



HitronTechnologies

ADSL2+ IP DSLAM BAS-8124/BAS-8124c

Release 1.3

Management Guide



Table of Content

TABLE OF CONTENT.....	2
1. INTRODUCTION	6
1.1 FEATURES	7
1.2 BASIC OPERATING INFORMATION	8
1.2.1 Default username and Password	8
1.2.2 Default IP addresses	8
1.3 GETTING STARTED	8
1.3.1 Basic settings for Data transmission	8
1.3.1.1 VC profile settings	8
1.3.1.2 DSL profile settings	10
2. CONFIGURING THE SWITCH BY WEB INTERFACE.....	14
2.1 SYSTEM	14
2.1.1 System Info.....	14
2.1.2 system log	15
2.1.3 General setup.....	16
2.1.4 Reboot.....	17
2.1.5 User Management.....	18
2.1.6 Log out.....	19
2.1.17 Server services.....	19
2.1.18 Alarm.....	20
2.2 ADSL.....	21
2.2.1 xDSL port status	21
2.2.1.1 Map profile	21
2.2.2 xDSL profiles	22
2.2.2.1 Port profile	22
2.2.2.2 VC profile	22
2.2.2.3 PVC Map	23
2.2.2.4 PVC show	23
2.2.2.5 Alarm profile	24
2.2.2.6 Map alarm profile	25
2.3 SWITCH	26
2.3.1 VLAN	26
2.3.2 Ethernet Port Setting	27
2.3.3 MAC management	28
2.4 STATUS	28
2.4.1 Channel status	28

2.4.2 Line status.....30

2.4.4 Line state31

2.5 IP32

 2.5.1 IP setup.....32

 2.5.2 ARP table Display and flush.....33

 2.5.3 PING function.....34

 2.5.4 VLAN (For management)34

2.6 STATISTICS.....35

 2.6.1 Gigabit Ethernet port counters.....35

2.7 PERFORMANCE36

 2.7.1 ADSL performance36

2.8 CONFIGURATION.....37

 2.8.1 Configuration save37

 2.8.2 restore.....37

 2.8.3 Software upgrade and Configuration backup.....38

3. CONFIGURING THE SWITCH BY CLI INTERFACE.....39

LOG IN PROCESS.....41

COMMAND FORMAT.....43

SYSTEM:.....44

daisycontrol.....44

 Update45

 Info45

 User.....46

 Reboot.....47

 Server.....47

 Syslog.....48

 Time49

 Date49

 Timeserver50

 Alarm.....51

ADSL:52

 Enable.....52

 Disable.....53

 Profile.....53

 Name.....54

 Line diagnostic55

 Vcprofile.....55

 Alarmprofile.....56

<i>PVC</i>	56
STATUS:	57
<i>Chstatusget</i>	57
<i>Linestatusget</i>	58
<i>Linestateget</i>	58
SWITCH:.....	59
<i>Queuemap</i>	59
VLAN	59
MAC	60
<i>Eth</i>	61
<i>Looptest</i>	61
IP:	62
<i>Show</i>	62
<i>Arp</i>	63
<i>Set</i>	63
<i>Gateway</i>	64
<i>Route</i>	64
<i>Ping</i>	65
STATISTICS:	65
<i>Adsl</i>	66
<i>Ethuto</i>	66
CONFIG:	67
<i>Save</i>	67
<i>Restore</i>	68
4. VLAN FEATURE.....	69
4.1 ADSL PORT VLAN.....	69
<i>Using the WEB interface</i>	70
4.1.1 <i>Simple VLAN setup</i>	70
4.1.2 <i>Advance VLAN setup</i>	71
4.1.3 <i>VLAN frame rule</i>	72
4.1.4 <i>VLAN enable and Disable</i>	72
4.2 MANAGEMENT VLAN.....	72
5. DAISY CONTROL – MANAGEMENT CASCADE (ONLY FOR BAS-8124).....	74
6. SOFTWARE UPGRADE AND CONFIGURATION BACKUP.....	77
6.1 UPGRADE PROCEDURE	77
6.2 BACK UP –CONFIGURATION FILE,	78

7. TROUBLESHOOTING79
TROUBLESHOOTING GUIDE.....79

8. RELATED DOCUMENTATION80

9. GLOSSARY81

1. Introduction

This document is intended for First Office Acceptance test plan for HITRON's **ADSL2+ Broadband Access Switch solution (BAS-8124/BAS-8124c)**. The HITRON's BAS-8124/BAS-8124c Broadband Access Switches contains 24 ADSL2/2+ circuits to deliver high-speed data, video and voice service over traditional twisted copper pairs by using DSL technology.

To meet the increasing demand for high-speed internet access and triple play application services. The next generation network offers a feasible functionality of integrated services with the most cost effective architecture. Next generation broadband access networks are designed to provide rich video contents, DSL , POTS and VoIP services over traditional copper wire infrastructure. These types of services will be supported on NGN architecture simultaneously. DSL is used as the data service platform for video and VoIP and traditional POTS technology is used for voice services. The multimedia and local content-rich applications can also be easily implemented on this NGN architecture.

xDSL (Digital Subscriber Line) is a technology for delivering high-bandwidth information over copper telephone lines. xDSL service can deliver POTS and high data rate services simultaneously over a single twisted-wire pair. The POTS and data service are simultaneous and independent; the xDSL data service does not affect the POTS service. xDSL uses the bandwidth above the 4-kHz POTS frequency to transmit duplex data using digital modulation techniques from the C.O side to the Customer Premises Equipment (CPE).

ADSL is a form of xDSL service that delivers an asymmetric data rate over a twisted copper pair. ADSL delivers a higher rate downstream, towards the customer premises and lower rate upstream, from the customer premises. ITU standard compliant Full-Rate ADSL2+ can deliver data rates up to 25 Mbps downstream and 1 Mbps upstream; Full-Rate ADSL can deliver data rates up to 8 Mbps downstream and 800 kbps upstream; G.Lite ADSL can deliver up to 1.5 Mbps downstream and 512 kbps upstream. The actual data rate depends on the length, gauge, and condition of the twisted-wire pair, the bandwidth of the uplink depends on the data network, and the capacity of the network service provider.

Digital Subscriber Line (DSL) dominates broadband market. The position of national telecom operators in most countries has given the advantage in reaching out to customers with broadband services over DSL.

The BAS-8124/BAS-8124c Access system contains 24 ADSL2/2+ circuits to deliver high-speed data service over twisted copper pairs using industry standard Discrete Multi-Tone (DMT) line coding technology. The BAS-8124/BAS-8124c complies with full-rate ADSL in accordance with ANSI

T1.413 Issue 2, ITU-T G.992.1 (G.dmt), ITU-T G.992.2 (G.lite)ITU-T G.992.3 (ADSL2) and ITU G.992.5 (G.ADSL2+) protocols.

The BAS-8124/BAS-8124c products greatly expand broadband capabilities in the access network, enhancing the infrastructure for emerging services. With simple in-service upgrades, service providers obtain the capacity and Quality of Service (QoS) to support larger populations of narrowband and broadband users. For management, BAS-8124/BAS-8124c can be easily configured by element management system (EMS). The EMS system covers topology, configuration, deployment, security, performance, alarm management and backup storage.

1.1 Features

- Complete Intelligent L2 switch feature
- Intelligent DSL interworking feature
 - ◆ RFC2684 MpoA
 - ◆ VPN pass-through
 - ◆ RFC2516 PPPoE packet forwarding.
- Advanced L2+/higher layer protocol & policy control
 - ◆ GVRP/GARP/GMRP (IEEE 802.1q) (phase2)
 - ◆ STP/RSTP (IEEE 802.1d/w) (phase2)
 - ◆ IGMP Snooping
 - ◆ DHCP relay and relay agent option 82
 - ◆ Packet inspection and do policy control (filtering, forwarding..)
- Security of authentication mechanism and encryption
 - ◆ SSH/SSL
- Rich user interface for management including security
 - ◆ CLI/Telnet/SSH/SNMP/HTTP/S-HTTP
- Variety of uplink interface
 - ◆ SFP for 1000 Base-SX, LX, LHX and ZX.
 - ◆ RJ45 for 1000 Base-TX. (Default)
- Remote software upgrade

1.2 Basic operating information

1.2.1 Default username and Password

User name : admin

Password : admin

1.2.2 Default IP addresses

MGMT : (Management Ethernet port) – 192.168.0.210

UPLINKs : 192.168.1.210 – at the moment **Uplink can support only 1000BASE-T (gigabit Ethernet ONLY)**

1.3 Getting started

1.3.1 Basic settings for Data transmission

1.3.1.1 VC profile settings

Setting VPI and VCI , these two values depend on the modems settings. The VPI and VCI should be same on both the DSLAM channel and the Modem connected to it. The LLC mode and the VC-MUX mode can be selected depending on the requirement.

EncapsulationType(0|1)

0 – LLC

1 – VC-MUX

Step 1 – create a Vcprofile

Step 2 – set PVC

Example –

VPI – 8 / VCI – 35

Mode – LLC

CLI commndand

Command format – vcprofile set vcprofilename EncapsulationType(0|1) VPI(0~4095) VCI(0~65535)

