of the page, there is a copyright notice: '© 2005-2012 SAGEMCOM Corporation. All rights reserved.'

### Add dynamic DDNS

Field	Action
<b>D-DNS provider</b>	Select from the relevant drop-down list: <ul style="list-style-type: none"> <li>• DynDNS.org</li> <li>• TZO</li> </ul>
<b>Hostname</b>	Enter the symbolic name (for example butterfly) that you want to assign to your Residential Gateway. This is the name provided to you by your dynamic DNS provider (see Note).
<b>Interface</b>	Select from the relevant drop-down list the WAN interface which you want to use (pppoe_0_8_32/pppoe0 for example).

#### Note



If you enter the name "butterfly", the dynamic DNS provider (dyndns.org for example) incorporates this name in the domain name (butterfly.dyndns.org). The web surfer who wants to access your Residential Gateway receives from the dynamic DNS provider the dynamic IP address (transcription of the domain name) of your Residential Gateway supplied by your Internet service provider.

### DynDNS Settings

Field	Action
<b>Username</b>	Enter the account name supplied to you by the dynamic DNS provider.
<b>Password</b>	Enter the account password provided to you by the dynamic DNS provider.

## 6.4.11 DSL

**Object:** The purpose of this menu is to parameter your ADSL line.

- In the **Advanced Setup** menu, select **DSL**.

The following screen opens:

The screenshot shows the Sagemcom DSL Settings page. The left sidebar contains a navigation menu with 'DSL' highlighted. The main content area is titled 'DSL Settings' and includes the following sections:

- Select the modulation below.**
  - G.Dmt Enabled
  - G.lite Enabled
  - T1.413 Enabled
  - ADSL2 Enabled
  - AnnexL Enabled
  - ADSL2+ Enabled
  - AnnexM Enabled
- Select the phone line pair below.**
  - Inner pair
  - Outer pair
- Capability**
  - Bitswap Enable
  - SRA Enable

At the bottom of the settings area, there are two buttons: 'Apply/Save' and 'Advanced Settings'. The top right corner of the page shows status indicators for DSL, Downstream, Upstream, and Internet, along with a 'refresh reboot' button.

### Modulation

- Check the boxes according to the characteristics of your line.

Field	Default value
G.Dmt Enabled	Checked
G.lite Enabled	Checked
T1.413 Enabled	Checked
ADSL2 Enabled	Checked
AnnexL Enabled	Checked
ADSL2+ Enabled	Checked
AnnexM Enabled	Not checked

### Phone line pair

- Check the boxes according to the characteristics of your line.

Field	Default value
Inner pair	Checked
Outer pair	Not checked



## Capability

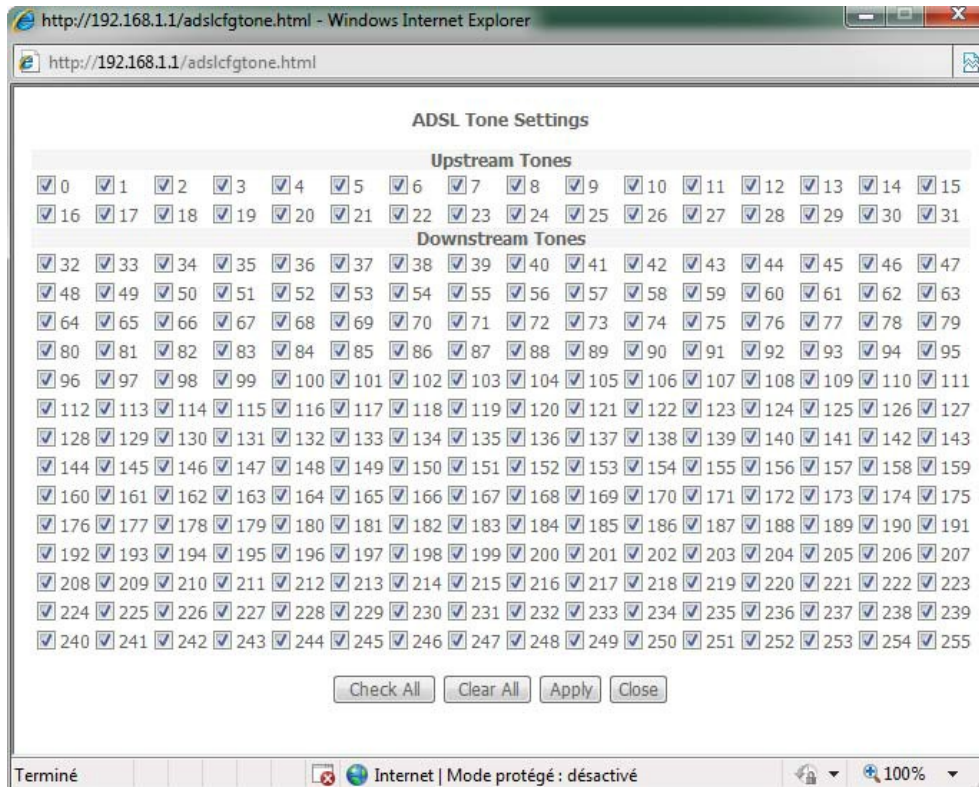
Field	Default value
<b>Bitswap Enable</b>	<b>Checked</b>
<b>SRA Enable</b>	<b>Not checked</b>

- Click on the **Advanced Settings** button to display the following screen:

The screenshot shows the Sagemcom DSL Advanced Settings page. The main content area is titled "DSL Advanced Settings" and contains the instruction "Select the test mode below." followed by five radio button options: "Normal" (which is selected), "Reverb", "Medley", "No retrain", and "L3". Below these options are two buttons: "Apply" and "Tone Selection". The left sidebar contains a navigation menu with various settings categories. The top right corner of the page displays status information for DSL, Downstream, Upstream, and Internet, along with a "refresh reboot" button.

Field	Default value
<b>Normal</b>	<b>Checked</b>
<b>Reverb</b>	<b>Not checked</b>
<b>Medley</b>	<b>Not checked</b>
<b>No retrain</b>	<b>Not checked</b>
<b>L3</b>	<b>Not checked</b>

- Click on the **Tone Selection** button to display the following screen:



### Note



There are 32 ascending tones and 224 descending tones.

- Click on the **Check All** button to select all the tones or the **Clear All** button to select none of them.

### Note



All the tones are selected by default.  
To select a tone, simply check the associated box.  
To unselect a tone, simply leave its associated box empty.

## 6.4.12 Upnp

**Object:** This menu is used to enable or disable the Upnp protocol.  
The Upnp function lets you automatically join a network dynamically and obtain an IP address.

- In the **Advanced Setup** menu, select **Upnp**.

The following screen opens:

The screenshot displays the Sagemcom web interface. At the top, the Sagemcom logo is on the left, and status indicators for DSL, Downstream, Upstream, N/A, Adsl Down., and a refresh/reboot button are on the right. The left sidebar contains a navigation menu with 'UPnP' highlighted. The main content area is titled 'Upnp Configuration' and includes a note: 'NOTE: UPnP is activated only when there is a live WAN service with NAT enabled.' Below the note is a checked checkbox for 'Enable UPnP' and an 'Apply/Save' button. The footer of the page contains the copyright notice: '© 2005-2012 SAGEMCOM Corporation. All rights reserved.'

- To enable Upnp protocol, check the box. To disable it, uncheck the box.

## 6.4.13 DNS Proxy

**Object:** This menu is used to enable or disable DNS proxy.

- In the **Advanced Setup** menu, select **DNS Proxy**.

The following screen opens:

The screenshot shows the Sagemcom web interface. At the top right, there is a status bar with indicators for DSL (Downstream N/A, Upstream N/A), Internet (Adsl Down.), and buttons for refresh and reboot. On the left, a navigation menu lists various settings categories, with 'DNS Proxy' highlighted. The main content area is titled 'Dns Proxy Configuration' and contains a checked checkbox labeled 'Enable or disable Dns proxy.'. Below this are two input fields: 'Host name of the modem:' with the value 'MyRouter' and 'Domain name of the LAN network:' with the value 'Home'. An 'Apply/Save' button is located at the bottom right of the configuration area. A copyright notice '© 2005-2012 SAGEMCOM Corporation. All rights reserved.' is visible at the bottom of the page.

Field	Action	Default value
<b>Enable Dns Proxy</b>	To enable Dns proxy, check the box. To disable it, uncheck the box.	<b>Checked</b>
<b>Hostname of the modem</b>	Default hostname of the modem.	<b>MyRouter</b>
<b>Domain name of the LAN network</b>	Default domain name of the LAN network.	<b>Home</b>

## 6.4.14 Interface Grouping

**Object:** This menu is used to host a service (Video, Data, SIP) on an interface (ETH or Wi-Fi) of your router.

- In the **Advanced Setup** menu, select **Interface Grouping**.

The following screen opens:

The screenshot shows the Sagemcom web interface for 'Interface Grouping'. At the top right, there are status indicators for DSL (Downstream, Upstream), Internet, and Adsl Down. A navigation menu on the left lists various settings. The main content area has a title 'Interface Grouping - A maximum 16 entries can be configured' and a descriptive paragraph. Below this is a table with the following data:

Group Name	Remove	WAN Interface	LAN Interfaces	DHCP Vendor IDs
Default	<input type="checkbox"/>	atm0.1	eth1	
			eth2	
			eth3	

Below the table are 'Add' and 'Remove' buttons. The footer of the page contains the copyright notice: © 2005-2012 SAGEMCOM Corporation. All rights reserved.

Field	Meaning
<b>Group Name</b>	Group name (see Note).
<b>Remove</b>	Check the box and click the <b>[Remove]</b> button to remove the group.
<b>WAN Interface</b>	WAN interface used.
<b>LAN Interfaces</b>	Lists all your router's interfaces. <b>Note:</b> This list depends on the network configuration.
<b>DHCP Vendor IDs</b>	DHCP Vendor IDs.

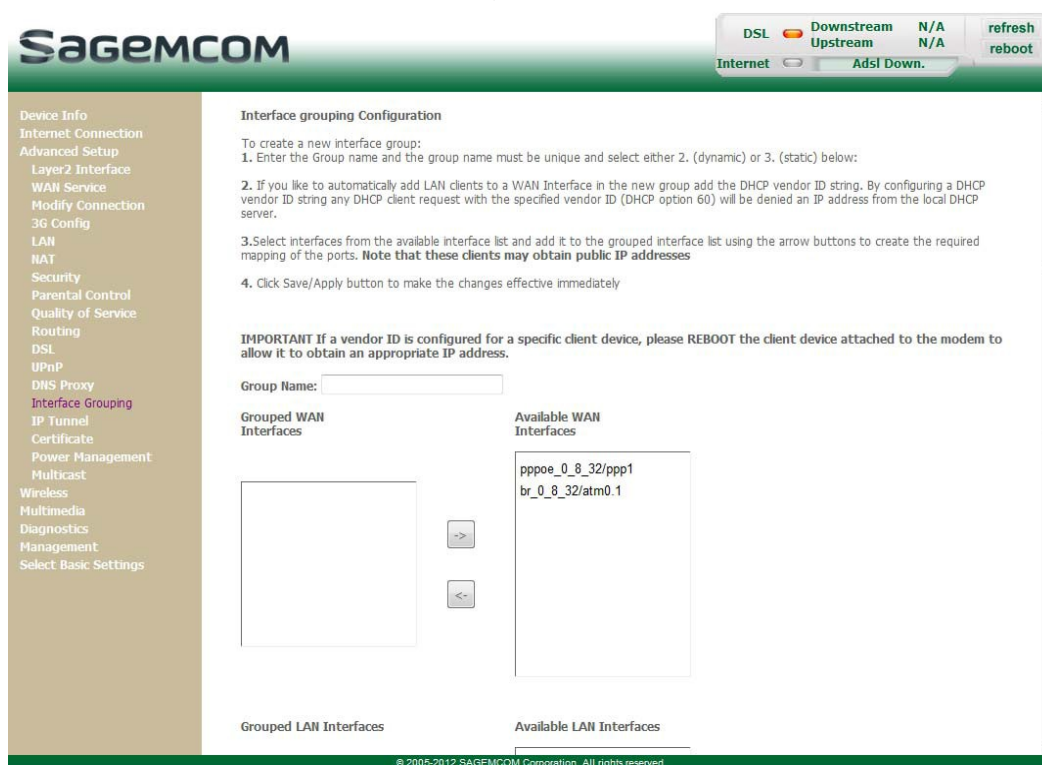
### Note







By default, all the interfaces are dedicated to data and are associated with the first VC (Virtual Channel) existing or created.

## Add

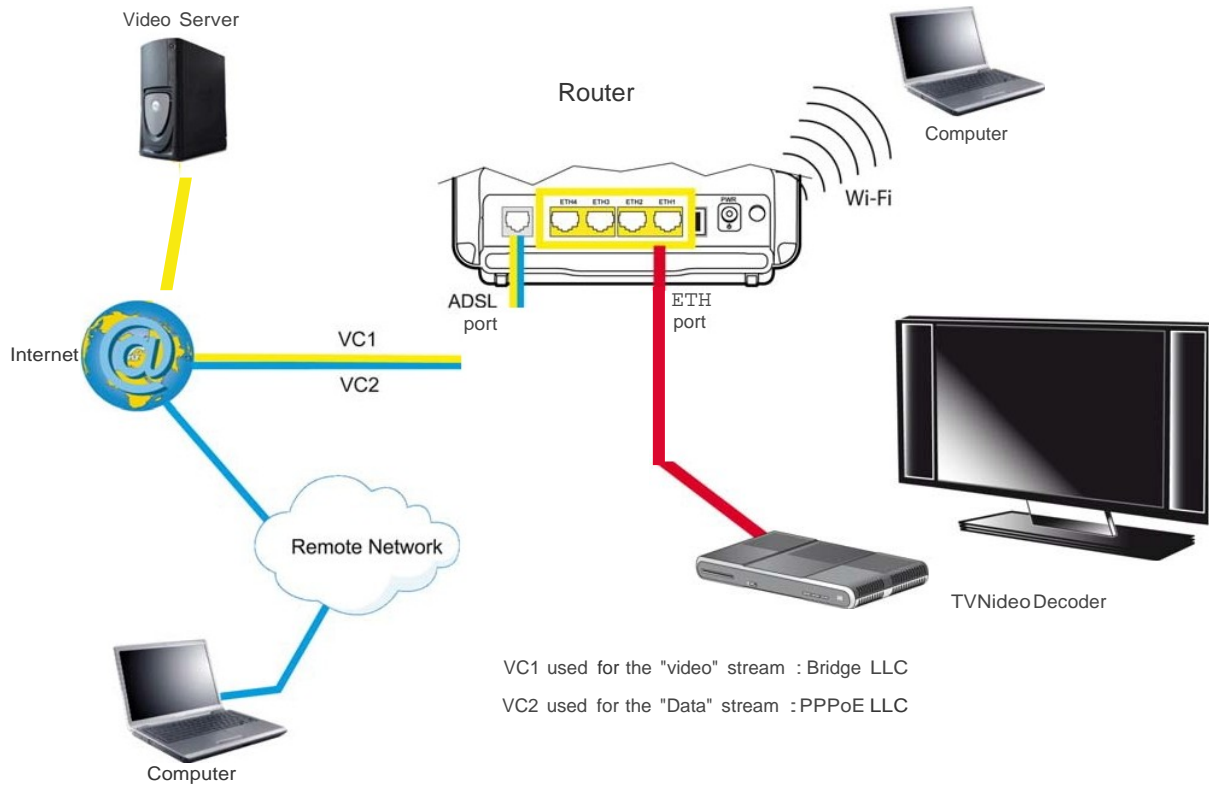
- Click on the **Add** button to display the following screen:



Field	Meaning
<b>Group Name</b>	Enter a name which represents the service you want to associate with a desired interface (for example "video_eth" if you want to associate the TV over UP service with the interface (Ethernet)).
<b>Grouped WAN Interfaces</b>	Displays the interfaces associated with a service you selected in the <b>Available WAN Interfaces</b> area then transferred with the  button.
<b>Available WAN Interfaces</b>	Lists all your router's interfaces. <b>Note:</b> This list depends on the network configuration.
<b>Grouped LAN Interfaces</b>	Displays the interfaces associated with a service you selected in the <b>Available LAN Interfaces</b> area then transferred with the  button.
<b>Available LAN Interfaces</b>	Lists all your router's interfaces. <b>Note:</b> This list depends on the network configuration.
<b>Automatically Add Clients With the following DHCP Vendors IDs</b>	Automatically add clients with the following DHCP vendors IDs.

Button	Action
	Transfer the interfaces selected in the <b>Available LAN Interfaces</b> area to the <b>Grouped LAN Interfaces</b> area.
	Transfer the interfaces selected in the <b>Grouped LAN Interfaces</b> area to the <b>Available LAN Interfaces</b> area.

The following diagram illustrates the path of the "Video" and "Data" flows.



## 6.4.15 Certificate

This menu contains the following sub-menus:

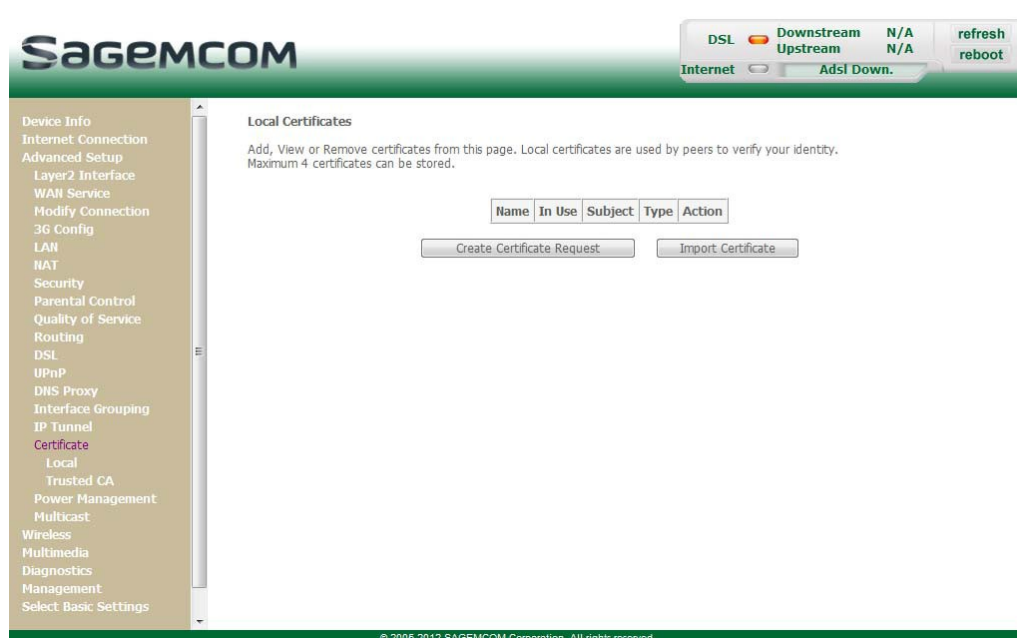
- Local (see subsection 6.4.15.1)
- Trusted CA (see subsection 6.4.15.2)

### 6.4.15.1 Local

**Object:** This menu is used to manage your router's identity certificates. These certificates, which are used by TR-69 (in SSL mode), enable the mutual authentication of the CPE and the ACS.

- In the **Advanced Setup** menu, select **Certificate** then **Local**.

The following screen opens:



Field	Meaning
<b>Name</b>	Name of the certificate.
<b>In Use</b>	Indicates whether the certificate can be used or not.
<b>Subject</b>	Summarises the main characteristics of the certificate.
<b>Type</b>	Indicates the status of the certificate (e.g.: request).
<b>Action</b>	Select the action from the list: view, load signed certificate, remove.



## Create Certificate Request

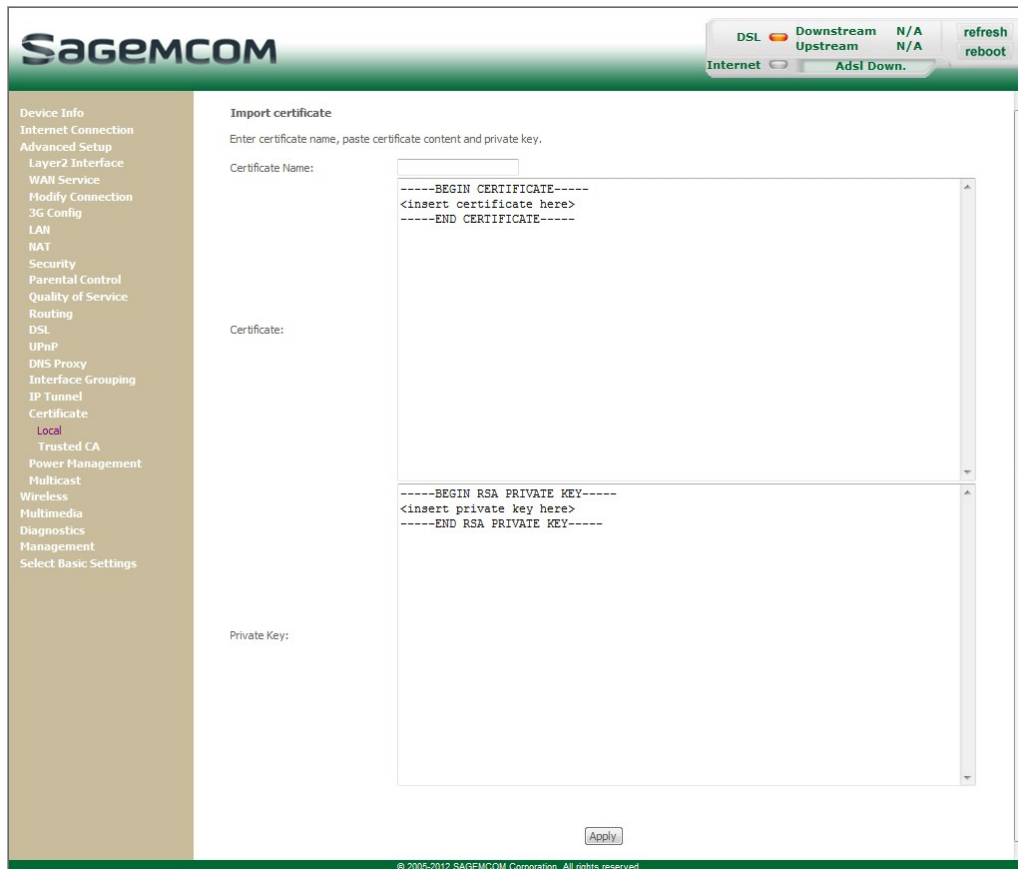
- Click on the **Create Certificate Request** button to display the following screen:

The screenshot shows the Sagemcom web interface. At the top, there's a status bar with 'DSL' (orange), 'Downstream' (orange), 'Upstream' (green), 'N/A', 'refresh', and 'reboot' buttons. Below that, 'Internet' and 'Adsl Down.' are visible. On the left is a navigation menu with items like 'Device Info', 'Internet Connection', 'Advanced Setup', 'Layer2 Interface', 'WAN Service', 'Modify Connection', '3G Config', 'LAN', 'NAT', 'Security', 'Parental Control', 'Quality of Service', 'Routing', 'DSL', 'UPnP', 'DNS Proxy', 'Interface Grouping', 'IP Tunnel', 'Certificate', 'Local', 'Trusted CA', 'Power Management', 'Multicast', 'Wireless', 'Multimedia', 'Diagnostics', 'Management', and 'Select Basic Settings'. The main content area is titled 'Create new certificate request' and contains the following text: 'To generate a certificate signing request you need to include Common Name, Organization Name, State/Province Name, and the 2-letter Country Code for the certificate.' Below this are five input fields: 'Certificate Name:', 'Common Name:', 'Organization Name:', 'State/Province Name:', and 'Country/Region Name:' (with a dropdown menu showing 'US (United States)'). An 'Apply' button is located below the 'Country/Region Name' field. At the bottom of the page, there is a copyright notice: '© 2005-2012 SAGEMCOM Corporation. All rights reserved.'

Field	Action
<b>Certificate Name</b>	Enter the name of the certificate.
<b>Common Name</b>	Enter the name of the certificate's owner.
<b>Organization Name</b>	Enter the name of the organisation which owns the certificate.
<b>State/Province Name</b>	Enter the name of the state or province.
<b>Country/Region Name</b>	Select the country from the scroll down list.

## Import Certificate

- Click on the **Import Certificate** button to display the following screen:



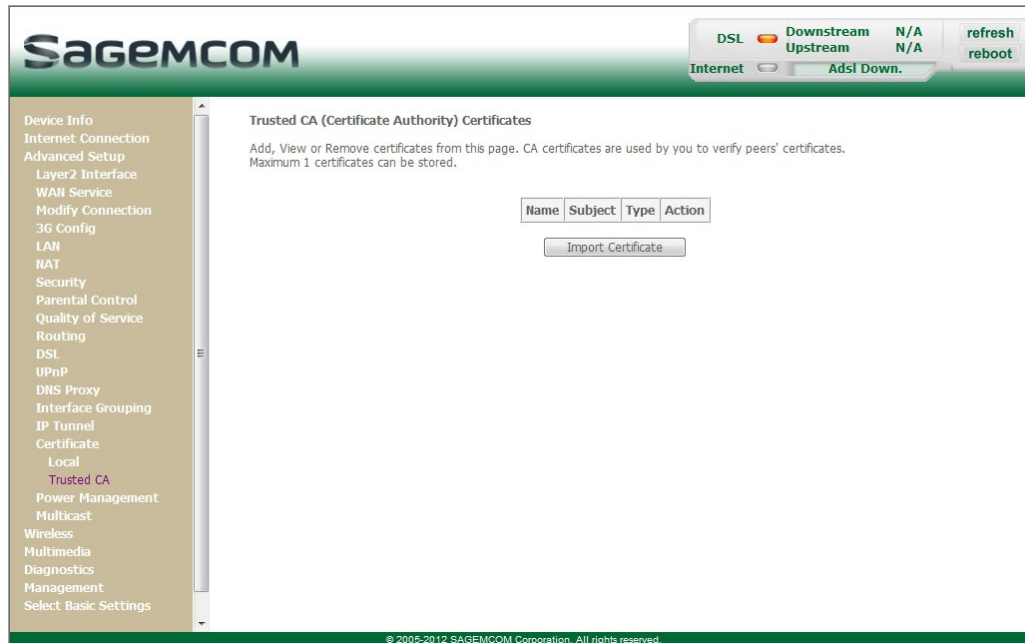
Field	Action
<b>Certificate Name</b>	Enter the name of the certificate.
<b>Certificate</b>	Insert the certificate here.
<b>Private key</b>	Insert the private key here.

### 6.4.15.2 Trusted CA

**Object:** This menu is used to manage the identity certificates of the remote servers. These certificates, which are used by TR-69 (in SSL mode), enable the mutual authentication of the CPE and the ACS.

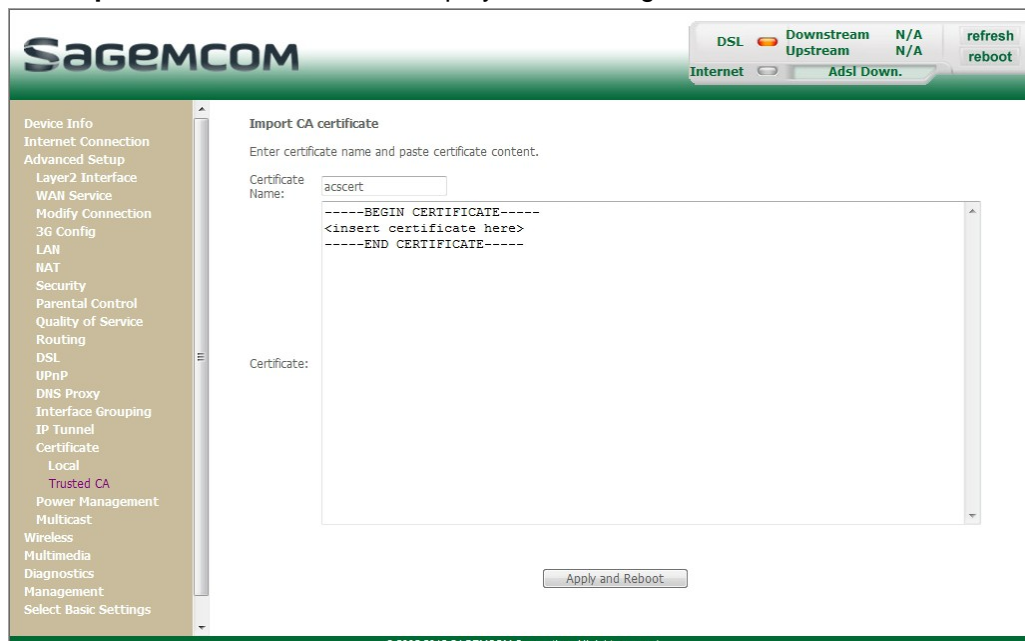
- In the **Advanced Setup** menu, select **Certificate** then **Trusted CA**.

The following screen opens:



### Import Certificate

- Click on the **Import Certificate** button to display the following screen:



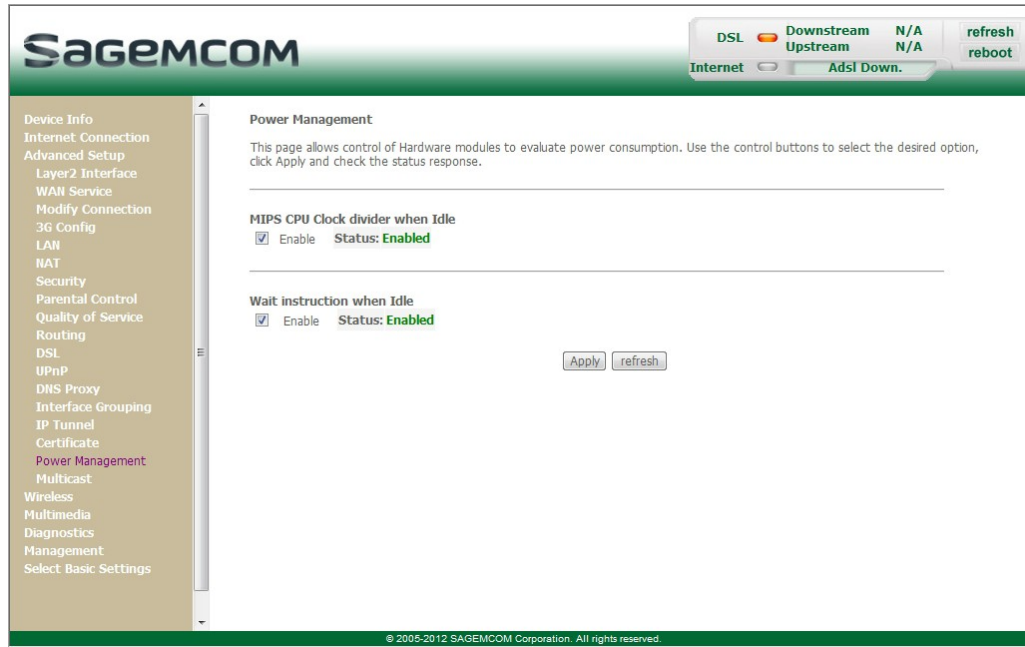
Field	Action
<b>Certificate Name</b>	Enter the name of the certificate.
<b>Certificate</b>	Insert the certificate here.

## 6.4.16 Power Management

**Object:** This menu lets you control power consumption selecting the different options.

- In the **Advanced Setup** menu, select **Power Management**.

The following screen opens:



Field	Action	Default value
<b>MIPS CPU Clock divider when Idle</b>	Check the box to enable the corresponding option.	<b>Enabled</b>
<b>Wait instruction when Idle</b>	Check the box to enable the power management.	<b>Enabled</b>

## 6.4.17 Multicast

**Object:** This menu lets you configure IGMP protocol necessary to use video conferencing and teleconferencing applications for example.

- In the **Advanced Setup** menu, select **Multicast**.

The following screen opens:

### IGMP Configuration

Field	Action	Default value
<b>Default Version</b>	Allows you to set the WAN side version of IGMP protocol version. LAN side always sends IGMPv3 queries. IGMP proxy/snooping module can handle all the backward compatibility issues if it receives any version of IGMP messages. <b>Note:</b> By default it starts with IGMP version 3.	<b>3</b>
<b>Query Interval</b>	Allows you to set the query interval.	<b>125</b>
<b>Query Response Interval</b>	Allows you to set the query response interval.	<b>10</b>
<b>Last Member Query Interval</b>	Allows you to set the last member query interval.	<b>10</b>
<b>Robustness Value</b>	Allows you to set the robustness value.	<b>2</b>
<b>Maximum Multicast Groups</b>	This value sets the maximum number of groups allowed per interface. It can be changed dynamically.	<b>25</b>

Field	Action	Default value
<b>Maximum Multicast Data Sources (for IGMPv3 : (1 - 24)</b>	Allows you to set the maximum number of groups sources allowed per multicast group. It can be changed dynamically between values 1 to 24.	<b>10</b>
<b>Maximum Multicast Group Members</b>	Allows you to set the maximum number of groups allowed per group. It can be changed dynamically.	<b>25</b>
<b>Fast Leave Enable</b>	If this value is enabled, IGMP proxy removes the membership of a group member immediately without sending an IGMP membership query on downstream.	<b>Checked</b>
<b>LAN to LAN (Intra LAN) Multicast Enable</b>	If user want to have a multicast data source on LAN side and he want to get IGMP snooping enabled, then this LAN-2-LAN multicast feature should be enabled	<b>Not checked</b>
<b>Membership Join Immediate (IPTV)</b>	Membership Join Immediate is an attempt to shortcut the normal igmp snooping/proxying process. Savings are in the range of a few milliseconds, this feature may disappear in the coming releases.	<b>Not checked</b>

### MLD Configuration

Field	Action	Default value
<b>Default Version</b>	Allows you to set the WAN side version of MLD protocol version. LAN side always sends MLDv2 queries. MLD proxy/snooping module can handle all the backward compatibility issues if it receives any version of MLD messages. <b>Note:</b> By default it starts with MLD version 2.	<b>2</b>
<b>Query Interval</b>	Allows you to set the query interval.	<b>125</b>
<b>Query Response Interval</b>	Allows you to set the query response interval.	<b>10</b>
<b>Last Member Query Interval</b>	Allows you to set the last member query interval.	<b>10</b>
<b>Robustness Value</b>	Allows you to set the robustness value.	<b>2</b>
<b>Maximum Multicast Groups</b>	This value sets the maximum number of groups allowed per interface. It can be changed dynamically.	<b>10</b>
<b>Maximum Multicast Data Sources (for mldv3 :</b>	Allows you to set the maximum number of groups sources allowed per multicast group. It can be changed dynamically between values 1 to 24.	<b>10</b>
<b>Maximum Multicast Group Members</b>	Allows you to set the maximum number of groups allowed per group. It can be changed dynamically.	<b>10</b>
<b>Fast Leave Enable</b>	If this value is enabled, MLD proxy removes the membership of a group member immediately without sending an MLD membership query on downstream.	<b>Checked</b>
<b>LAN to LAN (Intra LAN) Multicast Enable</b>	If user want to have a multicast data source on LAN side and he want to get MLD snooping enabled, then this LAN-2-LAN multicast feature should be enabled	<b>Not checked</b>

## 6.5 Wireless

**Object:** This menu lets you activate a network and also allows you to configure all the basic and advanced parameters of a wireless network.

This section contains the following menus:

- Basic (see subsection 6.5.1)
- Security (see subsection 6.5.2)
- MAC Filter (see subsection 6.5.3)
- Advanced (see subsection 6.5.4)
- Advanced (see subsection 6.5.4)
- Station Info (see subsection 6.5.5)

### Important



**These menus must only be accessed/modified by experienced users.**

### 6.5.1 Basic

- In the **Wireless** menu, select **Basic**.

The following screen opens:

**SAGEMCOM** DSL Downstream N/A Upstream N/A refresh Internet Adsl Down. reboot

**Wireless -- Basic**

This page allows you to configure basic features of the wireless LAN interface. You can enable or disable the wireless LAN interface, hide the network from active scans, set the wireless network name (also known as SSID) and restrict the channel set based on country requirements. Click "Apply/Save" to configure the basic wireless options.

Enable Wireless

Hide Access Point

Clients Isolation

Disable WMM Advertise

Enable Wireless Multicast Forwarding (WMM)

SSID:

BSSID:

Country:

Max Clients:

**Wireless - Guest/Virtual Access Points:**

Enabled	SSID	Hidden	Isolate Clients	Disable WMM Advertise	Enable WMM	Max Clients	BSSID
<input type="checkbox"/>	wl0_Guest1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	16	N/A
<input type="checkbox"/>	wl0_Guest2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	16	N/A
<input type="checkbox"/>	wl0_Guest3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	16	N/A

© 2005-2012 SAGEMCOM Corporation. All rights reserved.

## 6.5.1.1 Wireless - Basic

Field	Action/Meaning	Default value
<b>Enable Wireless</b>	Check the box to activate the wireless network (Wi-Fi). <b>Note:</b> The steady "Wi-Fi" LED on the front of the router shows that the wireless network (Wi-Fi) is activated.	<b>Checked</b>
<b>Hide Access Point</b>	Check the box to mask the broadcast of the SSID and prevent any unwanted Wi-Fi user to connect on your router. <b>Note:</b> When this box is checked, the router's SSID is absent from the Wi-Fi adaptor user's own list of monitored sites (Access Point).	<b>Not checked</b>
<b>Clients isolation</b>	Check the box to select the desired state: <ul style="list-style-type: none"> <li>• <b>Disabled:</b> do not isolate the <b>Access Point</b> i.e. authorise machines connected to the router to communicate with each other.</li> <li>• <b>Enabled:</b> isolate the <b>Access Point</b>, i.e. prohibit machines connected to the router to communicate with each other.</li> </ul>	<b>Not checked</b>
<b>Disable WMM Advertise</b>	Check the box to disable Wi-Fi Multimedia feature (Not used here).	<b>Not checked</b>
<b>Enable Wireless Multicast Forwarding (WMF)</b>	Check the box to enable multicast frames forwarding over wireless.	<b>Not checked</b>
<b>SSID</b>	Enter your router's SSID. <b>Note:</b> This is indicated on the label stuck to the box.	<b>SAGEMCOM_3 325</b>
<b>BSSID</b>	This is the MAC address of the router's Wi-Fi interface (Access Point). In the "Structure" mode, this address identifies a cell (BSS in English <b>B</b> asic <b>S</b> ervice <b>S</b> et). This cell is a set formed by the access point and the stations located in its coverage area.  <b>You cannot modify this setting.</b>	<b>[Non modifiable]</b>
<b>Country</b>	Select the country of your choice from the scroll down list.	<b>FRANCE</b>
<b>Max Clients</b>	Maximum number of wireless customers for your router.	<b>16</b>

**Note**

The router may or may not be secured, at the request of the customer. This level of security is indicated on the label pasted to the box.  
This choice will modify the Wireless configuration screen.