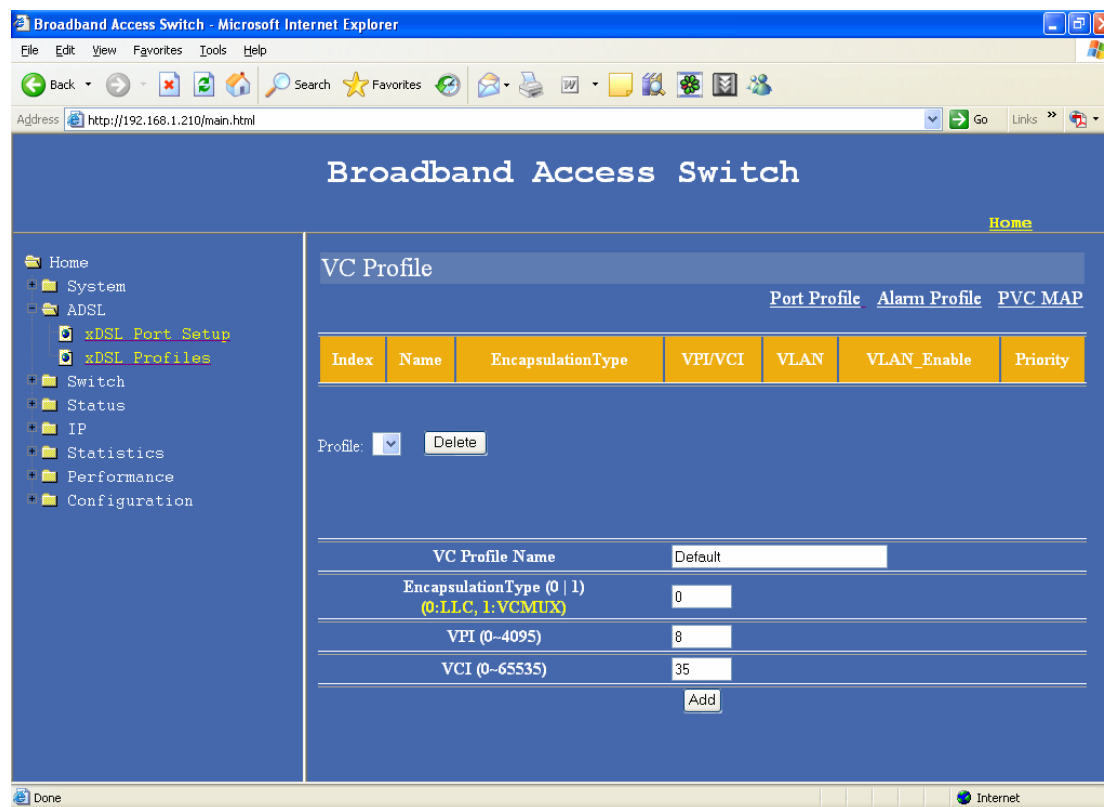
BAS/ADSL> vcprofile set default 0 8 35

Command format - pvc set minPortId(1~24) maxPortId(1~24) vcprofileName

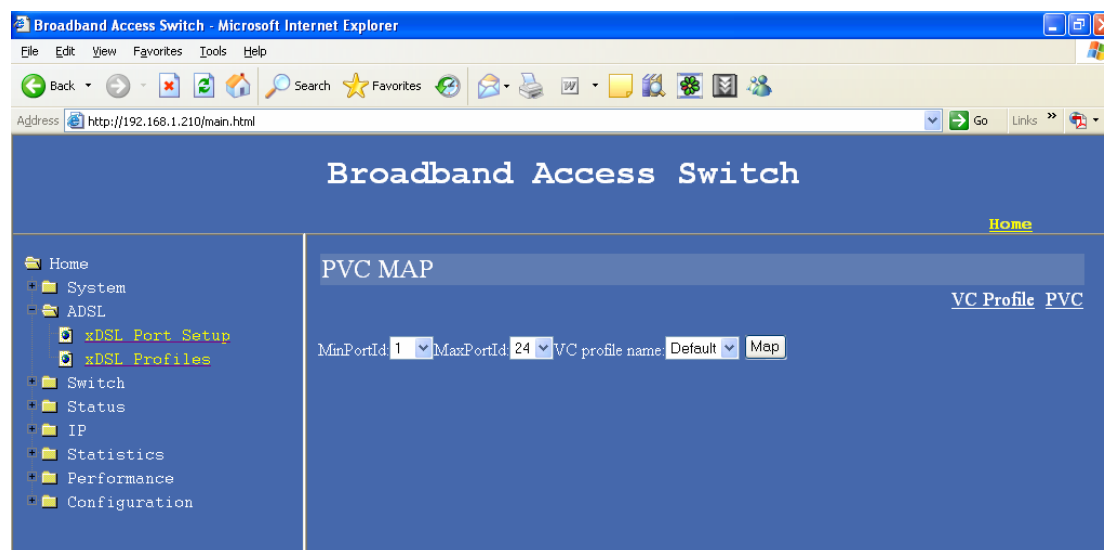
BAS/ADSL> PVC set 1 24 default

In web interface – PVC setting

1. create Vcprofile



2. set PVC



1.3.1.2 DSL profile settings

This profile is to set the link rates for Upstream and Downstream of the ADSL link . The Latency mode can be Interleaved or Fast if the ADSL standard used is G.dmt , G.lite or t1.413 , for ADSL2 and ADSL2+ the latency mode is always Interleaved.

Example –

latency mode :	interleaved	
	DownStream	UpStream
Minimum Data Rate:	4000000	512000
Maximum Data Rate:	26000000	1280000
Maximum Interleave Delay Downstream :	20	20
Minimum Impulse Noise Protection:	0	0
Target Noise Margin :	50	50
Minimum Noise Margin:	10	10
Maximum Noise Margin:	310	310

Using CLI commands

1. Profile create

BAS/ADSL> profile set

Please input the profile name to set:

test

Please enter latency mode :fast(1) or interleave(0):

0

Minimum Data Rate DownStream:

4000000

Minimum Data Rate UpStream:

512000

Maximum Data Rate DownStream:

26000000

Maximum Data Rate UpStream:

1280000

Maximum Interleave Delay Downstream :

20

Maximum Interleave Delay Upstream :

20

Minimum Impulse Noise Protection DownStream:

0

Minimum Impulse Noise Protection UpStream:

0

Target noise margin DownStream:

50

Target noise margin UpStream:

50

Minimum noise margin DownStream:

10

Minimum noise margin UpStream:

10

Maximum noise margin DownStream:

310

Maximum noise margin UpStream:

310

2. Profile map

Profile can be mapped to individual ports or to all 24 ports , the ADSL standard (glt|gdm|t1413|auto|adsl2) has to be specified when mapping the ADSL profile. The mode can be set as Auto so that BAS-8124/BAS-8124c will decide the best mode to linkup.

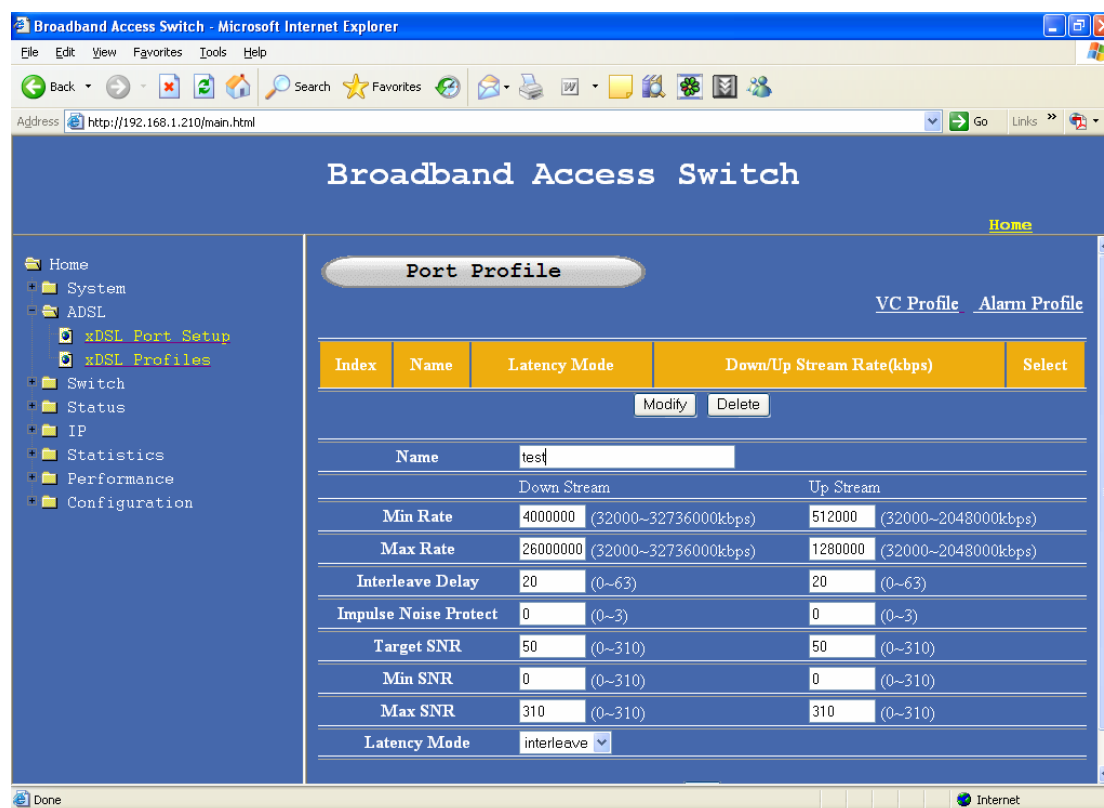
Example – map the test profile to all 24 ports using the mode as auto

```
profile map portlist (1~24) profile <glt|gdm|t1413|auto|adsl2>
```

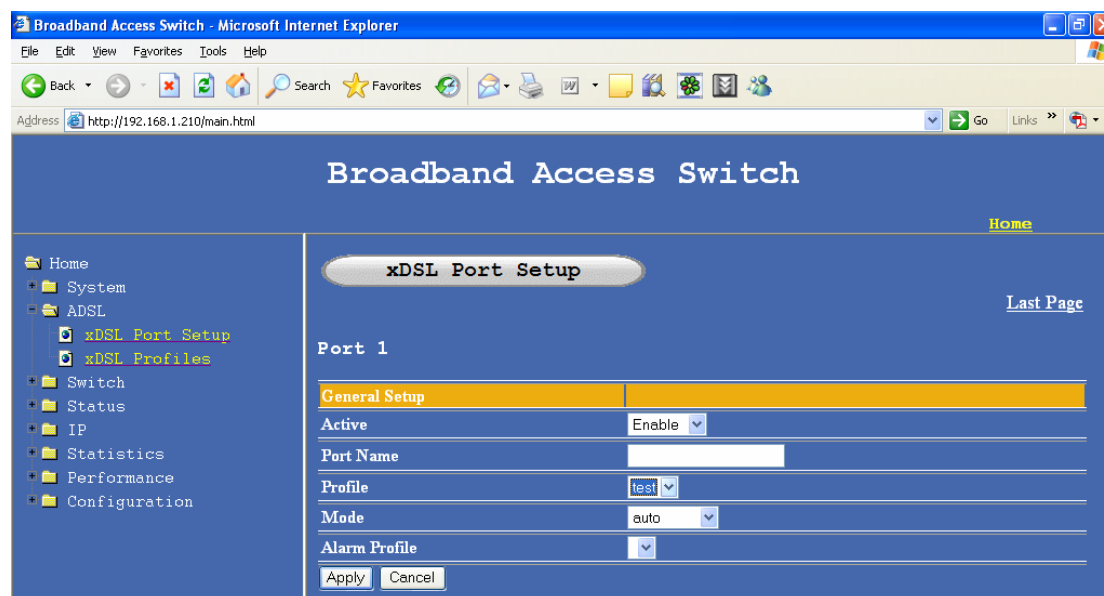
```
BAS/ADSL> profile map 1~24 test auto
```

Using the web interface

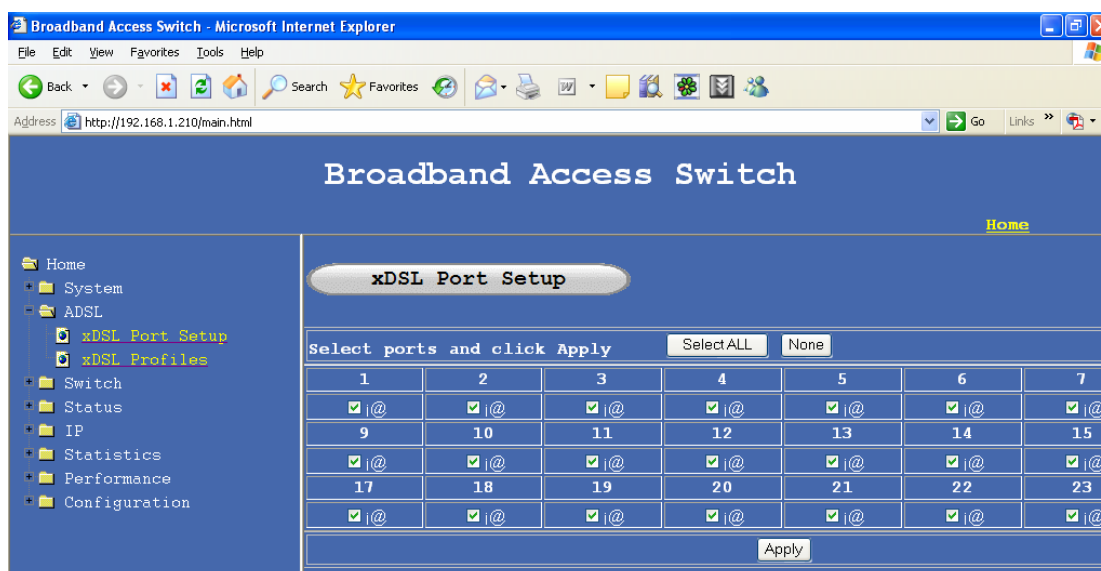
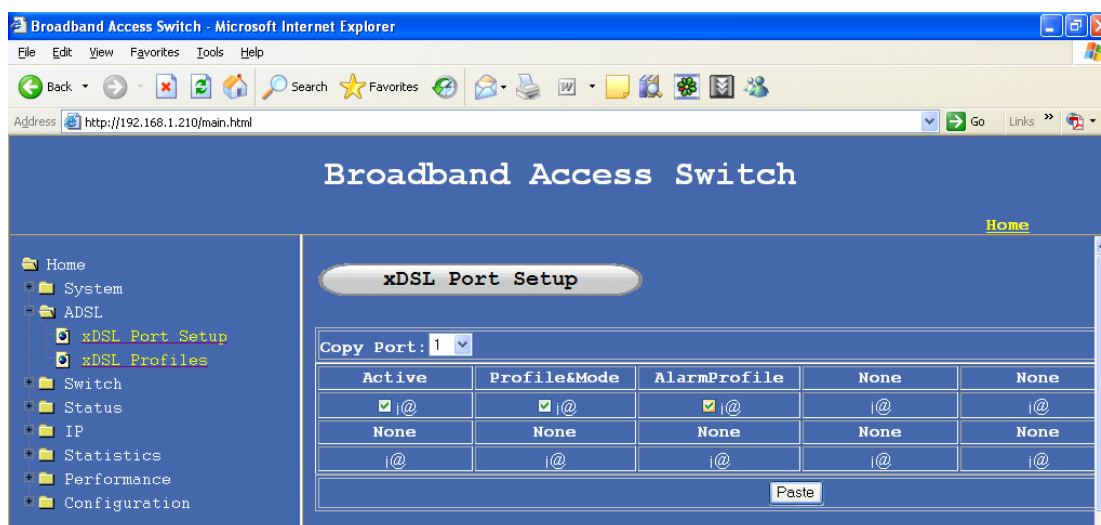
1. create profile