## 6.5.1.2 Guest/Virtual Access Points

Field	Action/Meaning	Default value
<b>Enabled</b>	Check the box to activate the second wireless network (Wi-Fi).	<b>Unchecked</b>
<b>SSID</b>	Enter the SSID of your second wireless network.	<b>wl0_Guest1</b>
<b>Hidden</b>	Check the box to mask the broadcast of the SSID and prevent any unwanted Wi-Fi user to connect on your router. <b>Note:</b> When this box is checked, the router's SSID is absent from the Wi-Fi adaptor user's own list of monitored sites (Access Point).	<b>Unchecked</b>
<b>Isolate Clients</b>	Check the box to select the desired state: <ul style="list-style-type: none"> <li>• <b>Disabled:</b> do not isolate the <b>Access Point</b> i.e. authorise machines connected to the router to communicate with each other.</li> <li>• <b>Enabled:</b> isolate the <b>Access Point</b>, i.e. prohibit machines connected to the router to communicate with each other.</li> </ul>	<b>Unchecked</b>
<b>Disable WMM Advertise</b>	Check the box to disable Wi-Fi Multimedia feature.	<b>Unchecked</b>
<b>Enable WMF</b>	Check the box to enable multicast frames forwarding over wireless.	<b>Unchecked</b>
<b>Max Clients</b>	Enter the maximum number of wireless customers for your router.	<b>16</b>
<b>BSSID</b>	This is the MAC address of the router's Wi-Fi interface (Access Point). In the "Structure" mode, this address identifies a cell (BSS for <b>B</b> asic <b>S</b> ervice <b>S</b> et). This cell is a set formed by the access point and the stations located in its coverage area.  <b>You cannot modify this setting.</b>	<b>N/A</b>

## 6.5.2 Security

**Object:** The purpose of this menu is to secure your wireless network (Wi-Fi). All types of ingenious solutions have been deployed to combat attacks from hackers. Encryption modes have been implemented to secure your wireless network. Two of them are commonly used:

- WEP (Wired Equivalent Protocol)
- WPA (Wi-Fi Protected Access) and its derivatives (WPA-PSK, WPA2 etc.).

The WPA encryption mode is the most robust and the best adapted to correctly securing your wireless network.

- In the **Wireless** menu, select **Security**.

The following screen opens:

**SAGEMCOM** DSL Downstream N/A refresh  
Upstream N/A reboot  
Internet Adsl Down.

**Wireless -- Security**

This page allows you to configure security features of the wireless LAN interface.  
You may setup configuration manually  
OR  
through WiFi Protected Setup(WPS)

Note: When both STA PIN and Authorized MAC are empty, PBC is used. If Hide Access Point enabled or Mac filter list is empty with "allow" chosen, WPS2 will be disabled

**WPS Setup**

Enable WPS **Enabled** ▾

Add Client (This feature is available only when WPA-PSK(WPS1), WPA2 PSK or OPEN mode is configured)

Push-Button  Enter STA PIN  Use AP PIN

Set WPS AP Mode **Configured** ▾

Setup AP (Configure all security settings with an external registrar)

Device PIN  [Help](#)

**Manual Setup AP**

You can set the network authentication method, selecting data encryption, specify whether a network key is required to authenticate to this wireless network and specify the encryption strength. Click "Apply/Save" when done.

Select SSID:  ▾

Network Authentication:  ▾

WPA/WAPI passphrase:  [Click here to display](#)

WPA Group Rekey Interval:

WPA/WAPI Encryption:  ▾

WEP Encryption:  ▾

© 2005-2012 SAGEMCOM Corporation. All rights reserved.

### 6.5.2.1 WPS Setup

Field	Action/Meaning	Default value
<b>Enable WPS</b>	Check the box to activate WPS.	<b>Enabled</b>
<b>Add Client<sup>a</sup></b>	Define a scenario for WPS protocol: <ul style="list-style-type: none"> <li>• Push-Button</li> <li>• Enter STA PIN: first check the box and enter the PIN (Personal Identification Number) of the STA (Enrollee Station).If necessary, click on [Add Enrollee] add an Enrollee Station.</li> <li>• Use AP PIN: check this box to enable this scenario.</li> </ul>	<b>Push-Button</b>
<b>Set WPS AP Mode</b>	Choose whether you router is already configured or not.	<b>Configured</b>
<b>Device PIN</b>	CPE PIN number	<b>12279180</b>

a. This feature is available only when WPA-PSK, WPA2 PSK or OPEN mode is configured.

### 6.5.2.2 Manual Setup AP

Field	Action/Meaning	Default value
<b>Select SSID</b>	Select the "SSID" of your choice from the scroll down list (sagem or Guest).	<b>SAGEM_3325</b>
<b>Network Authentication</b>	From the scroll down list, select the security adapted to your router's wireless network. This choice will modify the Wireless configuration screen. For more details, a summary table is presented below in section Network Authentication (see subsection 6.5.2.3).	<b>WPA2 - PSK</b>
<b>WEP Encryption</b>	Select from the scroll down list: <ul style="list-style-type: none"> <li>• <b>Disabled</b> to not use WEP encryption.</li> <li>• <b>Enabled</b> to use WE encryption (see subsection WEP).</li> </ul>	<b>Disabled</b>

### 6.5.2.3 Network Authentication

#### Note

The scroll down list in the **Network Authentication** field shows the following possible authentication types:



- Open
- Shared
- 802.1x
- WPA
- WPA-PSK
- WPA2
- WPA2-PSK
- Mixed WPA2/WPA
- Mixed WPA2/WPA-PSK

A different screen appears for each authentication type.

#### Open

**Object:** The **Open System** authentication enables all users of the Wi-Fi network to authenticate themselves with the router. No restrictions concerning security are demanded.

In this authentication mode, only the WEP key may be used to encrypt data.

**SAGEMCOM** DSL Downstream N/A refresh  
Internet Upstream N/A reboot  
Adsl Down.

Device Info  
Internet Connection  
Advanced Setup  
Wireless  
Basic  
Security  
MAC Filter  
Advanced  
Station Info  
Multimedia  
Diagnostics  
Management  
Select Basic Settings

**Wireless -- Security**  
This page allows you to configure security features of the wireless LAN interface.  
You may setup configuration manually  
OR  
through WiFi Protected Setup(WPS)  
Note: When both STA PIN and Authorized MAC are empty, PBC is used. If Hide Access Point enabled or Mac filter list is empty with "allow" chosen, WPS2 will be disabled

**WPS Setup**  
Enable WPS **Enabled** ▾  
Add Client (This feature is available only when WPA-PSK(WPS1), WPA2 PSK or OPEN mode is configured)  
 Push-Button  Enter STA PIN  Use AP PIN   
Set WPS AP Mode **Configured** ▾  
Setup AP (Configure all security settings with an external registrar)  
Device PIN  [Help](#)

**Manual Setup AP**  
You can set the network authentication method, selecting data encryption, specify whether a network key is required to authenticate to this wireless network and specify the encryption strength.  
Click "Apply/Save" when done.  
Select SSID:   
Network Authentication: **Open** ▾  
WEP Encryption: **Disabled** ▾

© 2005-2012 SAGEMCOM Corporation. All rights reserved.

## Shared

**Object:** This level of security enables users of the Wi-Fi network to be authenticated using their SSID or their WEP key.

In this authentication mode, the WEP key is used to encrypt data.

- Select the **Shared** security from the scroll down list; the following screen appears:

The screenshot shows the Sagemcom router's configuration interface for Wireless Security. The page title is "Wireless -- Security". It includes a navigation menu on the left with options like Device Info, Internet Connection, and Security. The main content area has the following sections:

- Wireless -- Security:** A note stating that the page allows configuring security features of the wireless LAN interface, either manually or through WPA Protected Setup (WPS).
- WPS Setup:** A dropdown menu for "Enable WPS" set to "Disabled".
- Manual Setup AP:** A note explaining that users can set the network authentication method, select data encryption, and specify whether a network key is required. It instructs to click "Apply/Save" when done.
- Configuration Fields:**
  - Select SSID: SAGEMCOM\_3325
  - Network Authentication: Shared
  - WEP Encryption: Enabled
  - Encryption Strength: 128-bit
  - Current Network Key: 1
  - Network Key 1: 1234567890123
  - Network Key 2: 1234567890123
  - Network Key 3: 1234567890123
  - Network Key 4: 1234567890123
- Footer:** A note stating "Enter 13 ASCII characters or 26 hexadecimal digits for 128-bit encryption keys" and "Enter 5 ASCII characters or 10 hexadecimal digits for 64-bit encryption keys".

Field	Action/Meaning	Default value
<b>WEP Encryption</b>	<b>This field is always active (Enabled).</b>	<b>Enabled</b>
<b>Encryption strength</b>	Select <b>64-bit</b> or <b>128-bit</b> for an encryption at 64 bits or 128 bits respectively.	<b>128-bit</b>
<b>Current network key</b>	Select a key from the four suggested. The emission key is used to encrypt the data sent by your computer.	<b>1</b>
<b>Network Key x (1 to 4)</b>	The WEP key is customised for your router. You may modify the keys by entering them directly into the boxes. The characters are "0" to "9" and "A" to "F".	<b>1234567890123</b>

### Important



Store the key phrase and the keys in a safe location.  
Do not write them in a file on your computer.

**Important**

The "Key phrase" can consist of up to 15 alphanumeric characters. To manually configure the encryption key, enter five hexadecimal pairs of digits for each 64-bit key, or enter 13 pairs for the single 128-bit key (A hexadecimal digit is a number or letter in the range 0-9 or A-F). Note that the WEP key protects data transmitted between wireless nodes, but does not protect any transmissions over your wired network (LAN) or over Internet (WAN) using Internet Explorer 5.0 or above.

**802.1x**

**Object:** The "802.1x" standard is based on the EAP protocol (**Extensible Authentication Protocol**). This enables users of the Wi-Fi network to be authenticated using a "RADIUS" authentication server (**Remote Authentication Dial-in User Service**).

In this case, the WEP key is used exclusively for data encryption.

- Select the security according to the **802.1x** protocol from the scroll down list; the following screen appears:

The screenshot shows the Sagemcom web interface for configuring wireless security. The main content area is titled "Wireless -- Security" and includes a "Manual Setup AP" section. In this section, the "Network Authentication" dropdown is set to "802.1X". The "WEP Encryption" is set to "Enabled" with an "Encryption Strength" of "128-bit". The "Current Network Key" is set to "2". There are four "Network Key" input fields, each containing the hexadecimal string "1234567890123".

Field	Action/Meaning	Default value
<b>RADIUS Server IP Address</b>	Enter the IP address of the "RADIUS" authentication server.	<b>0.0.0.0</b>
<b>RADIUS Port</b>	Enter the port used for the "RADIUS" authentication server.	<b>1812</b>
<b>RADIUS Key</b>	Enter the secret key shared between the authentication server and its clients	-
<b>WEP Encryption</b>	This field is always active (Enabled).	<b>Enabled</b>
<b>Encryption Strength</b>	Select 64-bit or 128-bit for an encryption at 64 bits or 128 bits respectively.	<b>128-bit</b>

Field	Action/Meaning		Default value
<b>Current Network Key</b>	Select key 2 or 3.		<b>2</b>
<b>Network Key x (1 to 4)</b>	<b>1</b>	This field is empty or displays the key value entered earlier (greyed out)	<b>[Not modifiable]</b>
	<b>2</b>	Enter the encryption on the key you selected in the "Current Key".	<b>1234567890123</b>
	<b>3</b>	Enter the encryption on the key you selected in the "Current Key".	<b>1234567890123</b>
	<b>4</b>	This field is empty or displays the key value entered earlier (greyed out).	<b>[Not modifiable]</b>

## WPA

**Object:** This encryption mode applies the functionalities of the WPA protocol and requires the use of a "RADIUS" authentication server.

- Select the **WPA** security from the scroll down list; the following screen appears:

The screenshot shows the Sagemcom web interface for Wireless Security configuration. The page title is "Wireless -- Security". It includes a navigation menu on the left with options like Device Info, Internet Connection, Advanced Setup, Wireless, Basic, Security, MAC Filter, Advanced, Station Info, Multimedia, Diagnostics, Management, and Select Basic Settings. The main content area is titled "Wireless -- Security" and contains the following sections:

- WPS Setup:** "Enable WPS" is set to "Disabled".
- Manual Setup AP:** "Select SSID" is set to "SAGEMCOM\_3325". "Network Authentication" is set to "WPA".
- WPA Group Rekey Interval:** Set to "0".
- RADIUS Server IP Address:** Set to "0.0.0.0".
- RADIUS Port:** Set to "1812".
- RADIUS Key:** (Empty field)
- WPA/WAPI Encryption:** Set to "TKIP+AES".
- WEP Encryption:** Set to "Disabled".

An "Apply/Save" button is located at the bottom of the configuration area. The footer of the page reads "© 2005-2012 SAGEMCOM Corporation. All rights reserved."

Field	Action/Meaning	Default value
<b>WPA Group Rekey Interval</b>	Enter a value (in seconds) which determines the period after which the WPA key will be regenerated (Renewing) in broadcast / multicast (LAN broadcast).	<b>0</b>
<b>RADIUS Server IP Address</b>	Enter the IP address of the "RADIUS" authentication server.	<b>0.0.0.0</b>
<b>RADIUS Port</b>	Enter the port used for the "RADIUS" authentication server.	<b>1812</b>



Field	Action/Meaning	Default value
<b>RADIUS Key</b>	Enter the secret key shared between the authentication server and its clients	-
<b>WPA/WAPI Encryption</b>	Select the WPA encryption required from the scroll down list: <ul style="list-style-type: none"> <li>• TKIP (<b>T</b>emporal <b>K</b>ey <b>I</b>ntegration <b>P</b>rotocol)</li> <li>• AES (<b>A</b>dvanced <b>E</b>ncryption <b>S</b>tandard)</li> <li>• TKIP + AES</li> </ul>	<b>TKIP</b>
<b>WEP Encryption</b>	Select from the scroll down list: <ul style="list-style-type: none"> <li>• <b>Disabled</b> to use WPA encryption only.</li> <li>• <b>Enabled</b> to use both WPA and WEP encryption.</li> </ul>	<b>Disabled</b>

## WPA-PSK

**Object:** This encryption mode applies the functionalities of the WPA protocol with a pre-shared key, but does not require an authentication server. The key is regenerated after a period which can be configured (**WPA Group Rekey Interval**).

- Select the **WPA-PSK** security from the scroll down list; the following screen appears:

The screenshot displays the Sagemcom WPS Setup web interface. The main content area is titled "WPS Setup" and includes the following elements:

- Enable WPS:** A dropdown menu set to "Enabled".
- Add Client:** A section with a note that this feature is only available when WPA-PSK(WPS1), WPA2 PSK, or OPEN mode is configured. It includes radio buttons for "Push-Button" (selected), "Enter STA PIN", and "Use AP PIN", along with an "Add Enrollee" button.
- Set WPS AP Mode:** A dropdown menu set to "Configured".
- Setup AP:** A section with a note to configure all security settings with an external registrar. It includes a "Device PIN" field with the value "12279180" and a "Config AP" button.
- Manual Setup AP:** A section with a note to set network authentication, encryption, and key interval. It includes:
  - Select SSID:** A dropdown menu set to "SAGEMCOM\_3325".
  - Network Authentication:** A dropdown menu set to "WPA-PSK".
  - WPA/WAPI passphrase:** A text field with masked characters and a "Click here to display" link.
  - WPA Group Rekey Interval:** A text field with the value "0".
  - WPA/WAPI Encryption:** A dropdown menu set to "TKIP+AES".
  - WEP Encryption:** A dropdown menu set to "Disabled".
- Apply/Save:** A button at the bottom of the manual setup section.

The footer of the page contains the copyright notice: © 2005-2012 SAGEMCOM Corporation. All rights reserved.

Field	Action/Meaning	Default value
<b>WPA/WAPI passphrase</b>	Enter the secret shared key. This may contain 8 to 63 ASCII characters or 64 hexadecimal symbols (256 bits). Click on the <b>Apply/Save</b> button to validate the entry. <b>Note:</b> You may display your secret phrase by clicking on <b>Click here to display</b> .	<b>ABCDEF23</b>



Field	Action/Meaning	Default value
<b>WPA Group Rekey Interval</b>	Enter a value (in seconds) which determines the period after which the WPA key will be regenerated (Renewing) in broadcast / multicast (LAN broadcast).	<b>0</b>
<b>WPA/WAPI Encryption</b>	Select the WPA encryption required from the scroll down list: <ul style="list-style-type: none"> <li>• TKIP (<b>T</b>emporal <b>K</b>ey <b>I</b>ntegration <b>P</b>rotocol)</li> <li>• AES (<b>A</b>dvanced <b>E</b>ncryption <b>S</b>tandard)</li> <li>• TKIP + AES</li> </ul>	<b>TKIP</b>
<b>WEP Encryption</b>	Select from the scroll down list: <ul style="list-style-type: none"> <li>• <b>Disabled</b> to use WPA encryption only.</li> <li>• <b>Enabled</b> to use both WPA and WEP encryption.</li> </ul>	<b>Disabled</b>

## WPA2

**Object:** This encryption mode applies the functionalities of the WPA2 protocol and requires the use of a "RADIUS" authentication server.

- Select the **WPA2** security from the scroll down list; the following screen appears:

The screenshot shows the Sagemcom web interface for Wireless Security configuration. The page title is "Wireless -- Security". It includes a navigation menu on the left with options like Device Info, Internet Connection, Advanced Setup, Wireless, Basic, Security, MAC Filter, Advanced, Station Info, Multimedia, Diagnostics, Management, and Select Basic Settings. The main content area has the following sections:

- Wireless -- Security:** This page allows you to configure security features of the wireless LAN interface. You may setup configuration manually OR through WiFi Protected Setup(WPS). Note: When both STA PIN and Authorized MAC are empty, PBC is used. If Hide Access Point enabled or Mac filter list is empty with "allow" chosen, WPS2 will be disabled.
- WPS Setup:** Enable WPS: Disabled (dropdown menu).
- Manual Setup AP:** You can set the network authentication method, selecting data encryption, specify whether a network key is required to authenticate to this wireless network and specify the encryption strength. Click "Apply/Save" when done.
  - Select SSID: SAGEMCOM\_3325 (dropdown menu)
  - Network Authentication: WPA2 (dropdown menu)
  - Network Re-auth Interval: 36000 (text input)
  - WEP Encryption: Disabled (dropdown menu)

At the bottom, there is an "Apply/Save" button and a copyright notice: © 2005-2012 SAGEMCOM Corporation. All rights reserved.

Field	Action/Meaning	Default value
<b>Re-auth Interval</b>	Enter a value (in seconds) which determines the period after which the WPA key will be certified.	<b>36000</b>
<b>WPA Group Rekey Interval</b>	Enter a value (in seconds) which determines the period after which the WPA key will be regenerated (Renewing) in broadcast / multicast (LAN broadcast).	<b>0</b>
<b>RADIUS Server IP Address</b>	Enter the IP address of the "RADIUS" authentication server.	<b>0.0.0.0</b>

Field	Action/Meaning	Default value
<b>RADIUS Port</b>	Enter the port used by the "RADIUS" authentication server.	<b>1812</b>
<b>RADIUS Key</b>	Enter the secret key shared between the authentication server and its clients.	-
<b>WPA/WAPI Encryption</b>	Select the WPA encryption required from the scroll down list: <ul style="list-style-type: none"> <li>• TKIP (Temporal Key Integration Protocol)</li> <li>• AES (Advanced Encryption Standard)</li> <li>• TKIP + AES</li> </ul>	<b>AES</b>
<b>WEP Encryption</b>	Select from the scroll down list: <ul style="list-style-type: none"> <li>• <b>Disabled</b> to use WPA encryption only.</li> <li>• <b>Enabled</b> to use both WPA and WEP encryption.</li> </ul>	<b>Disabled</b>

## WPA2-PSK

**Object:** This encryption mode uses the WPA2 protocol with a pre-shared key, but does not require an authentication server. The key is regenerated after a period which can be configured (**WPA Group Rekey Interval**).

- Select the **WPA2-PSK** security from the scroll down list; the following screen appears:

The screenshot displays the Sagemcom WPS Setup configuration interface. At the top, there are status indicators for DSL (Downstream, Upstream, N/A), Internet (Adsl Down.), and a refresh/reboot button. The main content area is titled 'WPS Setup' and includes the following sections:

- Enable WPS:** Set to 'Enabled'.
- Add Client:** Includes radio buttons for 'Push-Button', 'Enter STA PIN', and 'Use AP PIN', along with an 'Add Enrollee' button.
- Set WPS AP Mode:** Set to 'Configured'.
- Setup AP:** Includes a 'Device PIN' field with the value '12279180' and a 'Config AP' button.
- Manual Setup AP:** A section for manual configuration with the following settings:
  - Select SSID: 'SAGEMCOM\_3325'
  - Network Authentication: 'WPA2-PSK'
  - WPA/WAPI passphrase: '.....' (with a 'Click here to display' link)
  - WPA Group Rekey Interval: '0'
  - WPA/WAPI Encryption: 'AES'
  - WEP Encryption: 'Disabled'

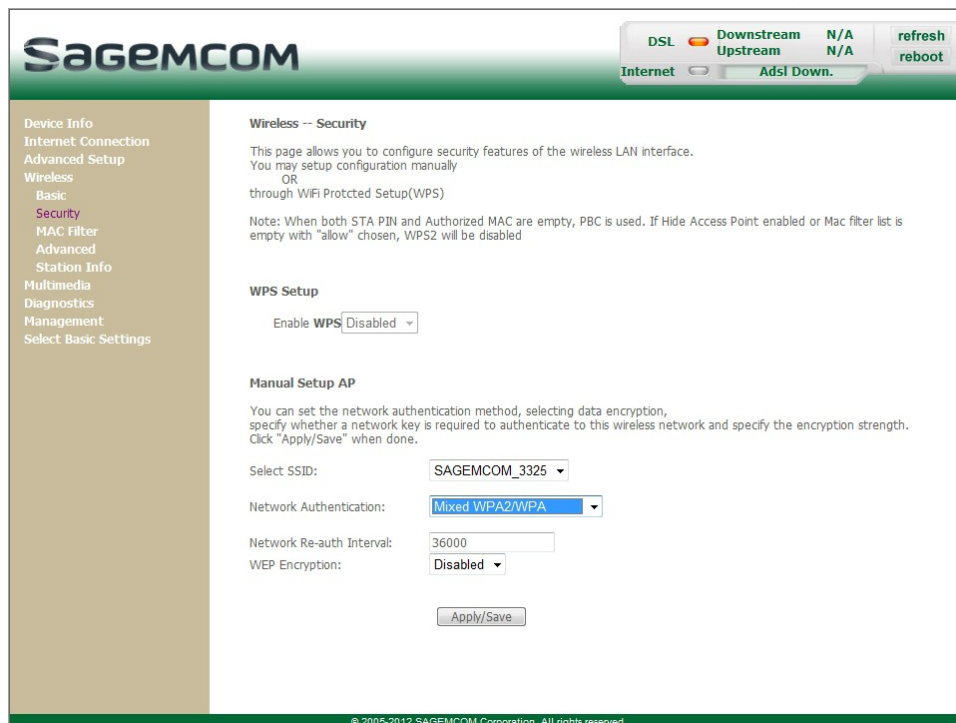
An 'Apply/Save' button is located at the bottom of the configuration area. The footer contains the copyright notice: '© 2005-2012 SAGEMCOM Corporation. All rights reserved.'

Field	Action/Meaning	Default value
<b>WAP/WAPI passphrase</b>	Enter a secret phrase. This may contain 8 to 63 ASCII characters or 64 hexadecimal symbols (256 bits). Click on the <b>Apply/Save</b> button to validate the entry. <b>Note:</b> You may display your secret phrase by clicking on <b>Click here to display</b> .	<b>ABCDEF23</b>
<b>WPA Group Rekey Interval</b>	Enter a value (in seconds) which determines the period after which the WPA key will be regenerated (Renewing) in broadcast / multicast (LAN broadcast).	<b>0</b>
<b>WPA/WAPI Encryption</b>	Select the WPA encryption required from the scroll down list: <ul style="list-style-type: none"> <li>• TKIP (Temporal Key Integration Protocol)</li> <li>• AES (Advanced Encryption Standard)</li> <li>• TKIP + AES</li> </ul>	<b>AES</b>
<b>WEP Encryption</b>	Select from the scroll down list: <ul style="list-style-type: none"> <li>• <b>Disabled</b> to use WPA encryption only.</li> <li>• <b>Enabled</b> to use both WPA and WEP encryption.</li> </ul>	<b>Disabled</b>

### Mixed WPA2/WPA

**Object:** This encryption mode applies the functionalities of the WPA2 and WPA protocols. It needs a "RADIUS" authentication server.

- Select the **Mixed WPA2/WPA** security from the scroll down list; the following screen appears:



**SAGEMCOM** DSL Downstream N/A Upstream N/A refresh reboot  
Internet Adsl Down.

Device Info  
Internet Connection  
Advanced Setup  
Wireless Setup  
Basic  
Security  
MAC Filter  
Advanced  
Station Info  
Multimedia  
Diagnostics  
Management  
Select Basic Settings

**Wireless -- Security**

This page allows you to configure security features of the wireless LAN interface.  
You may setup configuration manually  
OR  
through WiFi Protected Setup(WPS)

Note: When both STA PIN and Authorized MAC are empty, PBC is used. If Hide Access Point enabled or Mac filter list is empty with "allow" chosen, WPS2 will be disabled.

**WPS Setup**

Enable WPS

**Manual Setup AP**

You can set the network authentication method, selecting data encryption, specify whether a network key is required to authenticate to this wireless network and specify the encryption strength. Click "Apply/Save" when done.

Select SSID:

Network Authentication:

Network Re-auth Interval:

WEP Encryption:

© 2005-2012 SAGEMCOM Corporation. All rights reserved.

Field	Action/Meaning	Default value
<b>Network Re-auth Interval</b>	Enter a value (in seconds) which determines the period after which the WPA key will be certified.	<b>36000</b>
<b>WPA Group Rekey Interval</b>	Enter a value (in seconds) which determines the period after which the WPA key will be regenerated (Renewing) in broadcast / multicast (LAN broadcast).	<b>0</b>
<b>RADIUS Server IP Address</b>	Enter the IP address of the "RADIUS" authentication server.	<b>0.0.0.0</b>
<b>RADIUS Port</b>	Enter the port used by the "RADIUS" authentication server.	<b>1812</b>
<b>RADIUS Key</b>	Enter the secret key shared between the authentication server and its clients.	-
<b>WPA/WAPI Encryption</b>	Select the WPA encryption required from the scroll down list: <ul style="list-style-type: none"> <li>• TKIP (Temporal Key Integration Protocol)</li> <li>• AES (Advanced Encryption Standard)</li> <li>• TKIP + AES</li> </ul>	<b>TKIP + AES</b>
<b>WEP Encryption</b>	Select from the scroll down list: <ul style="list-style-type: none"> <li>• <b>Disabled</b> to use WPA encryption only.</li> <li>• <b>Enabled</b> to use both WPA and WEP encryption.</li> </ul>	<b>Disabled</b>

### Mixed WPA2/WPA-PSK

**Object:** This encryption mode applies the functionalities of the WPA2-PSK and WPA-PSK protocols. It does not need a "RADIUS" authentication server.

- Select the **Mixed WPA2 /WPA-PSK** security from the scroll down list; the following screen appears:

The screenshot shows the Sagemcom web interface for configuring wireless security. The page title is "Wireless -- Security". The main content area is titled "Manual Setup AP" and contains the following configuration options:

- Select SSID: SAGEMCOM\_3325
- Network Authentication: Mixed WPA2/WPA-PSK
- WPA/WAPI passphrase: [masked]
- WPA Group Rekey Interval: 0
- WPA/WAPI Encryption: TKIP+AES
- WEP Encryption: Disabled

Buttons for "Apply/Save" and "refresh reboot" are visible at the bottom of the configuration area.

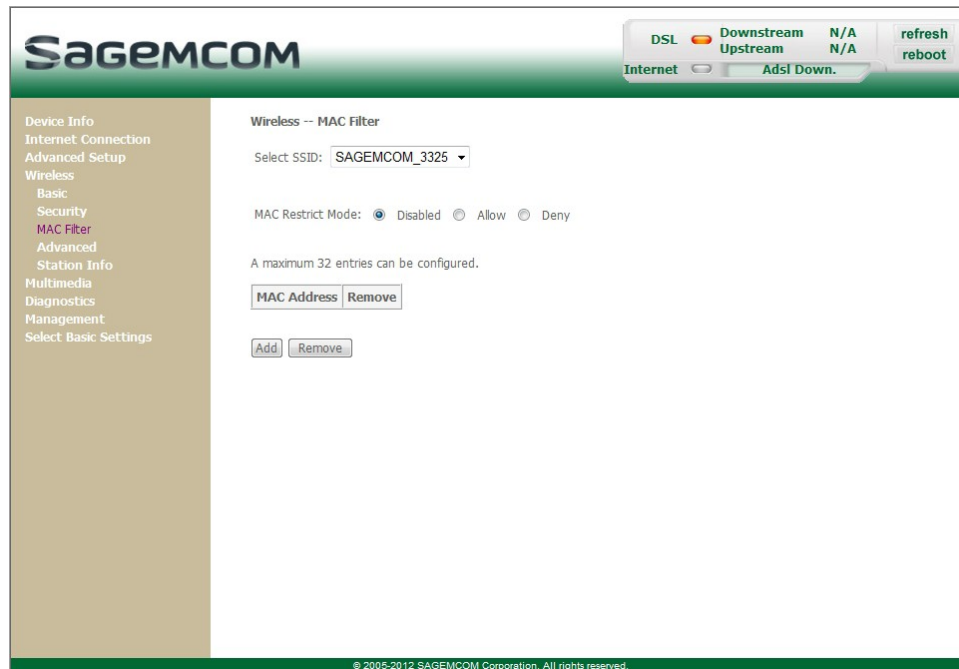
Field	Action/Meaning	Default value
<b>WPA/WAPI passphrase</b>	Enter a secret phrase. This may contain 8 to 63 ASCII characters or 64 hexadecimal symbols (256 bits). Click on the <b>Apply/Save</b> button to validate the entry. <b>Note:</b> You may display your secret phrase by clicking on <b>Click here to display</b> .	<b>ABCDEF23</b>
<b>WPA Group Rekey Interval</b>	Enter a value (in seconds) which determines the period after which the WPA key will be regenerated (Renewing) in broadcast / multicast (LAN broadcast).	<b>0</b>
<b>WPA/WAPI Encryption</b>	Select the WPA encryption required from the scroll down list: <ul style="list-style-type: none"> <li>• TKIP (Temporal Key Integration Protocol)</li> <li>• AES (Advanced Encryption Standard)</li> <li>• TKIP + AES</li> </ul>	<b>TKIP + AES</b>
<b>WEP Encryption</b>	Select from the scroll down list: <ul style="list-style-type: none"> <li>• <b>Disabled</b> to use WPA encryption only.</li> <li>• <b>Enabled</b> to use both WPA and WEP encryption.</li> </ul>	<b>Disabled</b>

### 6.5.3 MAC Filter

**Object:** The "MAC Filter" function is used to restrict the access to the wireless network.

- In the **Wireless** menu, select **MAC Filter**.

The following screen opens:



Field	Action/Meaning	Default value
<b>MAC Restrict Mode</b>	Select the command by checking the appropriate box: <ul style="list-style-type: none"> <li><b>Disabled:</b> Deactivates the MAC filtering</li> <li><b>Allow:</b> Enables only computers whose MAC address is in the list to use your wireless network</li> <li><b>Deny:</b> Refuses computers whose MAC address is in the list to use your wireless network.</li> </ul>	<b>Disabled</b>

## Add

- Click on the **Add** button to add a MAC address to be filtered (address of a computer - authorised or non authorized, according the deny or allow list - to connect to a wireless network).

The screenshot shows the Sagemcom web interface. At the top right, there is a status bar with indicators for DSL (Downstream, Upstream), Internet, and Adsl Down. A 'refresh reboot' button is also present. The left sidebar contains a navigation menu with options like Device Info, Internet Connection, Advanced Setup, Wireless, Basic, Security, MAC Filter (highlighted), Advanced, Station Info, Multimedia, Diagnostics, Management, and Select Basic Settings. The main content area is titled 'Wireless -- MAC Filter' and contains the following text: 'Enter the MAC address and click "Apply/Save" to add the MAC address to the wireless MAC address filters. MAC address please according to the format "11:22:33:AA:BB:CC".' Below this text is a text input field labeled 'MAC Address:' and an 'Apply/Save' button. At the bottom of the page, there is a copyright notice: '© 2005-2012 SAGEMCOM Corporation. All rights reserved.'

### Note



The MAC address can be added automatically at the time of the Wi-Fi installation, by a short push on button "WLAN/WPS". After approximately 5 minutes, the new address fits in the list and the router passes in mode of filtering (MAC Restrict Mode) "Allow" to authorize only the computers whose MAC address appears in the list to be connected to your router.

## 6.5.4 Advanced

**Object:** This menu is used to configure the essential parameters of your wireless network (WLAN) 802.11 and configure certain security parameters.

- In the **Wireless** menu, select **Advanced**.

The following screen opens:

**SAGEMCOM** DSL Downstream N/A refresh  
Internet Adsl Down. N/A reboot

**Wireless -- Advanced**

This page allows you to configure advanced features of the wireless LAN interface. You can select a particular channel on which to operate, force the transmission rate to a particular speed, set the fragmentation threshold, set the RTS threshold, set the wakeup interval for clients in power-save mode, set the beacon interval for the access point, set XPress mode and set whether short or long preambles are used. Click "Apply/Save" to configure the advanced wireless options.

Band:	2.4GHz	
Channel:	Auto	Current: 6 (interference: acceptable)
Auto Channel Timer (min):	0	
802.11n/EWC:	Auto	
Bandwidth:	20MHz	Current: 20MHz
Control Sideband:	Lower	Current: None
802.11n Rate:	Auto	
802.11n Protection:	Auto	
Support 802.11n Client Only:	Off	
RIFS Advertisement:		
OBSS Co-Existence:	On	
RX Chain Power Save:	Off	
RX Chain Power Save Quiet Time:	10	
RX Chain Power Save PPS:	10	
Radio Power Save:	Off	
Radio Power Save Quiet Time:	10	
Radio Power Save PPS:	1	
54g™ 54g™ Rate:	1 Mbps	
Multicast Rate:	Auto	
Basic Rate:	Default	
Fragmentation Threshold:	2346	
RTS Threshold:	2347	
DTIM Interval:	1	
Beacon Interval:	100	
Global Max Clients:	16	
XPress™ Technology:	Disabled	
Transmit Power:	100%	
WMM(Wi-Fi Multimedia):	Enabled	
WMM No Acknowledgement:	Disabled	
WMM APSD:	Enabled	

Apply/Save

© 2005-2012 SAGEMCOM Corporation. All rights reserved.

### Important



The table below indicates in more detail how to access your Wi-Fi port (or Access Point).  
**Nevertheless, it is best to leave the default values for easier usage.**



Field	Action/Meaning	Default value
<b>Band</b>	Select the 2.4 GHz band for the IEEE 802.11g standard.	<b>2.4GHz</b>
<b>Channel</b>	<p>This is the radio channel used by the router and its Wi-Fi clients to communicate with each other. This channel must be the same for the router and all its Wi-Fi clients. Select the <b>channel</b> you want from the scroll down list (auto, channels 1 to 13).</p> <p><b>Note:</b> Channel 11 corresponds to frequency 2462 MHz.</p> <p><b>Note:</b> If you select "Auto", the Wi-Fi equipment will select the access point channel (router) which will emit the strongest signal.</p> <p>Conform to the CE Declaration of conformity / Radio rules list in Annex 10 to paragraph 10.2.</p>	<b>Auto</b>
<b>Auto Channel Timer (min)</b>	Configure the duration, in minutes, during which the router must seek the best wireless channel. This option is only available when the selection of the channel is configured in <b>Auto</b> (Automatic).	<b>0</b>
<b>802.11n/EWC</b>	Select <b>Auto</b> to enable the 802.11n standard and enjoy ideal speeds for the digital home devices (HDTV, DVD, ...) to 270 Mbit/s.	<b>Auto</b>
<b>Bandwidth</b>	Select the bandwidth 20 MHz or 40 MHz.	<b>20 MHz</b>
<b>Control Sideband</b>	Select in the drop-down list the required value to specify if the extension channel should be in the <b>Upper</b> or <b>Lower</b> sideband.	<b>Lower</b>
<b>802.11n Rate</b>	<p>Select in the drop-down list the Physical Layer (NPHY) rate required.</p> <p><b>Note:</b> These rates are only available when the 802.11n mode is set to Automatic.</p>	<b>Auto</b>
<b>802.11n Protection</b>	<p>The 802.11g standards provide a protection method in order 802.11g and 802.11b devices to coexist in the same network without exchanging data at the same time.</p> <ul style="list-style-type: none"> <li>Select <b>Off</b> only if there is a possibility that 802.11b or 802.11g devices will use your wireless network.</li> <li>Select <b>Auto</b> for the wireless devices use RTS/CTS to improve 802.11n performance in mixed 802.11g/802.11b networks</li> </ul>	<b>Auto</b>
<b>Support 802.11n Client Only</b>	<p>Select On in the drop-down list to enable support for 802.11n clients only.</p> <p><b>Note:</b> In this case, note that 802.11g and 802.11b clients will not be able to connect to the network.</p>	<b>Off</b>
<b>RIFS Advertisement</b>	RIFS stands for Reduced Interframe Space. RIFS were introduced with 802.11n to improve efficiency for transmissions to the same receiver in which a SIFS-separated response is not required, such as a transmission burst.	
<b>OBSS Co-Existence</b>	Select <b>On</b> in the drop-down list number of cases in which the primary and the non-primary channels overlap.	<b>On</b>
<b>RX Chain Power Save</b>	Enabling this feature turns off one of the Receive chains.	<b>Off</b>