2. map profile – when using the web interface the profile can only be mapped to one port in the first mapping , after mapping the profile to one port it can be copied to other port ,



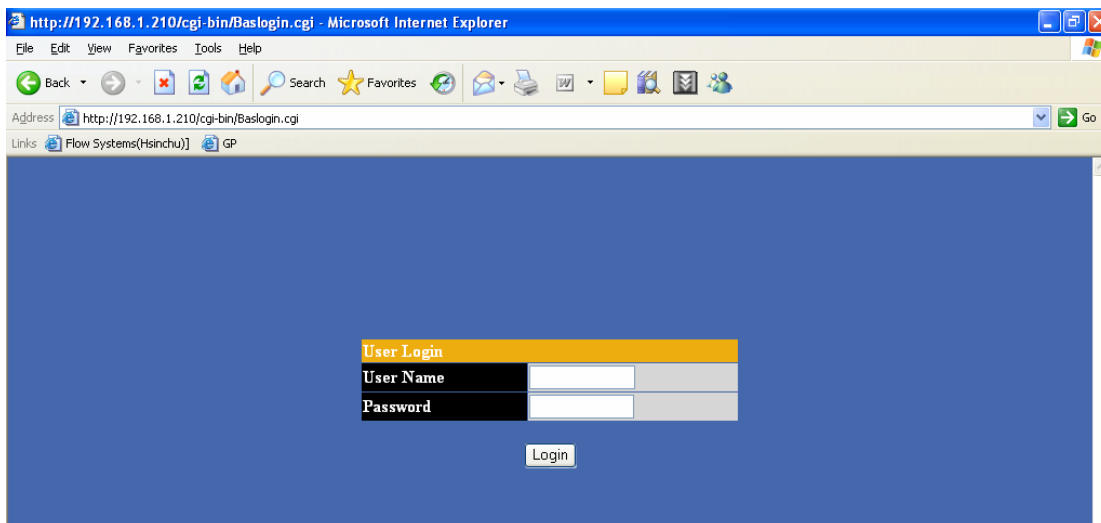
3. Copy the same profile to all the 24 ports ,



NOW BAS-8124/BAS-8124c is ready for Data transmission as a basic DSLAM !!!

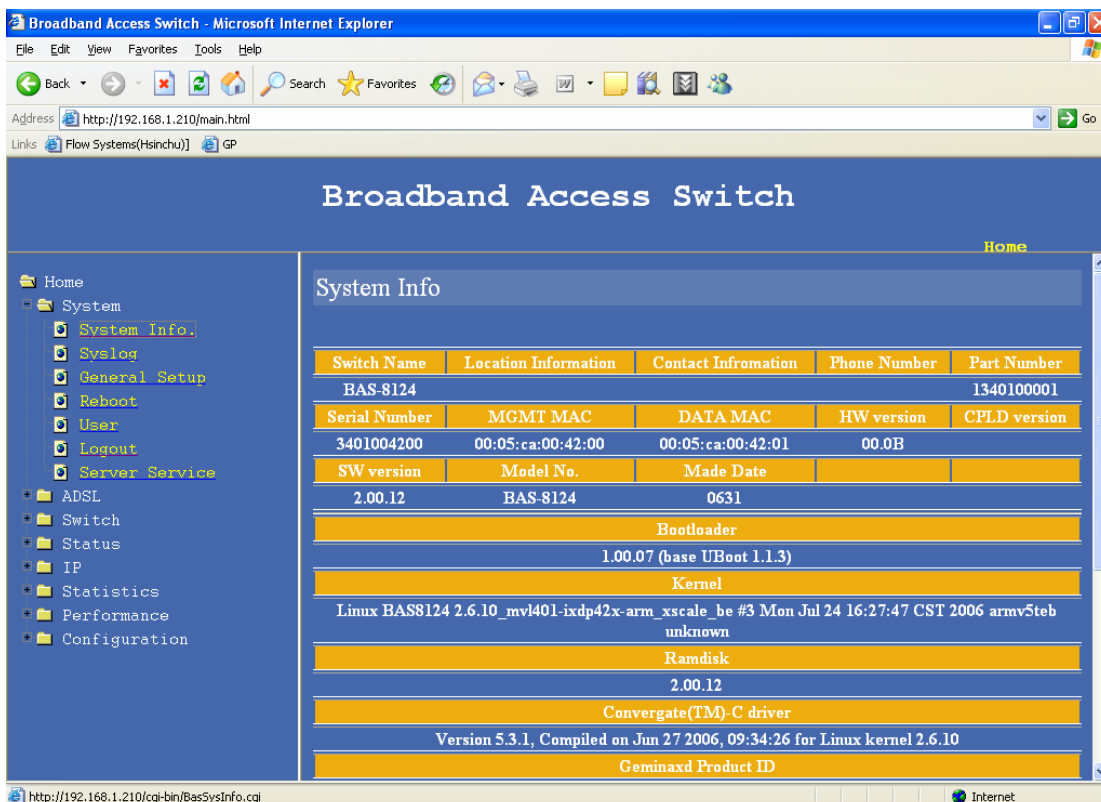
2. Configuring the Switch by Web Interface

Log in



2.1 System

2.1.1 System Info



This page displays the basic system information

BAS-8124/BAS-8124c HW Version:

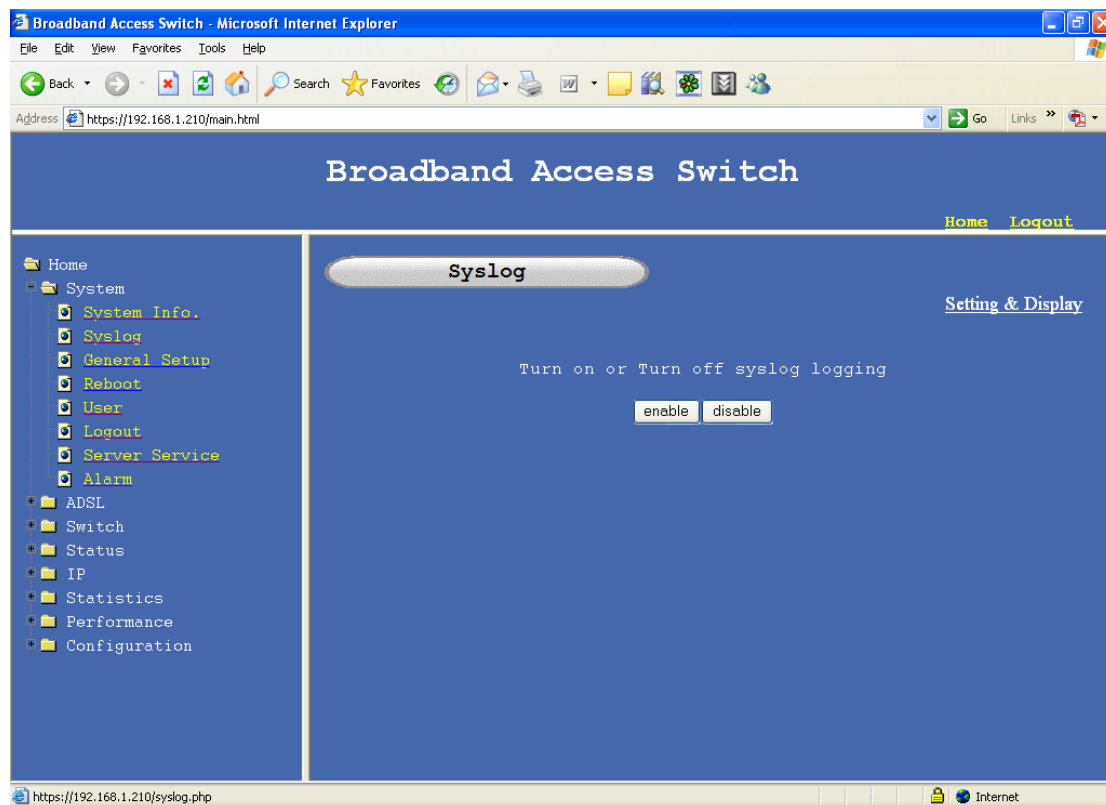
BAS-8124/BAS-8124c software version:

Chipset version:

MAC address :

2.1.2 system log

When you enter to the syslog page the first function visible is enable and disable , default is enabled.