Field	Action/Meaning	Default value
<b>RX Chain Power Save Quiet Time</b>	The number of seconds the traffic must be below the PPS value below before the Rx Chain Power Save feature activates itself.	<b>10</b>
<b>RX Chain Power Save PPS</b>	The maximum number of packets per seconds that can be processed by the WLAN interface for a duration of Quiet Time, described above, before the Rx Chain Power Save feature activates itself.	<b>10</b>
<b>Radio Power Save</b>	Enabling this feature turns off one of the Transmit chains.	<b>Off</b>
<b>Radio Power Save Quiet Time</b>	The number of seconds the traffic must be below the PPS value below before the Radio Chain Power Save feature activates itself.	<b>10</b>
<b>Radio Power Save PPS</b>	The maximum number of packets per seconds that can be processed by the WLAN interface for a duration of Quiet Time, described above, before the Radio Chain Power Save feature activates itself.	<b>1</b>
<b>54g™ Rate</b>	In the scroll down list, select the transmission rate at which the information (data or video) will be transmitted or received on your wireless network (Auto, 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48 or 54 Mbps). <b>Note:</b> If you select "Auto", the information will be transmitted at an optimised rate which takes account of the transmission constraints.	<b>Auto</b>
<b>Multicast Rate</b>	From the scroll down list, select the transmission rate at which the "Multicast" packets are transmitted (Auto, 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48 or 54 Mbps). <b>Note:</b> If you select "Auto", the information will be transmitted at an optimised rate which takes account of the transmission constraints. Video conferencing and teleconferencing are "Multicast" applications.	<b>Auto</b>
<b>Basic Rate</b>	From the scroll down list, select the basic rate at which the information will be transmitted or received over your wireless network (Default, All, 1 & 2 Mbps or 1 & 2 & 5.5 & 6 & 11 & 12 & 24 Mbps).	<b>Default</b>
<b>Fragmentation threshold</b>	This packet fragmentation mechanism is used to limit errors and repetitions. It is recommended not to reduce the packet size too much to avoid reducing the bandwidth. Enter a threshold value (in bytes) between 256 and 2347.	<b>2346</b>
<b>RTS Threshold</b>	The RTS/CTS protocol ( <b>R</b> quest <b>T</b> o <b>S</b> end / <b>C</b> lear <b>T</b> o <b>S</b> end) is used to reduce the probability of collisions between stations. <b>Note:</b> As packet size is set by default to 2346, the RTS/CTS protocol is inhibited as its value is set by default to 2347. Enter a threshold value (in bytes) between 1 and 2347.	<b>2347</b>
<b>DTIM Interval</b>	Enter a time interval value between two beacon signals which shows the activity of the wireless.	<b>1</b>

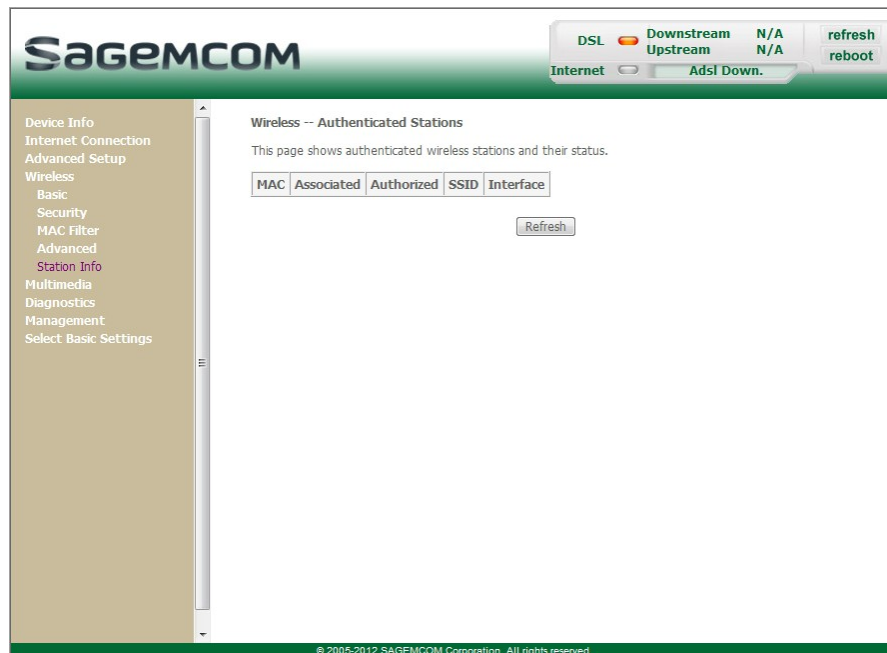
Field	Action/Meaning	Default value
<b>Beacon Interval</b>	A beacon is basically a heartbeat for a wireless client or gateway, sending out a signal informing wireless clients that the wireless network is still active. Enter a time in milliseconds between beacon transmissions between 1 and 1000 milliseconds. The default beacon interval is 100 ms.	<b>100</b>
<b>Global Max Clients</b>	Enter the maximum number wireless customers for your router.	<b>16</b>
<b>XPress™ Technology</b>	From the scroll down list, select <b>Enabled</b> to apply the "XPress™" technology or <b>Disabled</b> to not apply it.	<b>Disabled</b>
<b>Transmit Power</b>	If 802.11 h is selected, in the scroll down list select the cyclical emission ratio (20%, 40 %, 60 %, 80 % or 100 %) at which you want to transmit. <b>Note:</b> The power rate will be selected according to your environment.	<b>100%</b>
<b>WMM(Wi-Fi Multimedia)</b>	Select <b>Enabled</b> to apply the WMM support, or <b>Disabled</b> not to apply it in the scroll down list.	<b>Enabled</b>
<b>WMM No Acknowledgement</b>	Select <b>Enabled</b> or <b>Disabled</b> in the scroll down list to permit or prohibit a more effective bit rate of the data flow with, on the other hand, a higher error rate. <b>Note:</b> The scroll down list may only be operational if the "WMM (Wi-Fi Multimedia)" field is activated.	<b>Disabled</b>
<b>WMM APSD</b>	<b>WMM (Wi-Fi MultiMedia) with APSD (Automatic Power Save Delivery)</b> option manages battery-powered radio devices to extend their autonomy in some cases. This option provides a longer range tag to launch an application that requires a short interval of packet exchange. Select <b>Enabled</b> to activate this option.	<b>Enabled</b>

## 6.5.5 Station Info

**Object:** This menu is used to display all the wireless stations certified, with their status.

- In the **Wireless** menu, select **Station Info**.

The following screen opens:



- Click on the **Refresh** button to refresh the screen.

### Note



Only appear the MAC addresses (BSSIDs) of the computers associated with the router and/or authorized by this one to use your wireless network (see subsection 6.5.3 - MAC Filter).

## 6.6 Multimedia

**Object:** This menu is used to activate or deactivate the options of the multimedia interface of the router.

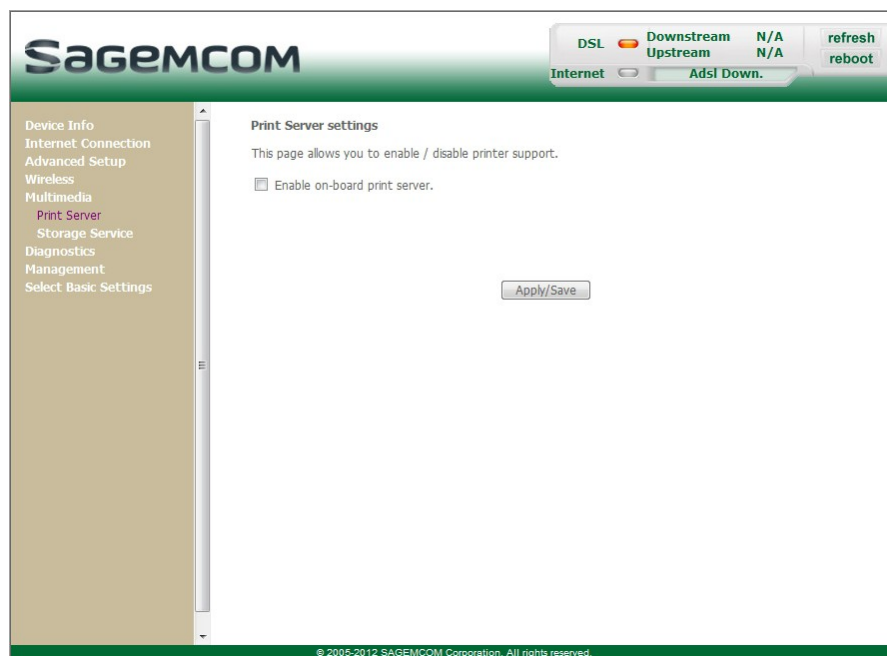
This section contains the following subtitles:

- Print Server (see subsection 6.6.1)
- Storage Service (see subsection 6.6.2)

### 6.6.1 Print Server

**Object:** This menu allows you to enable/disable printer support of the router.

- Select the **Multimedia** menu, then select **Print Server**.

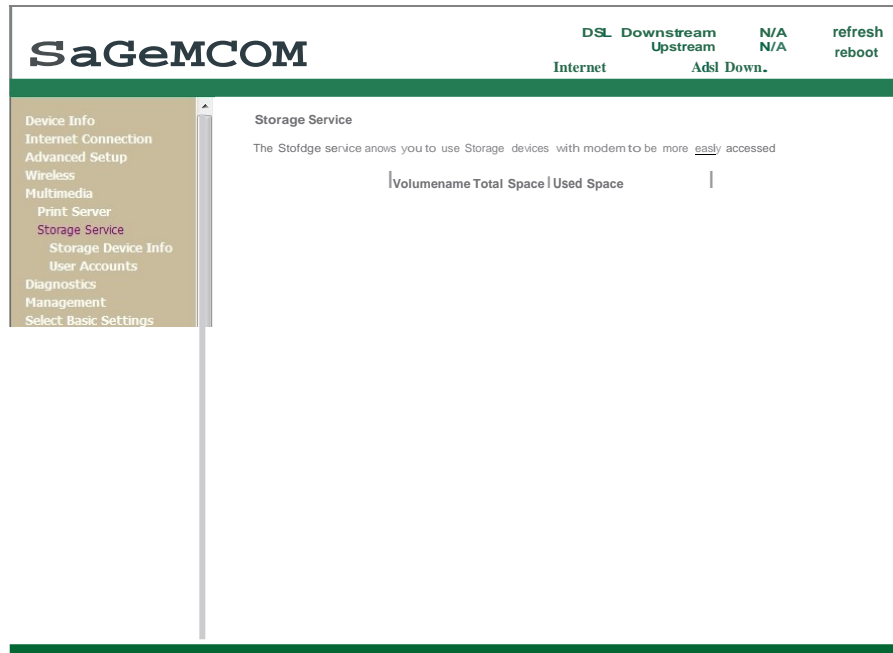


- Check the box to enable the print server of the router.
- Click on the **Apply/Save** button to save the parameters.

## 6.6.2 Storage Service

**Object:** This menu allows you to plug a USB hard drive on the modem and share its content with all clients connected to the network. You can also create user accounts to control access to shared contents.

- Select the **Multimedia** menu, then select **Storage Service**.



## 6.7 Diagnostics

**Object:** This menu is used to display all the tests performed on the connections made from your router to your Internet Service Provider (ISP). These tests concern:

- connection to your local network (LAN),
- connection to your "DSL Service Provider",
- connection to your "Internet Service Provider".

### Note



A hypertext link (help) enables the user to access context-related help. This help gives an explanation concerning the state of the connection (**PASS** in green, **DOWN** in orange and **FAIL** in red) and supplies the appropriate troubleshooting procedures.

The ADSL line translates the three statuses detailed in the table below.

State	Meaning
<b>PASS</b>	Indicates that the test was completed successfully.
<b>DOWN</b>	Indicates that an interface (ETH, Wi-Fi) has not been detected.
<b>FAIL</b>	Indicates that the test has failed, or that it is impossible to start a command.

If a test fails, proceed as follows:

1. Click on the corresponding **Help** link to access detailed information and problem-solving procedures.
2. Click on **Test** to check the problem is solved and resume the connection tests.

To access the Diagnostic tool:

- Select the **Diagnostics** menu.

**SAGEMCOM**

DSL Downstream N/A Upstream N/A refresh  
Internet Adsl Down. reboot

br\_0\_8\_32 Diagnostics

Your modem is capable of testing your DSL connection. The individual tests are listed below. If a test displays a fail status, click "Renun Diagnostic Tests" at the bottom of this page to make sure the fail status is consistent. If the test continues to fail, click "Help" and follow the troubleshooting procedures.

Test the connection to your local network

Test your eth1 Connection:	<b>PASS</b>	<a href="#">Help</a>
Test your eth2 Connection:	<b>FAIL</b>	<a href="#">Help</a>
Test your eth3 Connection:	<b>FAIL</b>	<a href="#">Help</a>
Test your USB Connection:	<b>PASS</b>	<a href="#">Help</a>
Test your Wireless Connection:	<b>PASS</b>	<a href="#">Help</a>

Test the connection to your DSL service provider

Test xDSL Synchronization:	<b>FAIL</b>	<a href="#">Help</a>
Test ATM OAM F5 segment ping:	<b>DISABLED</b>	<a href="#">Help</a>
Test ATM OAM F5 end-to-end ping:	<b>DISABLED</b>	<a href="#">Help</a>

Next Connection  
Test Test With OAM F4

© 2005-2012 SAGEMCOM Corporation. All rights reserved.

## 6.8 Management

**Object:** This menu lets you manage your router.

This section contains the following menus:

- Settings (see subsection 6.8.1)
- System Log (see subsection 6.8.2)
- Security Log (see subsection 6.8.3)
- TR-069 Client (see subsection 6.8.4)
- Access Control (see subsection 6.8.5)
- Access Control (see subsection 6.8.5)
- Update Software (see subsection 6.8.6)
- System Info (see subsection 6.8.7)
- Reboot (see subsection 6.8.8)

### 6.8.1 Settings

This menu contains the following sub menus:

- Backup (see subsection 6.8.1.1)
- Update (see subsection 6.8.1.2)
- Restore Default (see subsection 6.8.1.3)



### 6.8.1.1 Backup

**Object:** This menu is used to backup the current configuration to a file with a .conf extension.

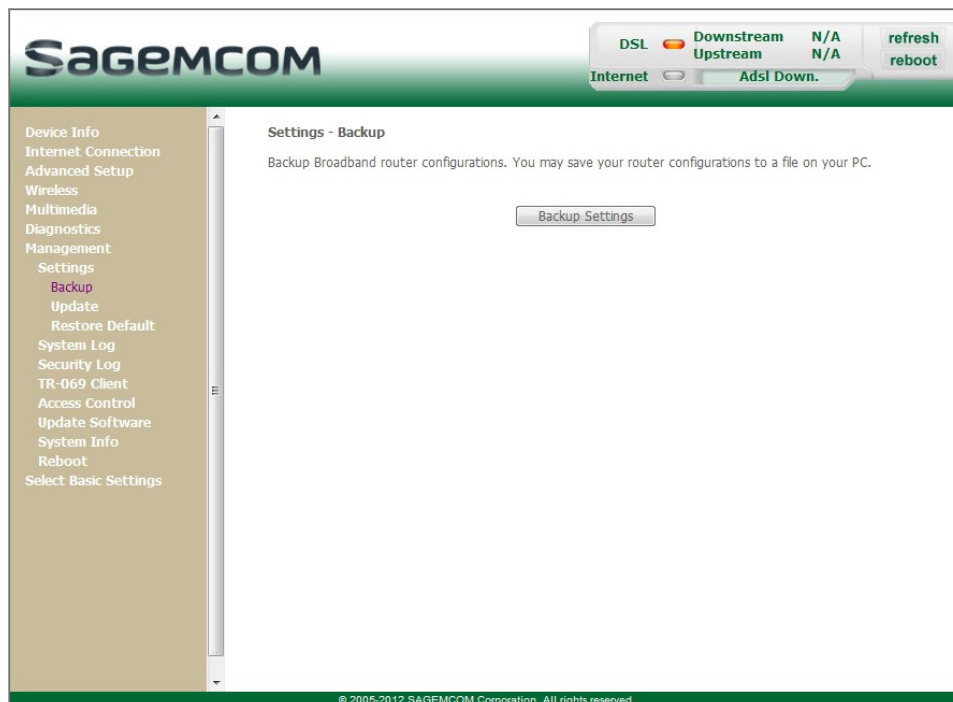
#### Important



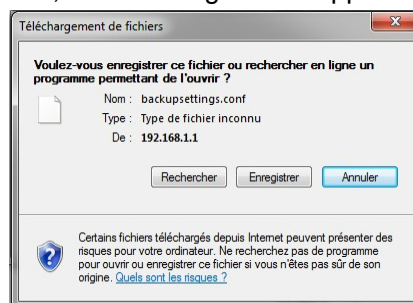
It is recommended to save the current configuration on your computer to a file.

- In the **Management** menu, select **Settings** then **Backup**.

The following screen opens:



- Click on the **Backup Settings** button; the following screen appears:



### Save

- Click on the **Save** button to save the current configuration file, for example, on your computer.

- Select the directory where you want to save the "backupsettings.conf" configuration file.

---

Note

The process takes a few seconds.

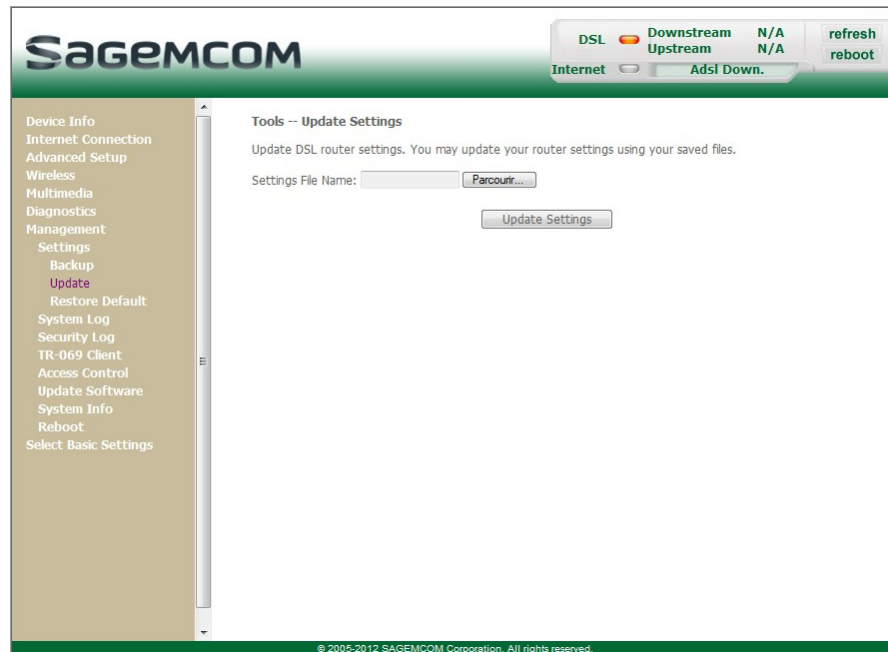
---

### 6.8.1.2 Update

**Object:** This menu enables the router to recover a configuration which has already been saved to a file with a .conf extension.

- In the **Management** menu, select **Settings** then **Update**.

The following screen opens:



Proceed as follows for your router configurator to display a configuration which has already been saved:

- Enter the path then the name of the configuration file.

or

- Click on the **Browse** button and select the path then the configuration file.
- Select the configuration file then click on the **Update Settings** button to recover a configuration which has already been saved.