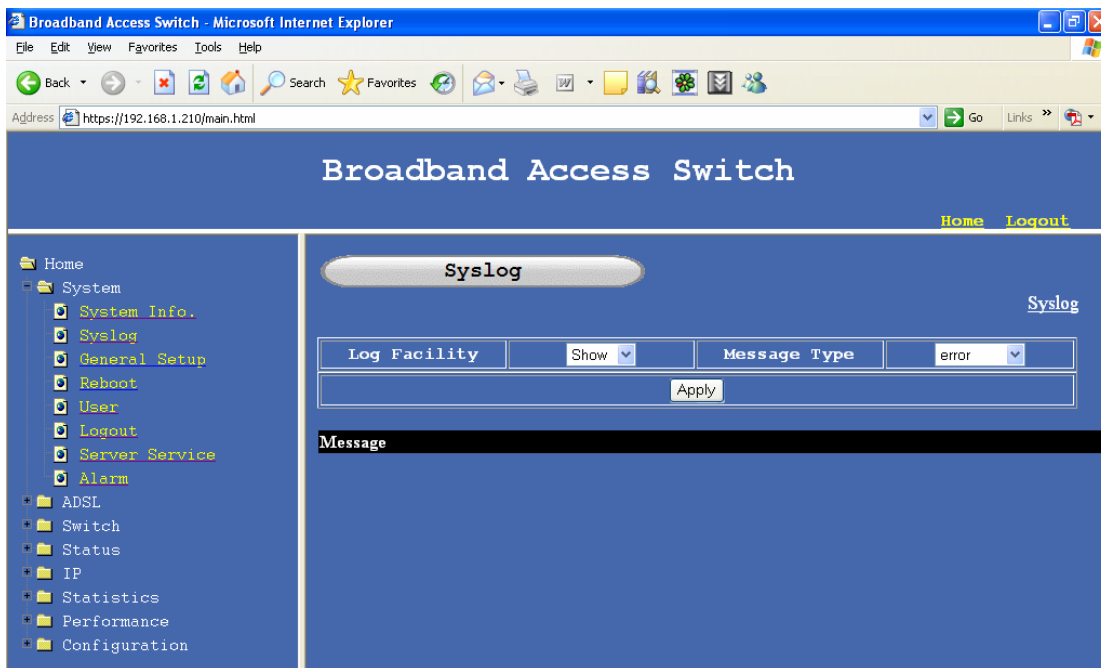
There are three types of syslogs ,

- 1) Error log
- 2) Warning log
- 3) Message log

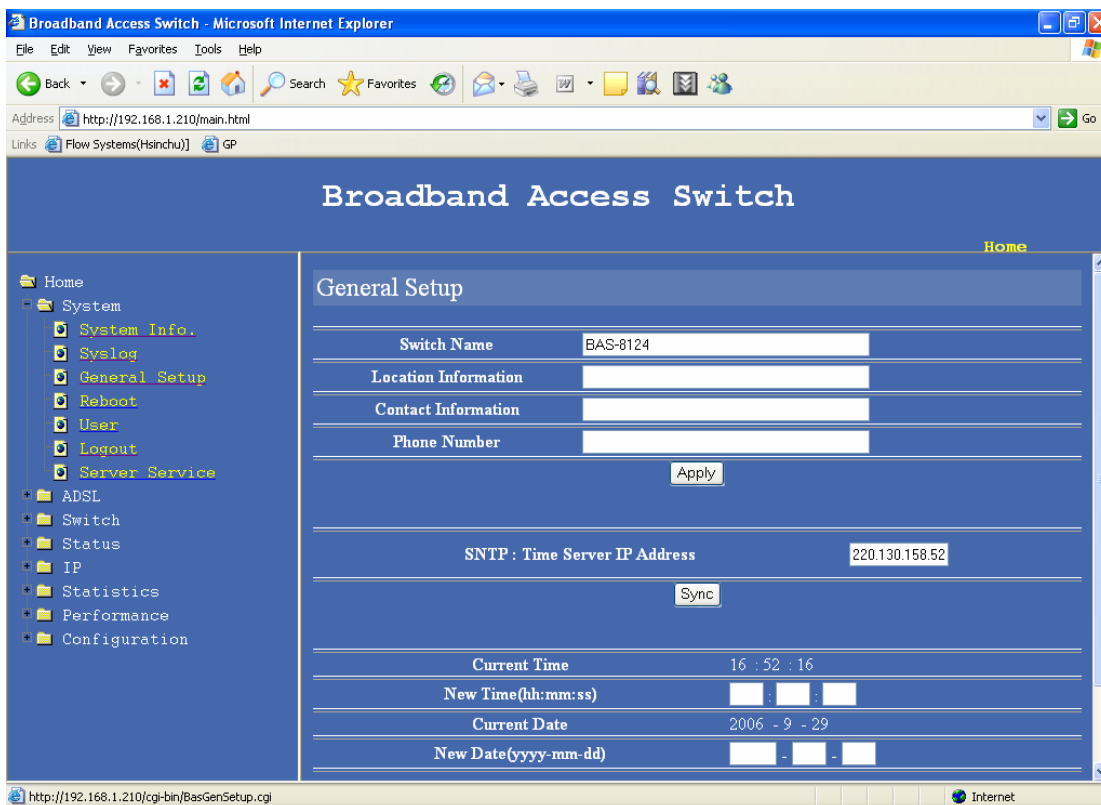
Show – display the syslog

Clean - The syslog can be cleaned using the syslog CLEAN option ,

Config – shows the current configuration of the syslog



2.1.3 General setup



Display and Edit General information

Host Name: BAS-8124/BAS-8124c Host name

Location: BAS-8124/BAS-8124c location

Contact Person's Name: maintainer's name

Model: BAS-8124/BAS-8124c model

User Time Server When Bootup: Select time service protocol during bootup.