#### Note



**The process takes around 2 minutes.**

### 6.8.1.3 Restore Default

**Object:** This menu is used to return to factory configuration.

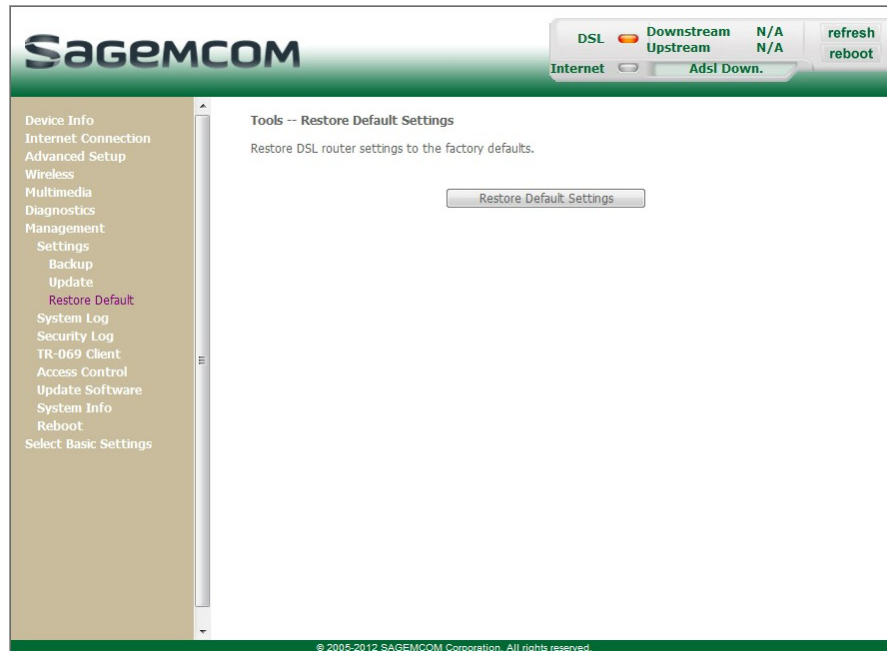
#### Important



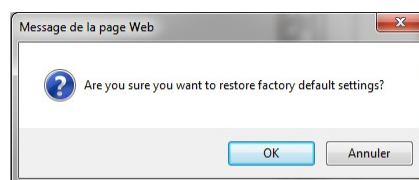
**The existing configuration is completely overwritten.**

- In the **Management** menu, select **Settings** then **Restore Default**.

The following screen opens:



- Click on the **Restore Default Settings** button; the following screen appears:



- Click on the **OK** button if you really want to return to the factory configuration.

#### Note



**All the LEDs go off except for the green "WLAN" - if the wired network is activated; the green POWER LED then all the LEDs and the process for returning to the factory configuration starts. It lasts for around 2 minutes.**

Once the restore performed, the **Internet Connection** menu appears. Refer to paragraph 6.3.

## 6.8.2 System Log

**Object:** This menu is used to view and/or configure the events which occur on your router.

- In the **Management** menu, select **System Log**.

The following screen opens:




### 6.8.2.1 View System Log

- Click on the **View System Log** button to display the events with the severity you configured (see table in section **Configure System Log**).

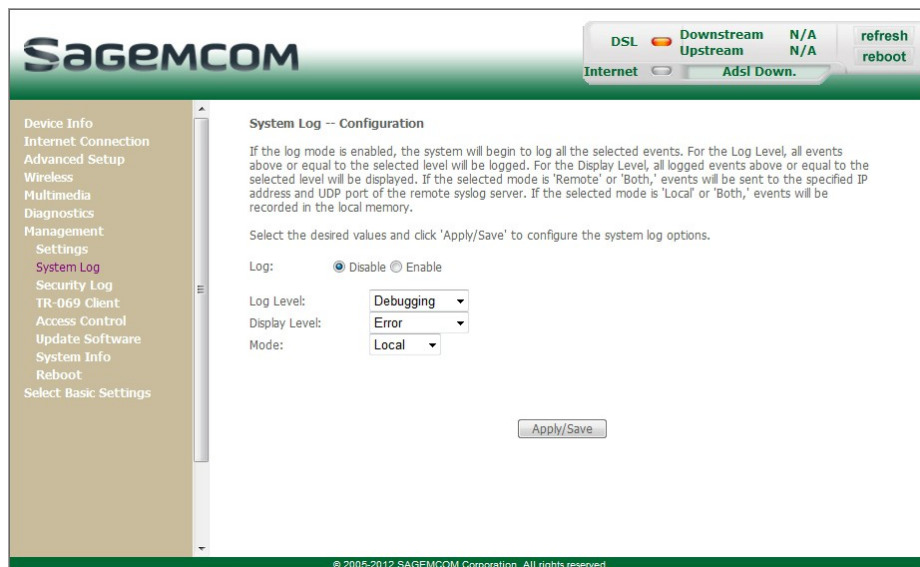
Date/Time	Facility	Severity	Message
Jan 1 00:00:27	daemon	crit	pppd[485]: PPP session established.
Jan 1 00:00:31	daemon	crit	pppd[485]: PPP LCP UP.
Jan 1 00:00:42	daemon	crit	pppd[485]: Received valid IP address from server. Connection UP.
Jan 1 00:00:47	daemon	err	user: tr69c: Unable to retrieve attributes in scratch PAD
Jan 1 00:00:47	daemon	err	user: Stored Parameter Attribute data is corrupt or missing
Jan 1 00:00:48	daemon	err	user: tr69c: Unable to read tr69c acs state data from scratch pad

Refresh Save Close



### 6.8.2.2 Configure System Log

- Click on the **Configure System Log** button to configure the events which occur on your router.



Field	Action	Default value
<b>Log</b>	Select <b>Enable</b> to activate the saving of all the events to a log and display on screen or <b>Disable</b> to deactivate.	<b>Disable</b>
<b>Log Level</b>	Select the appropriate severity from the scroll down list. All the events with this severity, or a higher severity, will be saved to your router's volatile "flash" memory. The severities are classified in decreasing order of importance. <ul style="list-style-type: none"> <li>Emergency</li> <li>Alert</li> <li>Critical</li> <li>Error</li> <li>Warning</li> <li>Notice</li> <li>Informational</li> <li>Debugging</li> </ul>	<b>Debugging</b>
<b>Display Level</b>	Select the appropriate severity from the scroll down list. All the events with this severity, or a higher severity, can be viewed by pressing the <b>View System Log</b> button. The displayed events are classified in decreasing order of importance.	<b>Error</b>

Field	Action	Default value
<b>Mode</b>	Select the destination ID from the scroll down list: <ul style="list-style-type: none"> <li>• <b>Local</b>: All the events are returned to your router via a "Buffer" memory.</li> <li>• <b>Remote</b>: All the events are returned to the "Syslog" server.</li> <li>• <b>Both</b> : Both modes.</li> </ul>	<b>Local</b>
<b>Server IP Address<sup>a</sup></b>	Enter the IP address of the "Syslog" address on which all the events will be saved.	<b>0.0.0.0</b>
<b>Server UDP Port<sup>a</sup></b>	Enter the number of the port associated with the "Syslog" server.	<b>514</b>

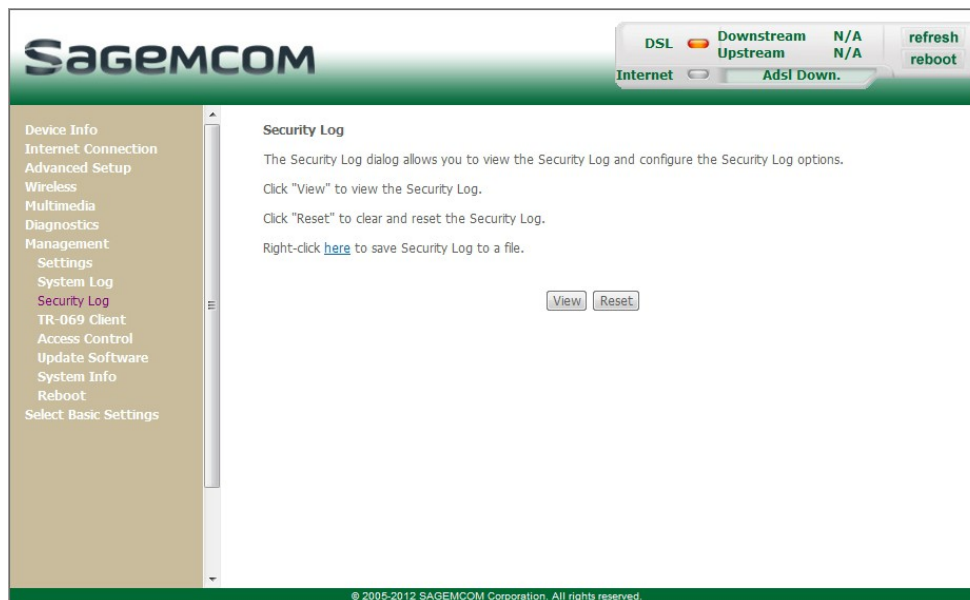
a. These fields only appear when the mode selected is "Remote" or "Both".

## 6.8.3 Security Log

**Object:** This menu allows you to view the Security Log and configure the Security Log options. This log deals with all the events (connections, failure, and so on) relative to the firewall rules.

- In the **Management** menu, select **Security Log**.

The following screen opens:



### 6.8.3.1 Save the security log

Make a right click on the link to save the security log to a text file.

### 6.8.3.2 View the security log

- Click on the View button to view the security log.  
The following screen opens:





## 6.8.4 TR-069 Client

**Object:** The TR-069 protocol (WAN Management Protocol) is used, via a remote server (**Auto-Configuration Server (ACS)**) to auto configure your router, provide it with certain services and manage it by establishing "diagnostics".

- In the **Management** menu, select **TR-069 Client**.

The following screen opens:

Field	Action	Default value
<b>Inform</b>	Check the <b>Enable</b> box to activate the "TR-069" or <b>Disable</b> to deactivate it.	<b>Disable</b>
<b>Inform Interval</b>	Enter a time interval between two pieces of information sent from the router to the ACS server. This interval is a value (in seconds).	<b>300</b>
<b>ACS URL</b>	Enter the URL or the IP address of the ACS server.	-
<b>ACS User Name</b>	Enter the name of the user of the ACS server.	<b>admin</b>
<b>ACS Password</b>	Enter the ACS server password.	<b>admin</b>
<b>WAN Interface used by TR-069 client</b>	Select in the scroll down list the desired WAN interface.	<b>Any_WAN</b>
<b>Display SOAP Messages on serial console</b>	Check the <b>Enable</b> box to activate it or <b>Disable</b> to deactivate it.	<b>Disable</b>
<b>Connection Request Authentication</b>	Check the box to activate authentication or uncheck it to deactivate it.	<b>Checked</b>
<b>Connection Request User Name</b>	Enter the name of the user of your router.	<b>admin</b>
<b>Connection Request Password</b>	Enter your password for your router.	<b>admin</b>
<b>Customize Connection Request URL Port</b>	Enter the port to use for Connection request from the ACS.	<b>7547</b>

- Click on the **Get RPCMethods** button to launch the auto-configuration procedure of your router.

## 6.8.5 Access Control

This menu contains the following sub menus:

- Passwords (see subsection 6.8.5.1)

### 6.8.5.1 Passwords

- In the **Management** menu, select **Access Control** then **Passwords**.

The following screen opens:

The screenshot shows the Sagemcom web interface. At the top, there's a status bar with 'DSL' (orange), 'Downstream Upstream' (green), 'N/A N/A', and 'refresh reboot' buttons. Below that, 'Internet' and 'Adsl Down.' are visible. The left navigation menu includes: Device Info, Internet Connection, Advanced Setup, Wireless, Multimedia, Diagnostics, Management, Settings, System Log, Security Log, TR-069 Client, Access Control (highlighted), Passwords, Update Software, System Info, Reboot, and Select Basic Settings. The main content area is titled 'Access Control -- Passwords' and contains the following text: 'Access to your broadband router is controlled through three user accounts: admin, support, and user. The user name "admin" has unrestricted access to change and view configuration of your Broadband Router. The user name "support" is used to allow an ISP technician to access your Broadband Router for maintenance and to run diagnostics. The user name "user" can access the Broadband Router, view configuration settings and statistics, as well as, update the router's software. Use the fields below to enter up to 16 characters and click "Apply/Save" to change or create passwords. Note: Password cannot contain a space.' Below the text are four input fields: 'Username:' with a dropdown menu showing 'admin', 'Old Password:', 'New Password:', and 'Confirm Password:'. An 'Apply/Save' button is at the bottom right. The footer contains the copyright notice: '© 2005-2012 SAGEMCOM Corporation. All rights reserved.'

Field	Action
<b>User Name</b>	Select a user name from the scroll down list: <ul style="list-style-type: none"> <li>• Admin</li> <li>• Support</li> <li>• User</li> </ul> <p><b>Note:</b> This list is established in increasing order of restriction.</p>
<b>Old Password</b>	Enter your old password
<b>New Password</b>	Enter your new password
<b>Confirm Password</b>	Confirm your new password

#### Note



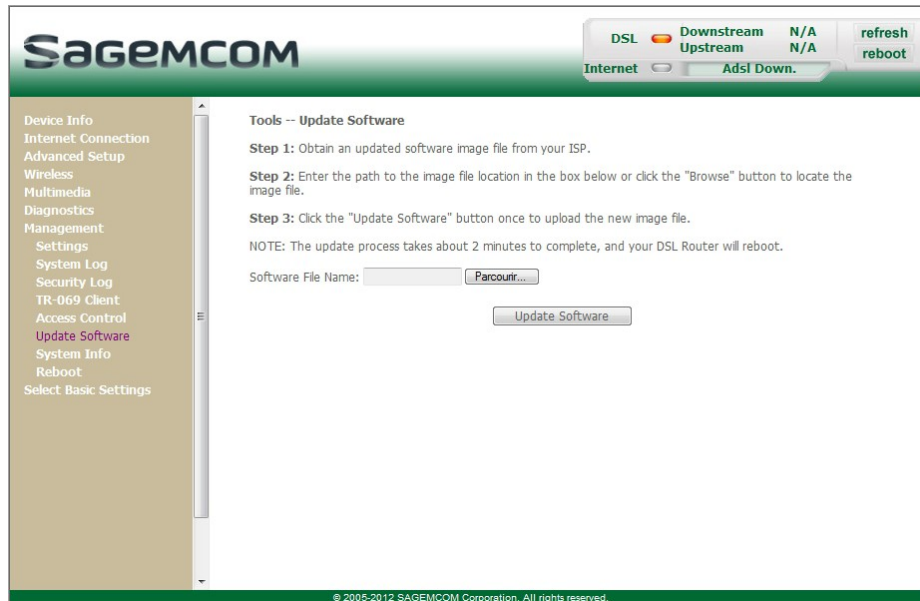
**The password is a string of a maximum of 16 alphanumeric characters.**

## 6.8.6 Update Software

**Object:** This menu lets you update the latest version of the router software.

- In the **Management** menu, select **Update Software**.

The following screen opens:



Proceed as follows to update your router's software version:

- Enter the path then the name of the software version file,

or

- Click on the **Browse** button and select the path then the software version file.
- Click on the **Update Software** button to update the software version.

### Note

**The process takes around 2 minutes.**



**The application of a new software version for the router does not modify the current configuration at all.**

### Important



Throughout the download procedure (up to five minutes), you must:

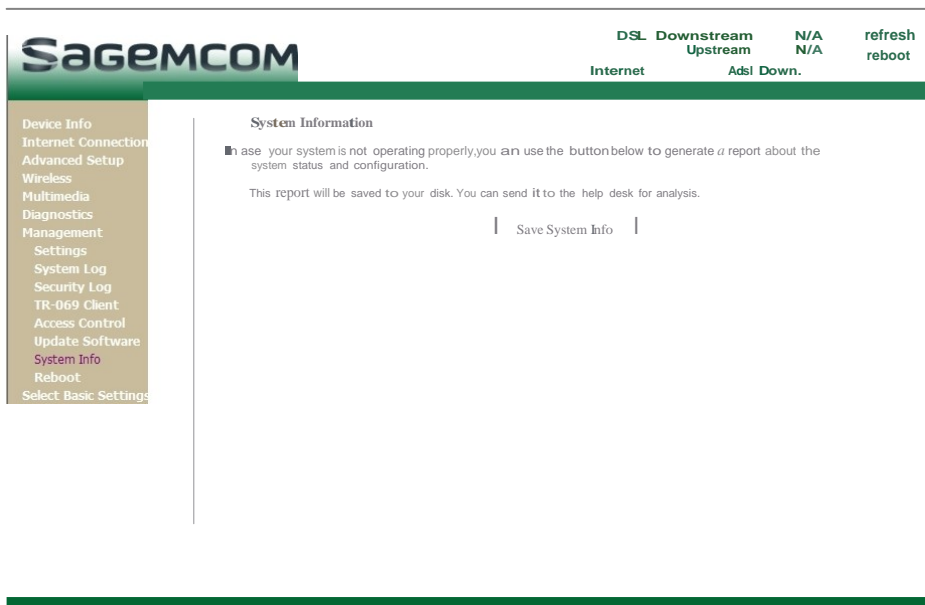
- not power down the router
- not disconnect from the ADSL line.

## 6.8.7 System Info

**Object:** This menu lets you generate a report about the system status and configuration. This report will be saved to the disk.

- In the **Management** menu, select **System Info**.

The following screen opens:

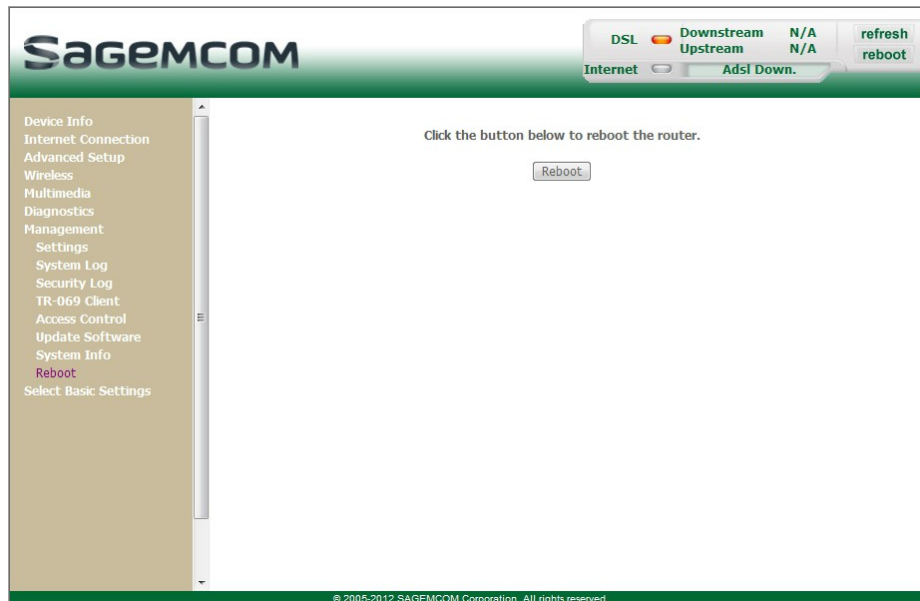


## 6.8.8 Reboot

**Object:** This menu lets you save all the modifications made to the current configuration and restart the router with its new parameters.

- In the **Management** menu, select **Reboot**.

The following screen opens:



Click on the **Reboot** button to restart the router.

### Note



**The process takes around 1 minute.**

**A countdown is displayed to tell the user how long is left to wait.**



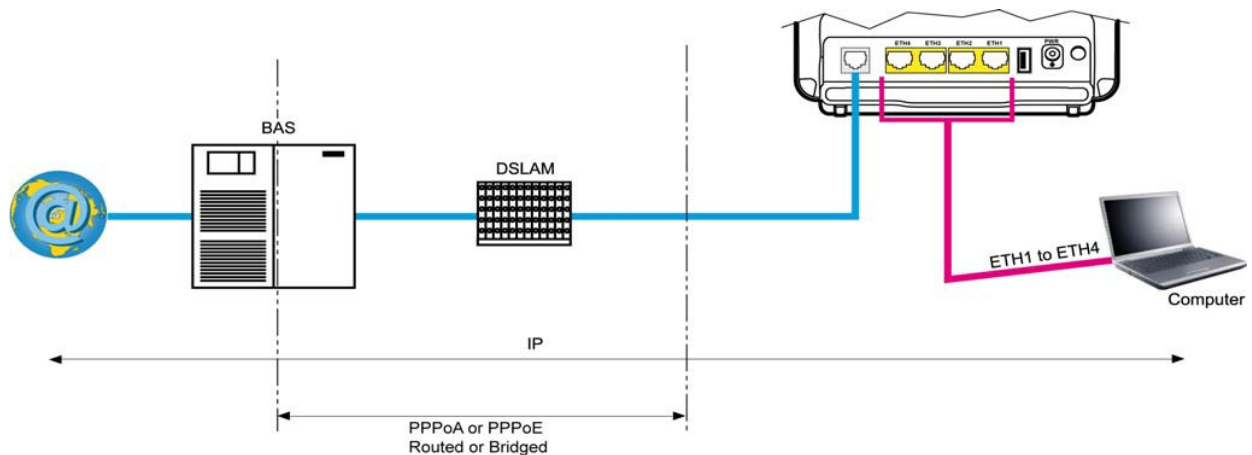
## 7. Internet access service

This section covers	<ul style="list-style-type: none"><li data-bbox="565 974 1097 1003">• Description of the Internet access service</li></ul>	p. 7-2
---------------------	--	--------

The router has been designed to enable you to access the Internet as simply as possible.

Most of the router's parameters are already set:

- It is configured by default as a DHCP server.
- It relays DNS queries from the local network to the Internet.



Using your installation CD-ROM you can quickly obtain Internet access.

Depending on your contract with your **Internet Service Provider (ISP)**, you can also have access to television on ADSL (see section 9).

The configuration parameters of your router are entered during installation (connection identifier, connection password). These parameters can also be entered or modified in the **Internet connection** menu of the HTTP configuration tool (PPP Username, PPP Password).

## Observations

If the terminals are not DHCP clients, your local network then uses a static addressing plan.

Check that:

- the router belongs to this addressing plan,
- the default gateway of the equipment in the local network matches the address of your router,
- the DNS addresses are correctly configured in each terminal. The router enables DNS queries to be relayed.



## 8. TV over ADSL service

This section covers	• the introduction	§ 8.1
	• access to the optional TV over ADSL service	§ 8.2

## 8.1 Introduction

Your router is compatible with TV over ADSL technology.

## 8.2 Access to the optional TV over ADSL service

To access this service, you must have:

- made the connection in accordance with section 2.3.4,
- necessarily taken a subscription with your **I**nternet **S**ervice **P**rovider (ISP)
- configured one VC (**V**irtual **C**hannel) dedicated to video, and another VC dedicated to data (see screen below)

**SAGEMCOM** DSL Downstream N/A Upstream N/A refresh reboot  
Internet Adsl Down.

Wide Area Network (WAN) Service Setup  
Choose Add, Remove or Edit to configure a WAN service over a selected interface.

Interface	Description	Type	Vlan8021p	VlanMuxId	Igmp	NAT	Firewall	IPv6	Mld	Remove	Edit
ppp1	pppoe_0_8_32	PPPoE	N/A	N/A	Disabled	Enabled	Enabled	Disabled	Disabled	<input type="checkbox"/>	<input type="button" value="Edit"/>

© 2005-2012 SAGEMCOM Corporation. All rights reserved.

### Note



In the example above, the ATM interface "ppp\_8\_35\_1" is dedicated to data and the ATM interface "nas\_8\_50\_1" is dedicated to video.

- configured accordingly "Port Mapping" in **Advanced Setup** (see section 6).F@ST 2704R

## 9. Updating the firmware

This section covers	<ul style="list-style-type: none"><li>• setting up the download</li></ul>	p. 9-2
---------------------	---	--------

You can update the firmware using one of the following methods:

- via HTTP
- via TR69 protocol
- automatically: the new firmware version download is performed automatically on starting up the router.

### Important



Throughout the download procedure (up to five minutes), **you must:**

- not power down the router,
- not disconnect from the ADSL line.

The download process is transparent on the router side: there is no LED blinking informing you of the download process. **So please make sure to wait for the router to reboot completely.** The HTTP tool configuration however shows the download status in the Supervision box.

### Note



To check that the new version has been correctly downloaded, select in the HTTP configuration tool the **Device info** menu; the **Software version** field displays the last software version installed.

## HTTP update

You can download the new firmware to update your router using the **Management** menu in the HTTP configuration tool (see section 6).

## TR69 protocol

Operators can use "TR69" protocol to upgrade the router's firmware from their ACS server.

## 10. Annex 10 - Warnings for safety

This section covers	• Warnings for safety	§ 10.1
	• EC compliance declaration	§ 10.2

## 10.1 Warnings for safety

The router is in compliance with standard EN 60950 Ed December 2001.

The safety levels in the sense of this standard are as follows:

### 10.1.1 Safety levels in relation to the case

Connecteurs	Position	Safety level
<b>Adaptator</b>	Primary Power Supply port	HPV <sup>a</sup>
<b>PWR</b>	DC Power Supply port	SELV <sup>b</sup>
<b>LINE</b>	ADSL port	TNV3 <sup>c</sup>
<b>LAN1 to LAN4</b>	Ethernet port	SELV <sup>b</sup> .

- a. Hazardous Primary Voltage circuit
- b. Safety Extra Low Voltage Circuit
- c. Level 3 Telecommunication Network Voltage

## 10.2 EC compliance declaration

### CE marking

The CE marking certifies that the product complies with the essential requirements of the Directive 1999/5/EC concerning radio equipment and telecommunication equipment, and of Directives 2006/95/EC concerning safety and 2004/108/EC concerning electromagnetic compatibility, defined by the European Parliament and Council to reduce electromagnetic interferences and protect the health and safety of users.

The product named F@ST 2704R can be operated in the European Union without restrictions indoor but cannot be operated in France in the whole of the band until further notice.

The CE declaration of conformity can be viewed in the support section of the Sagemcom site [www.sagemcom.com](http://www.sagemcom.com), or it can be obtained from the following address:

**Sagemcom** - Customer relations department  
250, Route de l'Empereur  
92848 RUEIL MALMAISON CEDEX - FRANCE

## 11. Annex 11 - Environment

This section covers	<ul style="list-style-type: none"><li>• directive E 2002/96/CE</li></ul>	§ 11.1
---------------------	--	--------

## 11.1 Directive E 2002/96/CE

**ENVIRONMENT.** Preservation of the environment as part of a sustainable development logic is an essential concern of Sagemcom.

Sagemcom aim is to operate systems safeguarding the environment and consequently it has decided to integrate environmental performance considerations in the life cycle of its products, from manufacturing to commissioning, use and disposal.

### PACKAGING



The presence of the logo (green dot) means that a contribution is paid to an approved national organization to improve packaging recovery and recycling infrastructures.

To facilitate recycling, please respect the sorting rules set up locally for this kind of waste.

### BATTERIES

If your product contains batteries, they must be disposed of at appropriate collection points.

### THE PRODUCT



The crossed-out waste bin marked on the product or its accessories means that the product belongs to the family of electrical and electronic equipment.

In this respect, the European regulations require you to dispose of it selectively:

- At sales points on purchasing similar equipment,
- At the collection points made available to you locally (drop-off center, selective collection, etc.).

In this way, you can participate in the re-use and upgrading of Electrical Electronic Equipment Waste, which can have an effect on the environment and health.









## 12. Annex 12 - Technical Characteristics

This section covers	• mechanics and display	§ 12.1
	• the characteristics of the different interfaces	§ 12.2
	• environmental characteristics	§ 12.3
	• the application and the protocols	§ 12.4

## 12.1 Mechanics; Display

<b>Mechanical characteristics</b>	
<b>Dimensions (mm)</b>	
Width:	142 mm
Depth:	120 mm
Thickness:	32 mm
<b>Weight of router</b>	240 g

<b>Display</b>		
<b>Marking</b>	<b>Abbreviation</b>	<b>Meaning</b>
	<b>PWR</b>	<ul style="list-style-type: none"> <li>Green Power LED</li> </ul>
	<b>ADSL</b>	<ul style="list-style-type: none"> <li>Green ADSL LED</li> </ul>
	<b>Wi-Fi</b>	<ul style="list-style-type: none"> <li>Green WLAN LED</li> </ul>
	<b>Internet</b>	<ul style="list-style-type: none"> <li>Green/Red Internet LED</li> </ul>
	<b>USB</b>	<ul style="list-style-type: none"> <li>Green USB LED</li> </ul>
	<b>LAN</b>	<ul style="list-style-type: none"> <li>Green LAN LED</li> </ul>

## 12.2 Characteristics of the different interfaces

<b>ADSL / ADSL2 / ADSL2+ Interface</b>	
<b>Standards supported</b>	<ul style="list-style-type: none"> <li>• G.992.1 (ADSL), G.992.3 (ADSL2), G.992.5 (ADSL2+)</li> <li>• G.994.1 (G.Handshake)</li> </ul>
<b>Transmission Code</b>	<ul style="list-style-type: none"> <li>• DMT</li> </ul>
<b>Maximum upward transmission rate</b>	<ul style="list-style-type: none"> <li>• 24,5 Mbit/s</li> </ul>
<b>Maximum downward transmission rate</b>	<ul style="list-style-type: none"> <li>• 1,3 Mbit/s</li> </ul>
<b>Latence</b>	<ul style="list-style-type: none"> <li>• Simple (Fast or interleaved)</li> </ul>
<b>TX Power</b>	<ul style="list-style-type: none"> <li>• 12,5 dB</li> </ul>
<b>Access Impedance</b>	<ul style="list-style-type: none"> <li>• 100 Ohms</li> </ul>
<b>Range</b>	<ul style="list-style-type: none"> <li>• According to standard G.992.1 table Annex C.</li> </ul>
<b>Connection technology</b>	<ul style="list-style-type: none"> <li>• RJ11</li> </ul>

<b>Interface LAN Ethernet</b>	
<b>Rate</b>	<ul style="list-style-type: none"> <li>• 10 Mbit/s or 100 Mbit/s, self-configurable</li> </ul>
	<ul style="list-style-type: none"> <li>• Half / Full Duplex</li> </ul>
<b>Standard</b>	<ul style="list-style-type: none"> <li>• IEEE 802.3</li> </ul>
<b>Connection technology</b>	<ul style="list-style-type: none"> <li>• RJ45</li> </ul>
	<ul style="list-style-type: none"> <li>• Type MDI or MDI-x self-detecting port</li> </ul>
	<ul style="list-style-type: none"> <li>• Crossed or straight cord</li> </ul>

<b>Wireless Interface</b>	
<b>Standard</b>	<ul style="list-style-type: none"> <li>• IEEE 802.1b/g1n</li> </ul>
<b>Frequencies band</b>	<ul style="list-style-type: none"> <li>• 2412 MHz to 2472 MHz (ISM band)</li> </ul>
<b>Transmission rate</b>	<ul style="list-style-type: none"> <li>• Up to 300 Mbit/s</li> </ul>
<b>Safety</b>	<ul style="list-style-type: none"> <li>• WEP 64 / 128 bits, WPA, WPA2</li> <li>• Filtering by list of MAC addresses</li> </ul>
<b>Range</b>	<ul style="list-style-type: none"> <li>• Up to 300 m in free space</li> <li>• 10 to 100 m inside buildings</li> </ul>

<b>Mains Power Supply</b>	
<b>Type</b>	<ul style="list-style-type: none"> <li>• Plug-in external adapter unit</li> </ul>
<b>Class</b>	<ul style="list-style-type: none"> <li>• II</li> </ul>
<b>Input voltage</b>	<ul style="list-style-type: none"> <li>• 100 to 240 V, 50 Hz / 60 Hz</li> </ul>
<b>Power absorbed</b>	<ul style="list-style-type: none"> <li>• &lt; 9 W</li> </ul>
<b>Output voltage</b>	<ul style="list-style-type: none"> <li>• 12 V</li> </ul>
<b>Mains Connection technology</b>	<ul style="list-style-type: none"> <li>• Europlug type A socket</li> </ul>
<b>Use Connection technology</b>	<ul style="list-style-type: none"> <li>• Cord 2 m + jack diam. 3.5 mm</li> </ul>

<b>DC Power Supply Input of router</b>	
<b>Input Voltage</b>	<ul style="list-style-type: none"> <li>• 11 V - 13 V</li> </ul>
<b>Power absorbed</b>	<ul style="list-style-type: none"> <li>• &lt; 7 W</li> </ul>
<b>Connection technology</b>	<ul style="list-style-type: none"> <li>• Miniature jack fixed connector diam. 3.5 mm</li> </ul>

## 12.3 Environmental characteristics

<b>Climatic and mechanical environment</b>	
<b>Storage</b>	<ul style="list-style-type: none"> <li>ETS 300 019-1-1 Category T1.2</li> </ul>
<b>Transport</b>	<ul style="list-style-type: none"> <li>ETS 300 019-1-2 Category T2.3</li> </ul>
<b>Operation</b>	<ul style="list-style-type: none"> <li>ETS 300 019-1-3 Category T3.2</li> </ul> Temperature : -5°C / +45°C

<b>Electrical robustness</b>	
<b>Standard</b>	<ul style="list-style-type: none"> <li>UIT-T K21 Ed 2000 : basic level</li> </ul>

<b>Electromagnetic compatibility</b>	
<b>Transmission</b>	<ul style="list-style-type: none"> <li>EN 55022 (January 1999) Class B</li> </ul>
<b>Harmonic currents</b>	<ul style="list-style-type: none"> <li>EN 61000-3-2</li> </ul>
<b>Flicker and fluctuations of voltage</b>	<ul style="list-style-type: none"> <li>EN 61000-3-3</li> </ul>
<b>Immunity</b>	<ul style="list-style-type: none"> <li>EN 55024</li> </ul>

<b>Radio part for ISM band at 2.4 GHz</b>	
<b>Transmission 802.11n</b>	<ul style="list-style-type: none"> <li>ETR 300 328-2 Ed. Juillet 2000</li> </ul>

## 12.4 Application and protocols

IP characteristics	
TCP-IP, UDP, ICMP, ARP	<ul style="list-style-type: none"> <li>• Server, Relay</li> </ul>
DHCP	<ul style="list-style-type: none"> <li>• Relay</li> </ul>
DNS	
Routing (LAN et WAN)	<ul style="list-style-type: none"> <li>• Static</li> </ul>
NAT / PAT	<ul style="list-style-type: none"> <li>• RFC 1631</li> </ul>
Firewall	<ul style="list-style-type: none"> <li>• By protocol</li> </ul>
	<ul style="list-style-type: none"> <li>• By IP address</li> </ul>
	<ul style="list-style-type: none"> <li>• By port</li> </ul>
	<ul style="list-style-type: none"> <li>• Statefull / Stateless</li> </ul>
IP QoS	<ul style="list-style-type: none"> <li>• DiffServ</li> </ul>

ATM characteristics	
Signalling	<ul style="list-style-type: none"> <li>• PVC</li> </ul>
Adaptation layer	<ul style="list-style-type: none"> <li>• AAL5</li> </ul>
Number of VCI	<ul style="list-style-type: none"> <li>• 8</li> </ul>
Quality of service	<ul style="list-style-type: none"> <li>• UBR, VBR, nrtVBR, VBRrt, CBR</li> </ul>
Signalling	<ul style="list-style-type: none"> <li>• RFC 2516</li> </ul>
self-configuration	<ul style="list-style-type: none"> <li>• Detection of VPI/VCI</li> </ul>
	<ul style="list-style-type: none"> <li>• Detection of encapsulation</li> </ul>
	<ul style="list-style-type: none"> <li>• Detection of PPPoE / PPPoA</li> </ul>
	<ul style="list-style-type: none"> <li>• Detection of PAP / CHAP</li> </ul>

Encapsulation protocols	
PPP over ATM	<ul style="list-style-type: none"> <li>• RFC 2364</li> </ul>
PPP over ETH over ATM	<ul style="list-style-type: none"> <li>• RFC 2516, RFC 1483/2684</li> </ul>
IP over ATM	<ul style="list-style-type: none"> <li>• RFC 1483/2684</li> </ul>
ETH over ATM	<ul style="list-style-type: none"> <li>• RFC 1483/2684</li> </ul>

<b>Configuration</b>	
<b>HTTP</b>	<ul style="list-style-type: none"><li>• LAN or WAN port (with specific option)</li></ul>
<b>Management</b>	<ul style="list-style-type: none"><li>• From ETH and WAN (with specific option)</li></ul>
<b>Downloading of version</b>	<ul style="list-style-type: none"><li>• Client by http mode</li></ul>
<b>CLI</b>	<ul style="list-style-type: none"><li>• Telnet</li></ul>
<b>TR69</b>	<ul style="list-style-type: none"><li>• Via a ACS server</li></ul>





## 13. Annex 13 - Default configuration

This section covers	• the default username and password	§ 13.1
	• the default configuration for the local network (LAN)	§ 13.2
	• the default configuration for the local wireless network (WLAN)	§ 13.3

This section details the values of the default parameters of your F@ST 2704R when it leaves the factory.

These default parameters can be modified by a particular preconfiguration of your F@ST 2704R.

## 13.1 Default username and password

<b>Username:</b>	admin
<b>Password:</b>	etdm (*) (*) see information given on the router sticker

### Note



The **Username** and **Password** can be different according to the ISP (Internet Service Provider).

## 13.2 Default configuration for the local network(LAN)

The following table details the values of the principal LAN parameters of your router (**LAN1** to **LAN4**):

LAN characteristics	Value	State
<b>LAN1</b> IP address	192.168.1.1/24	Internet and HTTP configuration tool access (bridged)
<b>LAN2</b> IP address		
<b>LAN3</b> IP address		
<b>LAN4</b> IP address		
BROADCAST, ARP, MULTICAST	–	Activated
Router	–	The LAN traffic is routed to your ISP
NAT/PAT	–	Activated

## 13.3 Default configuration for the local wireless network (WLAN)

The following table supplies the principal default WLAN parameters of your router.

Characteristics (Wi-Fi)	Value
<b>IP address</b>	192.168.1.1/24
<b>Enable Wireless</b>	Box checked
<b>SSID</b>	SAGEM_3325 (*) (*) see information given on the router sticker
<b>Channel</b>	Auto
<b>Network Authentication</b>	No

## A. Annex A - Troubleshooting

This section covers	• checking the assignment of an IP address	§ A.1
	• Front panel LEDs	§ A.2
	• Supervision of your router	§ A.3
	• the "Diagnostics" tool	§ A.4
	• interpreting the lights	§ A.5
	• reinitialising your router	§ A.6
	• resetting factory configuration	§ A.7
	• Offline connection mode	§ A.8

## A.1 Checking the assignment of an IP address

### In Windows Vista, XP, 2000 and ME

1. Click on **Start > Run**, enter **cmd** and then click **OK**.  
The command prompt screen appears.
2. Enter **ipconfig** then press **Enter**.
3. Check that the entry IP Address contains a value other than **0.0.0.0** (for example **192.168.1.10**).

#### Note



If no IP address is displayed, enter **ipconfig /release** then enter **ipconfig /renew**.

#### Note



All the troubleshooting procedures described below are undertaken in **Windows® XP**. These procedures in other Windows operating systems® (98, ME and 2000) can be slightly different.

Many sources of information are available to help you identify and resolve issues you may experience:


- the LEDs on the front panel of the router.
- the HTTP configuration tool.

For step-by-step and advanced problem-solving procedures, use the **Diagnostic tool** available in the HTTP configuration tool.







## A.2 Front panel LEDs

### Note



When the router is switched on, the  LED is green.

If no connection is made, the  LED is off.