Time Server IP Address: IP address of Time server

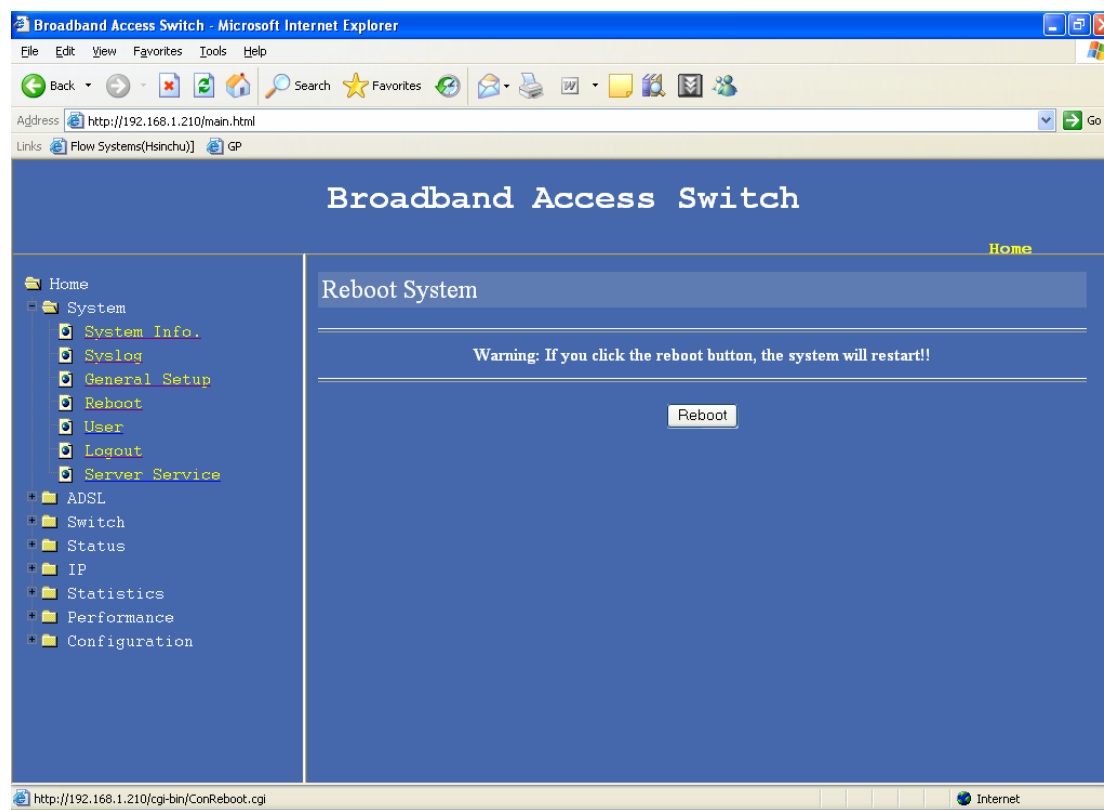
Current Time: current time

New Time (hh:min:ss): enter new time in hh:mm:ss format

Current Date (yyy-mm-dd): enter current date in yyyy-mm-dd format

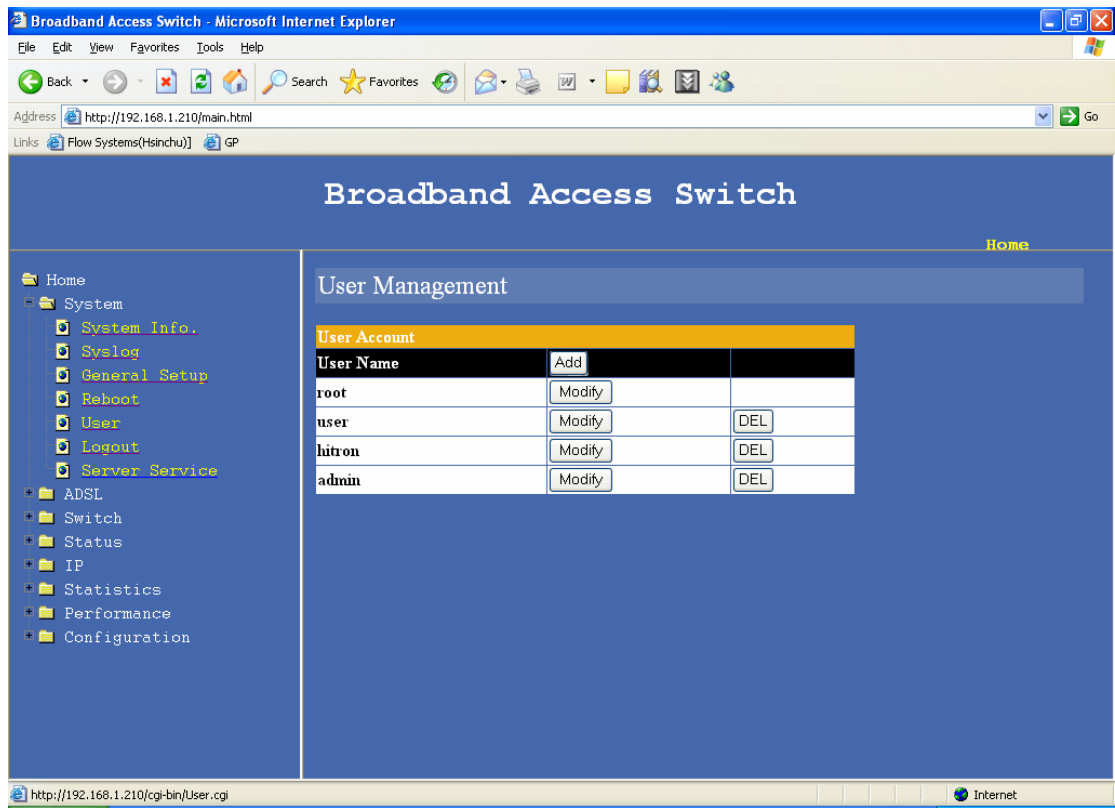
Time Zone: current time zone

2.1.4 Reboot



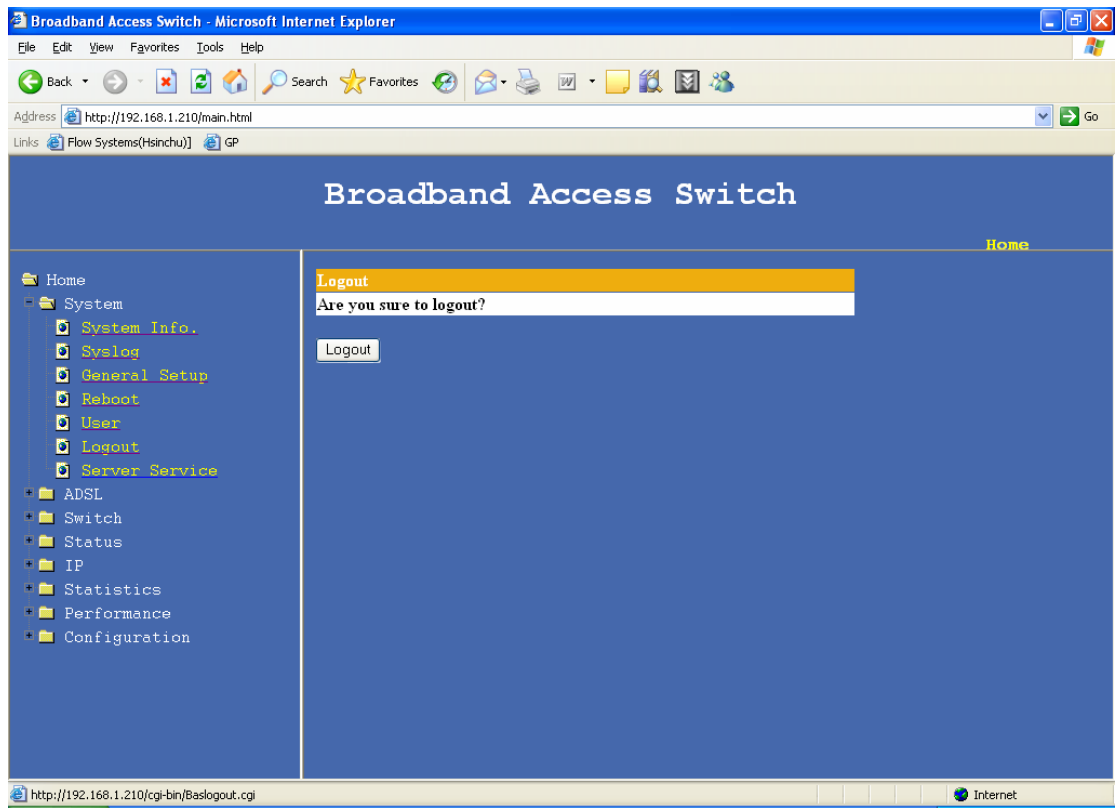
Reboot the system

2.1.5 User Management

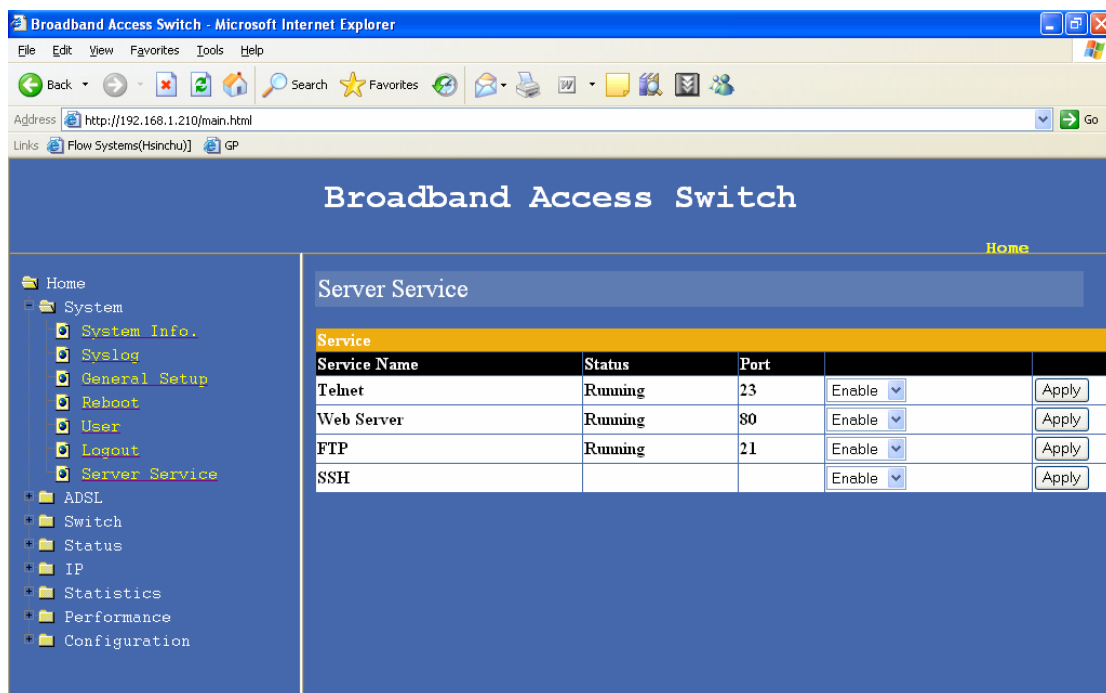


Add , delete and Modify user information

2.1.6 Log out



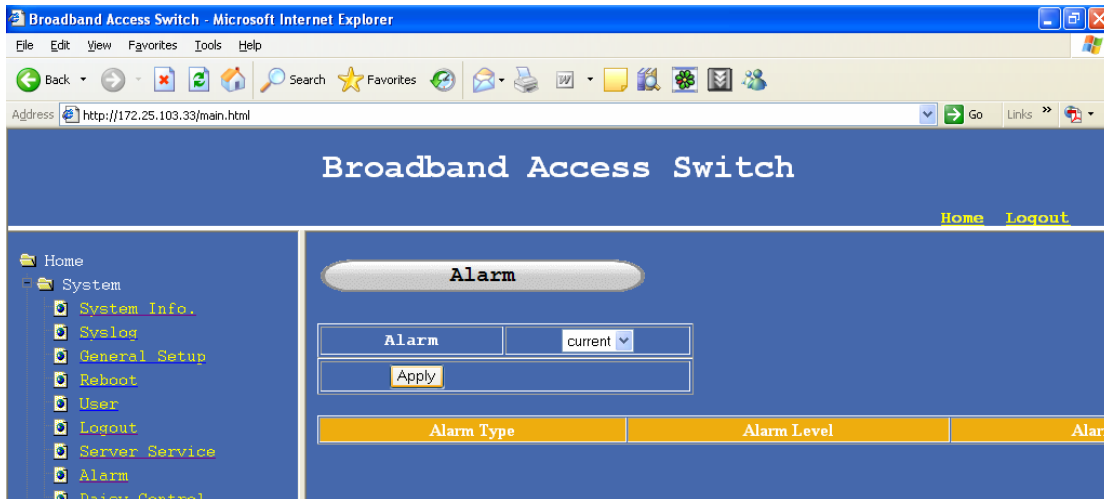
2.1.17 Server services



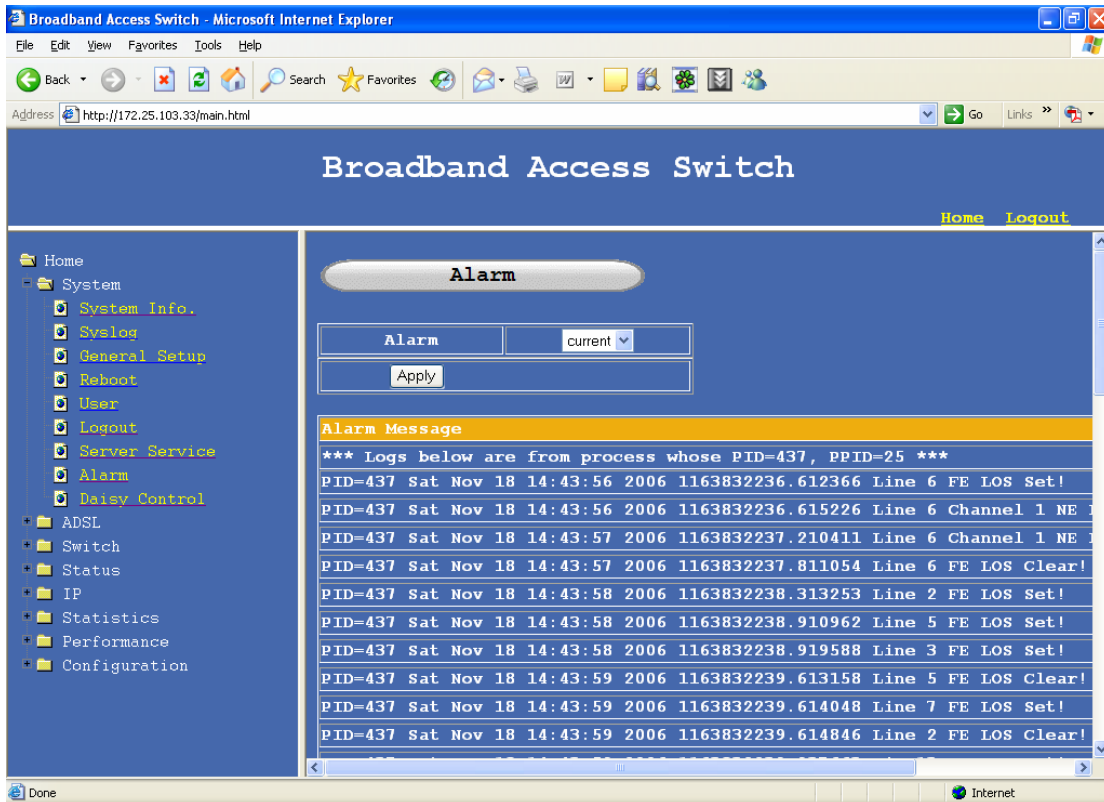
2.1.18 Alarm

This page is used for displaying current alarms and alarm history ,

Display current alarms ,

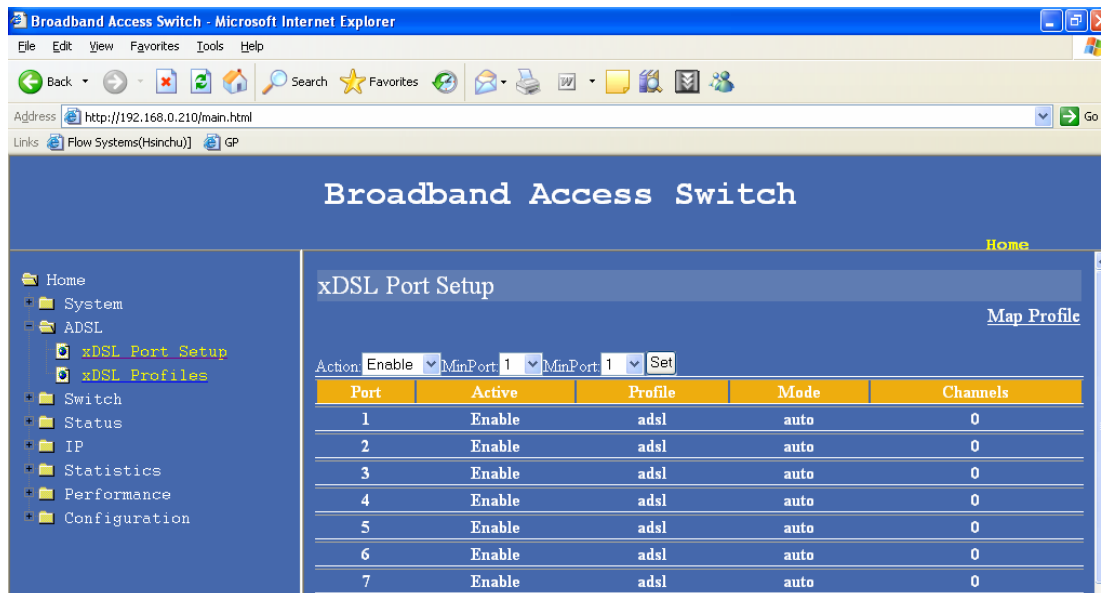


Display alarm history



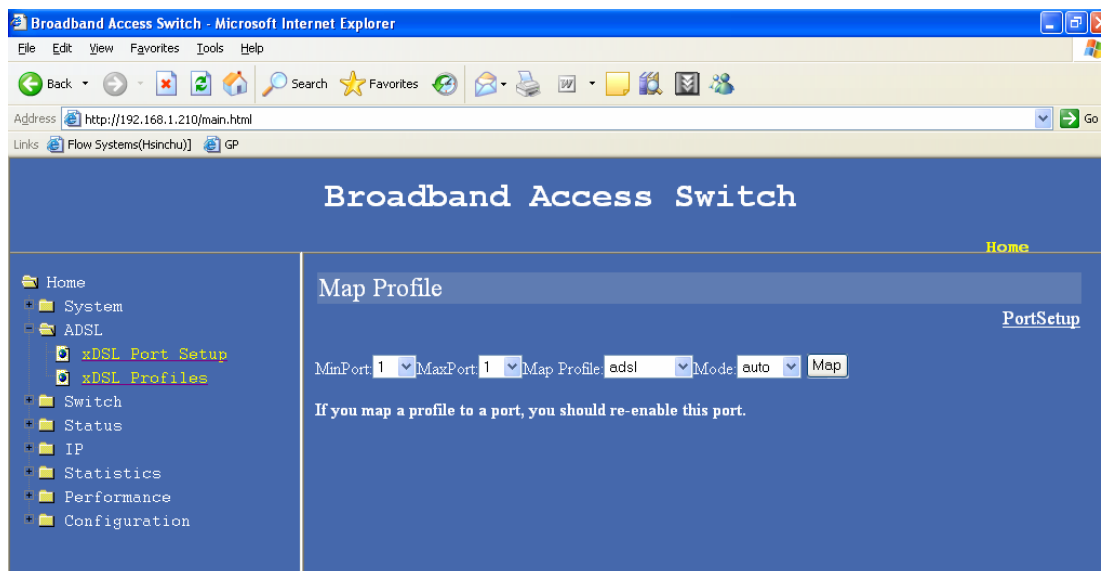
2.2 ADSL

2.2.1 xDSL port status



Enable and Disable ADSL ports

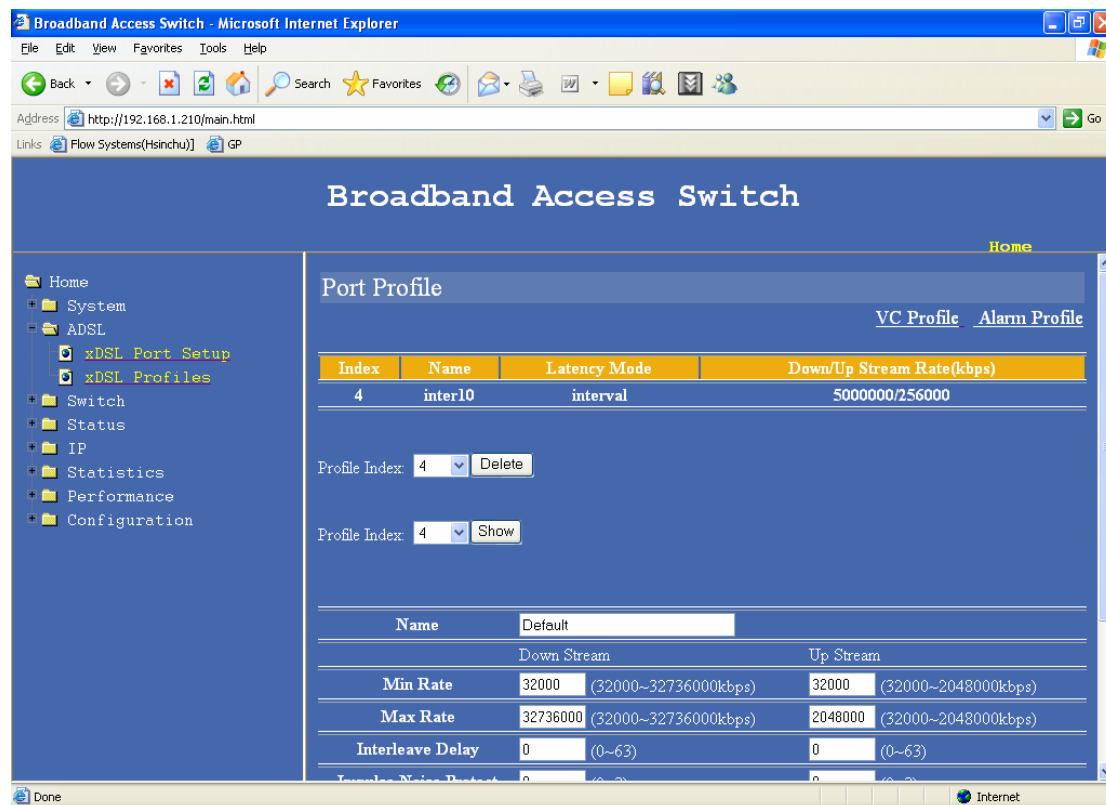
2.2.1.1 Map profile



Map ADSL profiles to ADSL ports

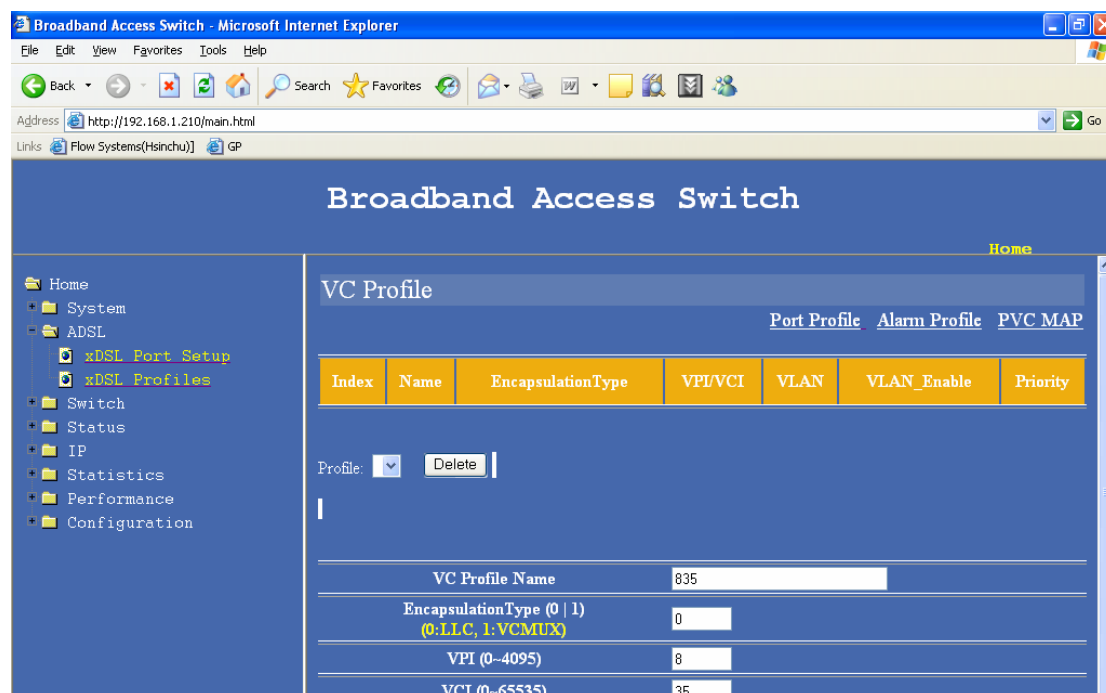
2.2.2 xDSL profiles

2.2.2.1 Port profile



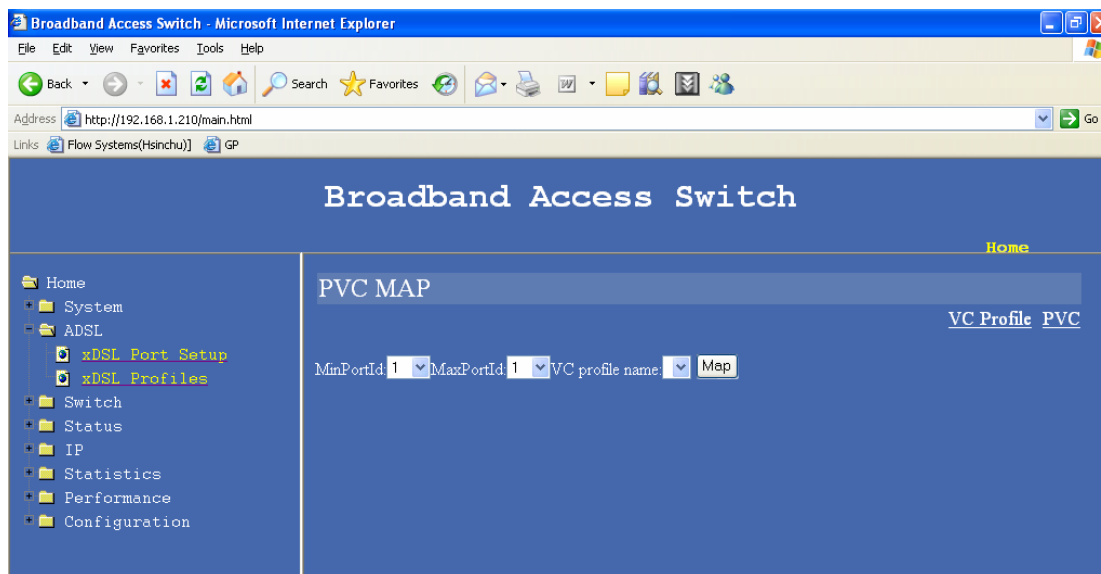
ADSL profiles can be added and deleted using this page