LED	Status	Meaning
 <b>Power</b>	Off	Power Off
	Green	Power On
	Red	Router in rescue mode
 <b>ADSL</b>	Green steady	ADSL Up
	Green blinking	<ul style="list-style-type: none"> <li>ADSL Synchronisation in progress</li> <li>or</li> <li>down</li> </ul>
 <b>Internet</b>	Off	<ul style="list-style-type: none"> <li>Power Off</li> <li>or</li> <li>The Internet account must be configured</li> <li>or</li> <li>Bridge mode</li> </ul>
	Green steady	The Internet account is configured
	Green blinking	Tx/Rx traffic
	Red	Invalid or unauthorised Internet account
 <b>LAN x</b> <b>(1 to 4)</b>	Off	No link detected on the Ethernet port
	Green steady	Ethernet port has detected a link with 100 Mbps device
	Green blinking	Tx/Rx traffic at 100 Mbps
 <b>WLAN</b>	Off	Wi-Fi deactivated
	Green steady	Wi-Fi activated
	Green blinking	Wi-Fi Tx/Rx
 <b>USB</b>	Off	No USB connection
	Green steady	USB connection available
	Green blinking	USB connection reading in progress

## A.3 Supervising your router

You can monitor the router's activity and status using the router's built-in "DSL Router" HTTP controller, available in the HTTP configuration tool.

The router's activity status is always visible at the left corner or the top right of the HTTP configuration tool.



**Basic configuration interface**



**Advanced configuration interface**

You can perform the following actions:

- click on **Refresh** to update the data displayed
- click on **Reboot** to restart your router

### DSL information

The following table presents the possible states of the **ADSL** field:

Status	Meaning
<b>Green</b>	ADSL line synchronised
<b>Yellow</b>	ADSL line synchronising
<b>Red</b>	ADSL line not connected

The **Downstream** field displays the nominal downlink bit rate.

The **Upstream** field displays the nominal uplink bit rate.

### Internet information

The following table presents the possible states of the **Internet** field:

Status	Status	Meaning
<b>Off</b>	<b>ADSL Down</b>	ADSL line not connected or not activated
	<b>Not configured</b>	The Internet account must be configured
	<b>Router rebooting</b>	Router is rebooting
<b>Green</b>	<b>Connected</b>	The Internet connection has succeeded
<b>Yellow</b>	<b>Waiting for ISP</b>	Connecting to the Internet service
<b>Red</b>	<b>Access denied</b>	Incorrect Internet account

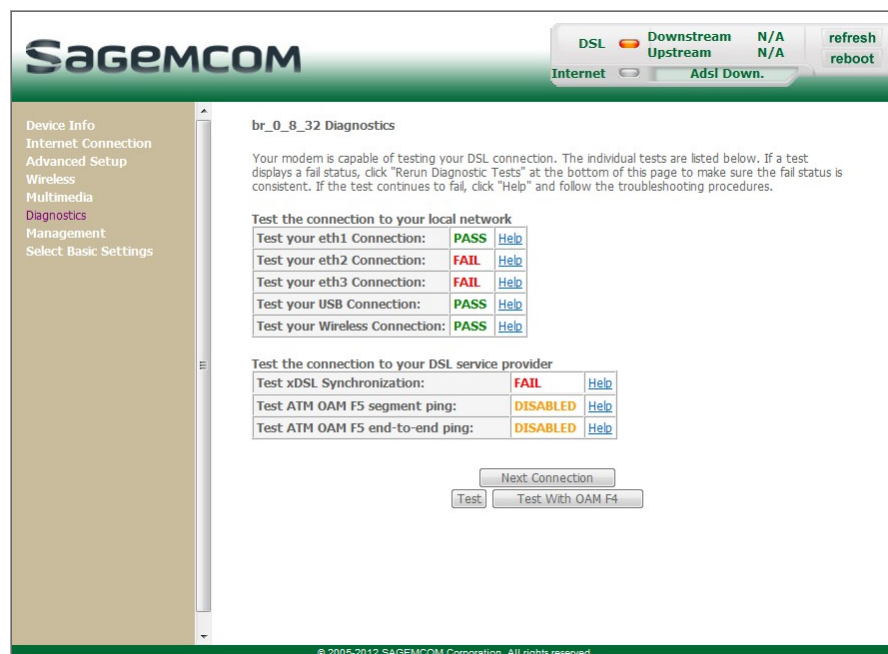
## A.4 Diagnostics tool

To access the Diagnostic tool:

1. Open your browser.
2. Enter the router's IP address or enter the following URL: `http://myrouter`.
3. In the login screen that appears, enter your username and password.

Default values are:

- User name: **admin**
  - Password: **etdm**  
(see the router sticker)
4. The welcome page of the HTTP configuration tool appears.
  5. Select the **Diagnostics** menu.



6. Click on **Test**. The connections to the LAN, to your DSL Service Provider and to your Internet Service Provider are tested step-by-step:
  - successful tests are marked as a pass.
  - unsuccessful tests are marked as a fail.

### Note



Status **DOWN** means that an interface was not detected (LAN or Wi-Fi).

### Note



#### FAIL test

Depending on the nature of the test, it is possible that operation of the router or access to the Internet may not be prejudiced. For example if you do a "Ping" either to an ATM OAM F5 segment or to a DNS primary address.

7. If a test fails, click on the corresponding **Help** link to access detailed information and problem-solving procedures.
8. Click on **Test** to check the problem is solved and resume the connection tests.

If none of the above helps you solve the problem, and you are still having trouble connecting to the Internet, we recommend that you restart your router (cf. § A.6) and eventually reset the factory configuration (cf. § A.7). You will then need to re-configure your router as a first-time setup.

## A.5 Interpreting the LEDs

### A.5.1 The "ADSL" LED blinks slowly

1. Check the connection of your ADSL filters. Each telephone socket of your installation which is used must be equipped with an ADSL filter.
2. Check that the RJ11 type line cord delivered with your router is connected to one of your sockets. It is recommended that no telephone extension is used.
3. Finally, check with your ISP that the ADSL service is available on your telephone line.

### A.5.2 "Wi-Fi" LED off

If this LED is off, this indicates that the WLAN interface of the router is not active.

To activate the wireless network, access the HTTP configuration tool and check the box "Enable Wireless" in the **Wireless** menu (see section 5).

### A.5.3 All LEDs are off

1. Check that the type of power available in your premises is compatible with the mains voltage required for powering your router.
2. Check that the delivered power cord is properly connected at one end to the mains power network.
3. Check that the power connector is inserted correctly in the corresponding connector (power) of the router.








## A.6 Restarting your router

**We recommend that you restart your router if you notice that the router does not operate properly.**

To restart your router, use one of the following methods:

- Press the **Power** button located on the rear panel of the router. Press it again to switch it back on.
- Click on the **Reboot** action of the HTTP configuration tool.

During restarting, the status of the LEDs is the following:

The  LED will light up first, followed by the four Ethernet LEDs (1 to 4), then these last four LEDs will be off. The  and Ethernet (which corresponds to the connected interface) LEDs should be steady and the  LED blinks during the establishment of the ADSL link, then steadies like the  LED. The  goes from blinking to steady when a PPP session has been created successfully.

### Note



The powering up process lasts around one minute.

## A.7 Resetting factory configuration

If you lose your password or if, after having entered new parameters in your router, you cannot access the Internet nor the HTTP configuration tool, you can restore the normal operation with the "factory" parameters via the **Restore Default** procedure.

When the procedure is finished you will have to enter again your connection ID and connection password delivered by your Internet Service Provider (see **Internet Connection** - section 5.5.2.1)

To reset the default settings and therefore restore the router to its factory configuration, use one of the following methods:

### Important



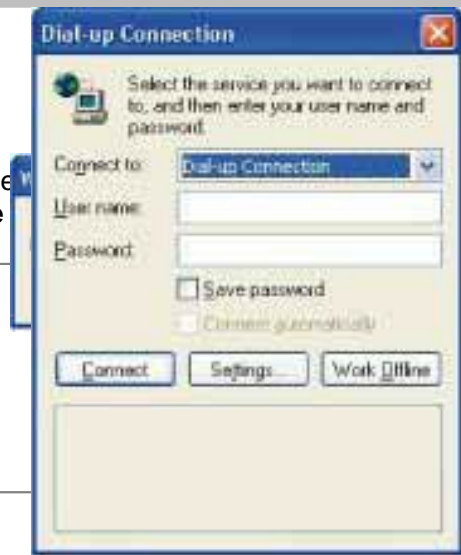
This operation deletes the entire personalised configuration of your router: Password, Configuration, customized wireless settings, etc.

After a factory configuration reset, it is **necessary to install your router again** using the installation CD-ROM, or to enter again the ADSL connection data supplied by your **Internet Service Provider (ISP)** (see Internet Connection section 5.5.2.1).

- Press and hold for about 10 seconds the **Reset** button located on the rear panel of the router.
- In the HTTP configuration tool, select **Management > Settings > Restore default**.

## A.8 Offline mode

To start configuring the router in HTTP mode, the browser's address bar interface appears in the browser's Address field **but the**



router's LAN

The screen opposite appears.  
Click **Connect**.

The screen opposite appears.  
Click **Settings**.

The screen opposite appears.  
Select the **Connections** tab and then the **Never dial a connection<sup>a</sup>**.  
Click **OK** to confirm your choice.



a. When the router is installed, this box is checked.

In the menu bar, select the **File** menu then deselect the **Work Offline** command.

Click **OK** in the browser's **Address** field to display the home screen.

## **B. Annex B - Glossary**

**Glossary.**

<b>ACL</b>	<b>Access Configuration List</b>
<b>ACS</b>	<b>Auto Configuration Server</b>
<b>ADSL</b>	<b>Asynchronous Digital Subscriber Line</b>
<b>AP</b>	<b>Access Point</b>
<b>ARP</b>	<b>Address Resolution Protocol</b>
<b>CC</b>	<b>Continuity Check</b>
<b>CCK</b>	<b>Complimentary Code Keying</b>
<b>CHAP</b>	<b>Challenge Handshake Authentication Protocol</b>
<b>CLI</b>	<b>Command Line Interface</b>
<b>CPE</b>	<b>Customer Premises Equipment</b>
<b>CTS</b>	<b>Clear To Send</b>
<b>DBPSK</b>	<b>Demodulator Baseband Phase Shift Keying</b>
<b>DHCP</b>	<b>Dynamic Host Configuration Protocol</b>
<b>DNS</b>	<b>Domain Name Server</b>
<b>DQPSK</b>	<b>Differential Quadrature Phase Shift Keying</b>
<b>DSSS</b>	<b>Direct Sequence Spread Spectrum</b>
<b>DTIM</b>	<b>Delivery Traffic Indication Message</b>
<b>ESSID</b>	<b>Extended Service Set Identifier</b>
<b>FHSS</b>	<b>Frequency Hopping Spread Spectrum</b>
<b>FTP</b>	<b>File Transfer Protocol</b>
<b>HTML</b>	<b>Hyper Text Markup Language</b>
<b>HTTP</b>	<b>Hyper Text Transfer Protocol</b>
<b>IAD</b>	<b>Integrated Access Device</b>
<b>ICMP</b>	<b>Internet Control Message Protocol</b>
<b>IEEE</b>	<b>Institute of Electrical and Electronics Engineers</b>
<b>IEEE 802.11b/g</b>	Specifications which use the MAC protocol suitable for the wireless local network (WLAN) in the 2.4 GHz band
<b>IEEE 802.11n</b>	IEEE 802.11n-2009 is an amendment to the IEEE 802.11-2007 wireless networking standard. It governs wireless networking transmission methods, commonly used today in its 802.11a, 802.11b, 802.11g and 802.11n versions.
<b>IGMP</b>	<b>Internet Group Membership Protocol</b>
<b>IMAP</b>	<b>Internet Message Access Protocol</b>
<b>IP</b>	<b>Internet Protocol</b>
<b>ISDN</b>	<b>Integrated Service Digital Network</b>
<b>ISP</b>	<b>Internet Service Provider</b>

<b>L2TP</b>	<b>Layer 2 Tunneling Protocol</b>
<b>LAN</b>	<b>Local Area Network</b>
<b>LCP</b>	<b>Link Control Protocol</b>
<b>LLC</b>	<b>Logical Link Control</b>
<b>MAC</b>	<b>Medium Access Control</b>
<b>MDI</b>	<b>Media Dependent Interface</b>
<b>MER</b>	<b>MAC Encapsulation Routing</b>
<b>MTU</b>	<b>Maximum Transfer Unit</b>
<b>NAPT</b>	<b>Network Address Port Translation</b>
<b>NAT</b>	<b>Network Address Translation</b>
<b>OAM</b>	<b>Operation, Administration and Maintenance</b>
<b>PAP</b>	<b>Password Authentication Protocol</b>
<b>PCI</b>	<b>Peripheral Component Interconnect</b>
<b>PCM</b>	<b>Pulse Code Modulation</b>
<b>PCMA</b>	<b>Pulse Code Modulation Loi A</b>
<b>PCMCIA</b>	<b>Personal Computer Memory Card International Association</b>
<b>PCMU</b>	<b>Pulse Code Modulation Loi u</b>
<b>PID</b>	<b>Protocol Identifier</b>
<b>PING</b>	<b>Packet InterNet Groper</b>
<b>PLC</b>	<b>Paquet Loss Concealment</b>
<b>POP3</b>	<b>Poste Office Protocol version 3</b>
<b>POTS</b>	<b>Plain Old Telephone Service</b>
<b>PSTN</b>	<b>Public Switching Telephonic Network</b>
<b>PPP</b>	<b>Point to Point Protocol</b>
<b>PPPoE</b>	<b>PPP over Ethernet</b>
<b>PVC</b>	<b>Permanent Virtual Circuit</b>
<b>QoS</b>	<b>Quality of Service</b>
<b>RADIUS</b>	<b>Remote Authentication Dial-In User Service</b>
<b>RFC</b>	<b>Request For Comments</b>
<b>RNIS</b>	<b>Réseau Numérique Intégration de Services</b>
<b>RIP</b>	<b>Routing Information Protocol</b>
<b>RTCP</b>	<b>Real Time Control Protocol</b>
<b>RTP</b>	<b>Real-time Transport Protocol</b>
<b>SCR</b>	<b>Sustained Cell Rate</b>
<b>SMTP</b>	<b>Simple Mail Transfer Protocol</b>

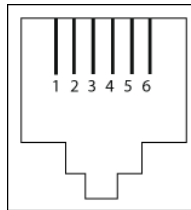
<b>SNDCP</b>	<b>S</b> ub <b>N</b> etwork <b>D</b> ependent <b>C</b> onvergence <b>P</b> rotocol
<b>SNAP</b>	<b>S</b> ub <b>N</b> etwork <b>A</b> ttachment <b>P</b> oint
<b>SNMP</b>	<b>S</b> imple <b>N</b> etwork <b>M</b> anagement <b>P</b> rotocol
<b>SOAP</b>	<b>S</b> imple <b>O</b> bject <b>A</b> ccess <b>P</b> rotocol
<b>SSID</b>	<b>S</b> ervice <b>S</b> et <b>I</b> Dentifier
<b>STB</b>	<b>S</b> et <b>T</b> op <b>B</b> ox
<b>TCP</b>	<b>T</b> ransmission <b>C</b> ontrol <b>P</b> rotocol
<b>TELNET</b>	<b>T</b> EL <b>e</b> communication <b>N</b> ET <b>w</b> ork
<b>TFTP</b>	<b>T</b> rivial <b>F</b> ile <b>T</b> ransfer <b>P</b> rotocol
<b>UBR</b>	<b>U</b> nspecified <b>B</b> it <b>R</b> ate
<b>UDP</b>	<b>U</b> ser <b>D</b> atagram <b>P</b> rotocol
<b>UPnP</b>	<b>U</b> niversal <b>P</b> lug and <b>P</b> lug
<b>URL</b>	<b>U</b> niformed <b>R</b> esource <b>L</b> ocator
<b>UTP</b>	<b>U</b> nshielded <b>T</b> wisted <b>P</b> air
<b>VBR-nrt</b>	<b>V</b> ariable <b>B</b> it <b>R</b> ate - <b>n</b> on <b>r</b> eal <b>t</b> ime
<b>VBR-rt</b>	<b>V</b> ariable <b>B</b> it <b>R</b> ate - <b>r</b> eal <b>t</b> ime
<b>VC</b>	<b>V</b> irtual <b>C</b> hannel
<b>VCC</b>	<b>V</b> irtual <b>C</b> hannel <b>C</b> onnection
<b>VCI</b>	<b>V</b> irtual <b>C</b> hannel <b>I</b> dentifier
<b>VC MUX</b>	<b>VC</b> <b>M</b> ultiple <b>X</b> ing (encapsulation without header)
<b>VP</b>	<b>V</b> irtual <b>P</b> ath
<b>VPI</b>	<b>V</b> irtual <b>P</b> ath <b>I</b> dentifier
<b>VPN</b>	<b>V</b> irtual <b>P</b> rivate <b>N</b> etwork
<b>WAN</b>	<b>W</b> ide <b>A</b> rea <b>N</b> etwork
<b>WEB</b>	Meshed network of information servers
<b>WEP</b>	<b>W</b> ired <b>E</b> quivalent <b>P</b> rivacy
<b>WFQ</b>	<b>W</b> eighted <b>F</b> air <b>Q</b> ueuing
<b>Wi-Fi</b>	<b>W</b> ireless <b>F</b> idelity (wireless network)
<b>WLAN</b>	<b>W</b> ireless <b>L</b> ocal <b>A</b> rea <b>N</b> etwork
<b>WPA</b>	<b>W</b> ireless <b>P</b> rotected <b>A</b> ccess

## C. Annex C - Connector Technology

This section covers	• pinouts of the <b>LINE</b> connector	§ C.1
	• pinouts of the <b>PWR</b> connector	§ C.2
	• pinouts of the <b>LAN1</b> , <b>LAN2</b> , <b>LAN3</b> and <b>LAN4</b> connectors	§ C.3

## C.1 Pinouts of the LINE connector

The equipment is connected to ADSL using a RJ11 fixed connector (6 pins).



Contact N°	Signal	Meaning
3	LINE-A	Line A signal
4	LINE-B	Line B signal
1	NC	Not connected
2	NC	Not connected
5	NC	Not connected
6	NC	Not connected

## C.2 Pinouts of the PWR connector

The mains unit is connected to the equipment using the miniature fixed connector of the case.

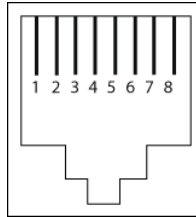


Contact N°	Signal	Meaning
Intérieur	+12 V	Connexion DC "+"
Extérieur	Masse	Connexion DC "-"



## C.3 Pinouts of the LAN1, LAN2, LAN3 and LAN4 connectors

The Ethernet interface is connected to the equipment using a RJ45 fixed connector (8 pins).



Contact No	Signal	Meaning
1	TXD+	(+) Emission to terminal
2	TXD-	(-) Emission to terminal
3	RXD+	(+) Reception of terminal
4	NC	Not connected
5	NC	Not connected
6	RXD-	(-) Reception of terminal
7	NC	Not connected
8	NC	Not connected

### Note



The Ethernet port is self-detecting. You can use either straight or crossed cables. An emission or reception signal is detected automatically.



All rights reserved. The information and specifications included are subject to change without prior notice. Sagemcom Broadband SAS tries to ensure that all information in this document is correct, but does not accept liability for error or omission. Non contractual document. All trademarks are registered by their respective owners. Simplified joint stock company- Capital 35 703 000 Euros- 518 250 360 RCS NANTERRE.