2.2.2.2 VC profile



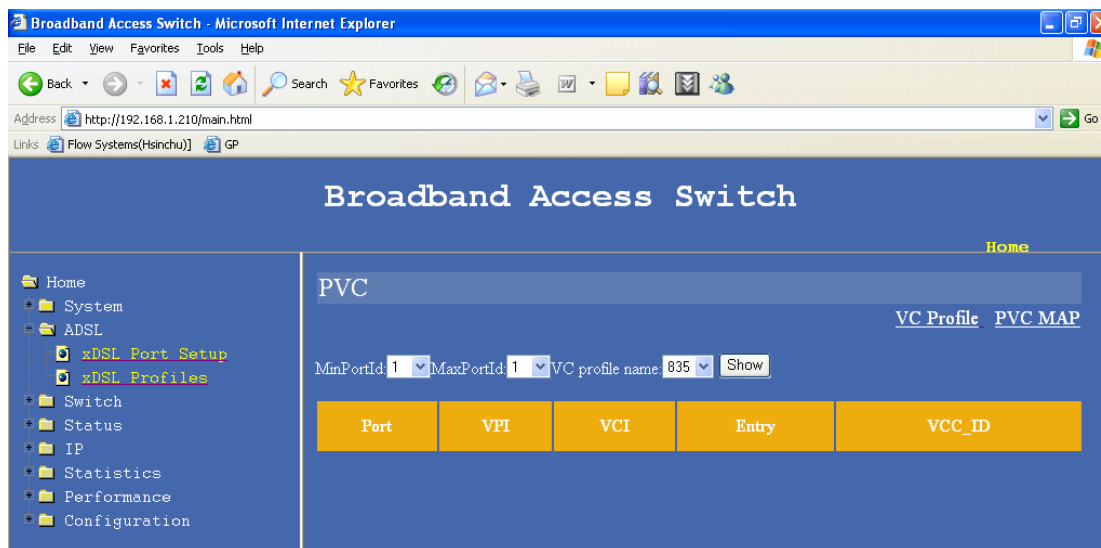
VC profile can e added using this page

2.2.2.3 PVC Map



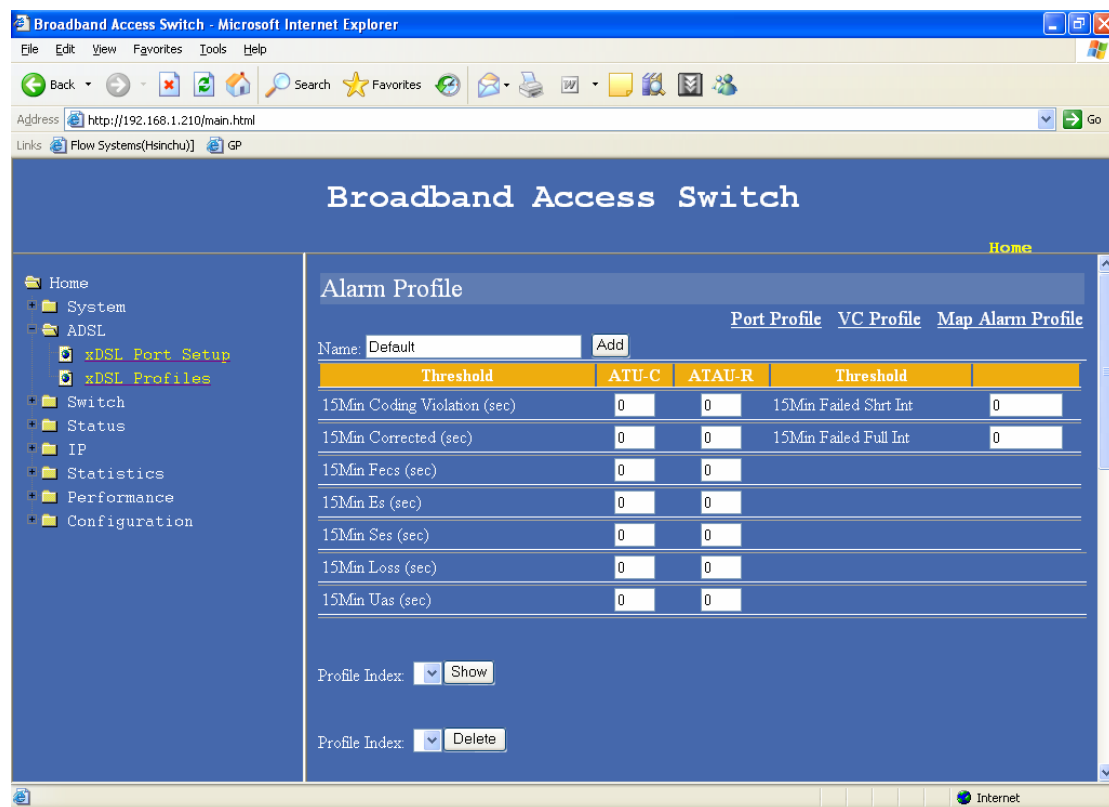
PVC can be set to a range of ports or to Individual ports using this page.

2.2.2.4 PVC show



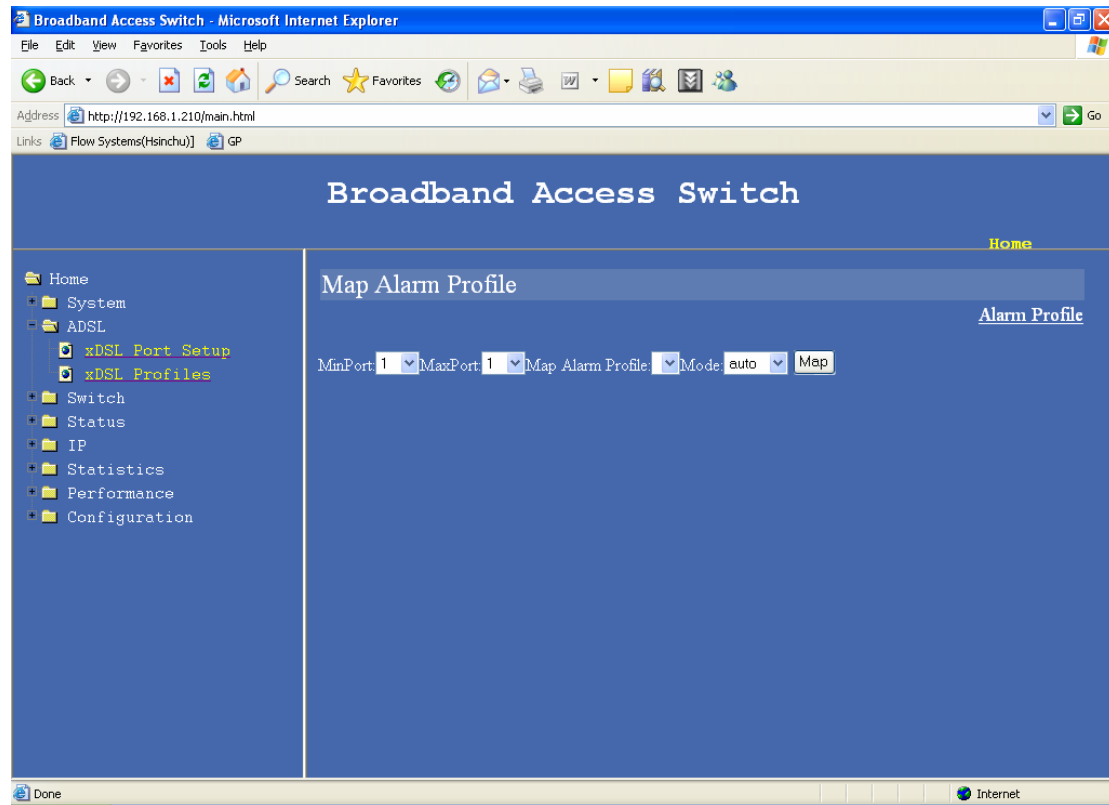
The PVC profile of an individual port or a range of ports can be displayed using this page.

2.2.2.5 Alarm profile



SET alarm profile

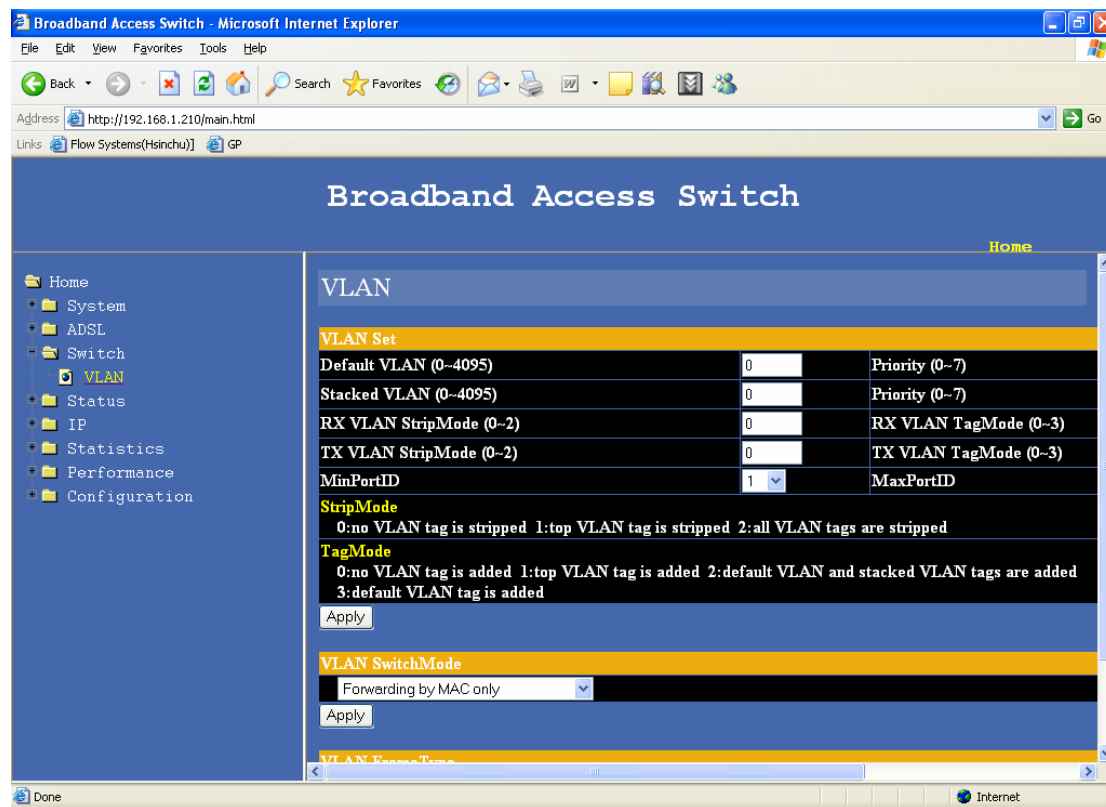
2.2.2.6 Map alarm profile



Map the Alarm profile

2.3 Switch

2.3.1 VLAN



Default VLAN

Stack VLAN

Priority

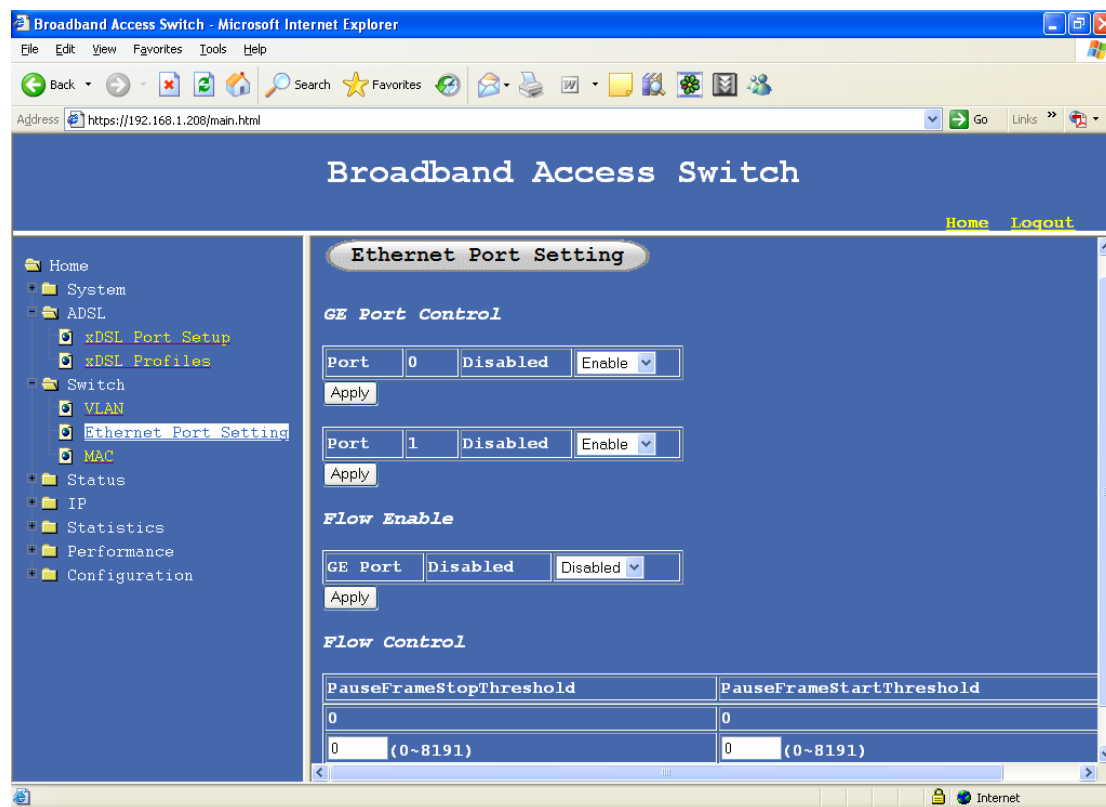
Tag mode

Strip mode

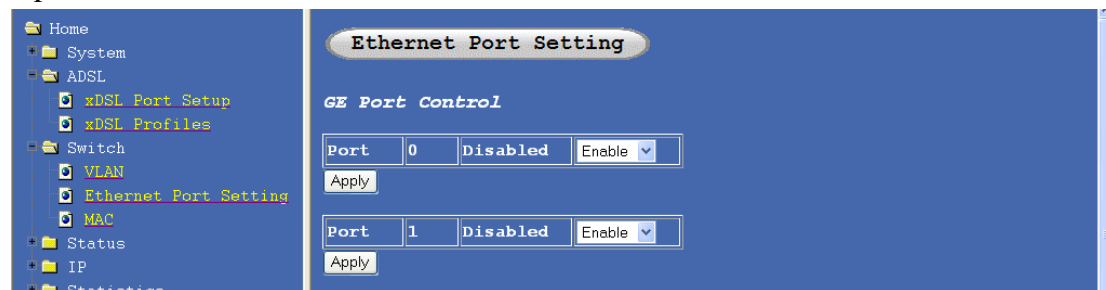
Forwarding method

Frame types

2.3.2 Ethernet Port Setting



Uplink 1 and 2 enable and disable



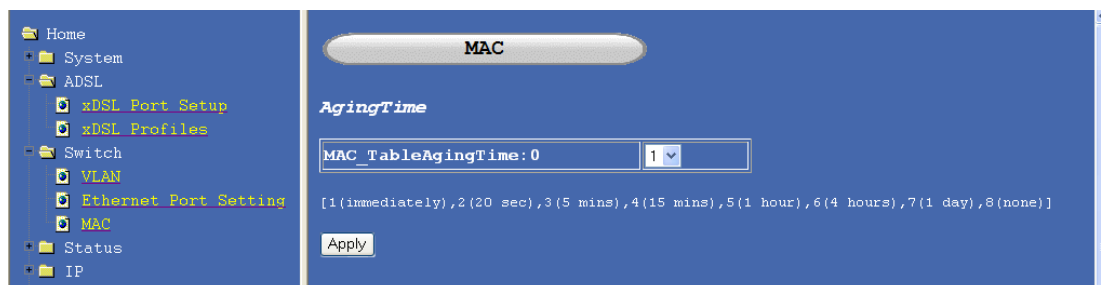
Flow control configuration



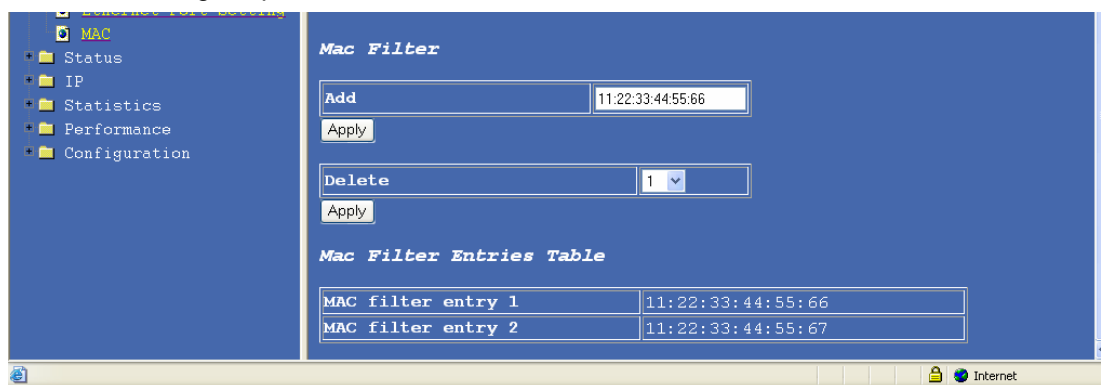
2.3.3 MAC management

This page is used for setting the MAC aging time for the L2 switch feature in BAS-8124/BAS-8124c and for setting up the MAC filter ,

MAC aging time setting – Default is NO MAC ageing

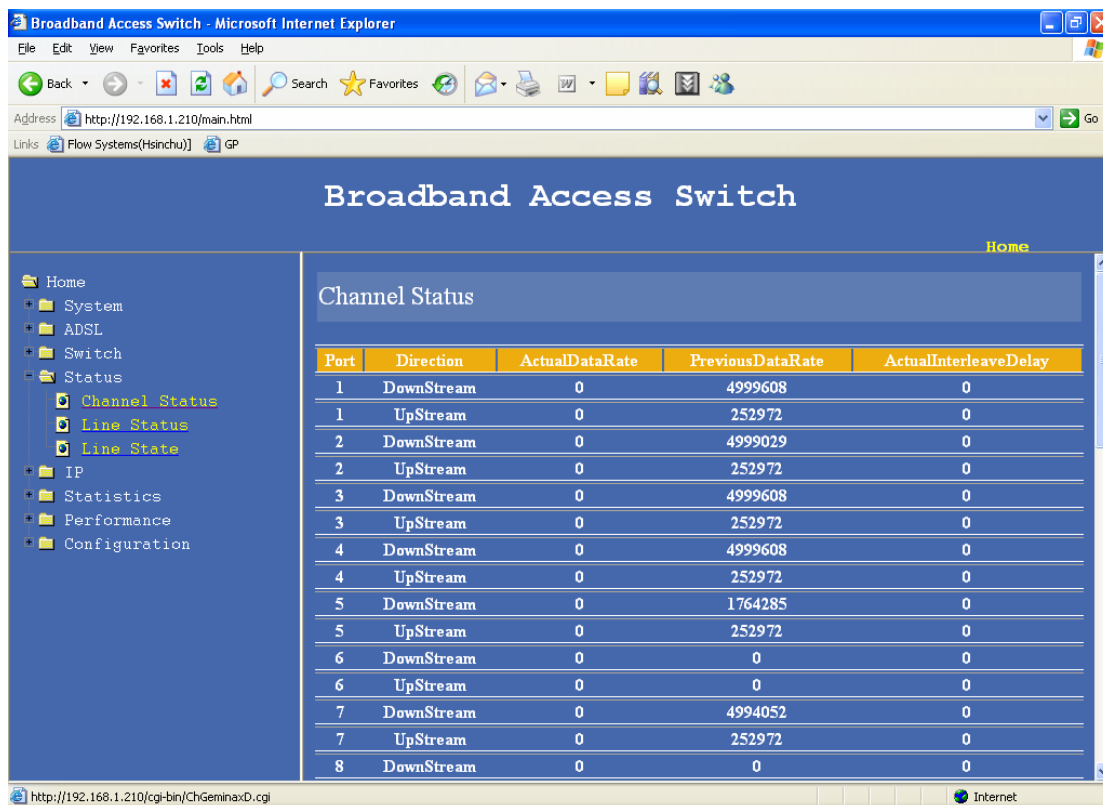


MAC filter settings , up to 20 MAC addresses can be added to the filter list.



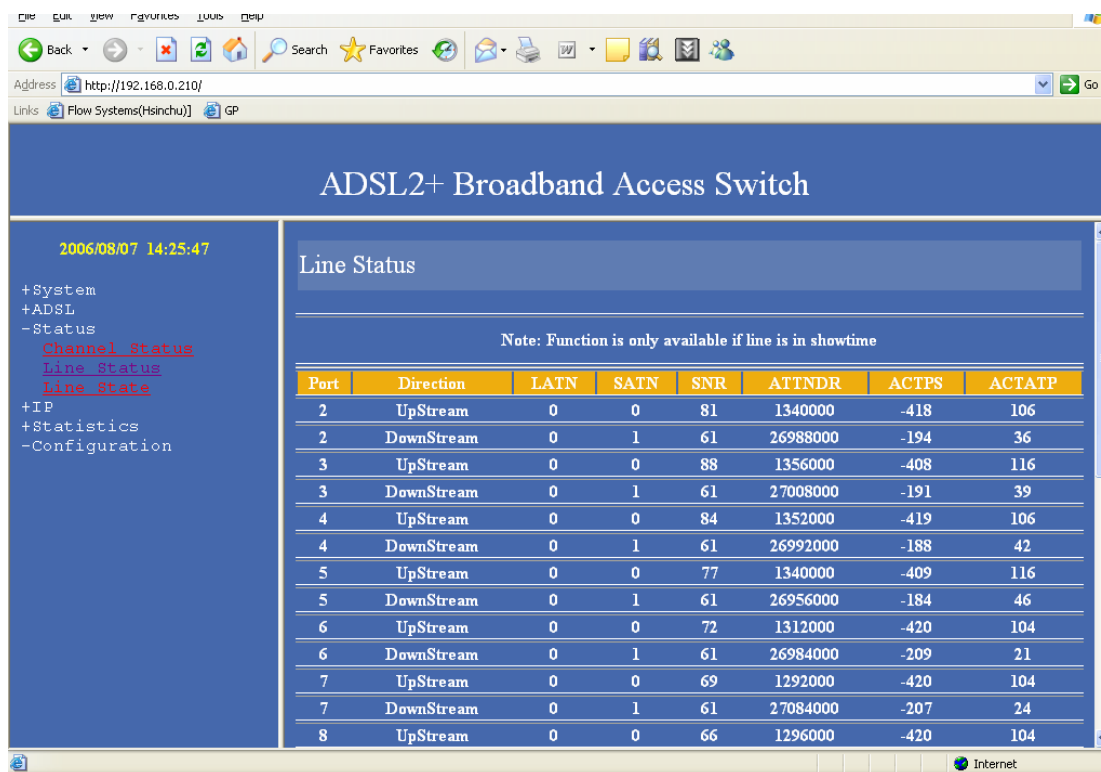
2.4 Status

2.4.1 Channel status



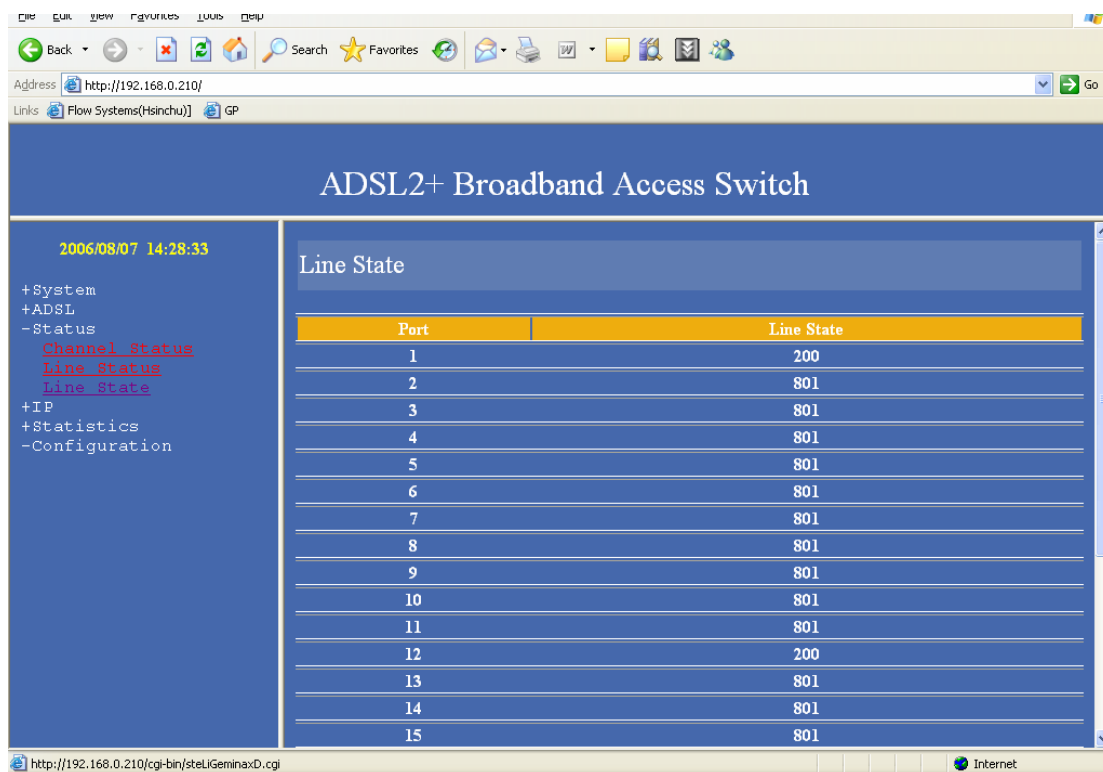
Display the channel status of each port Upstream and Downstream.

2.4.2 Line status



Displays the Line status for each line.

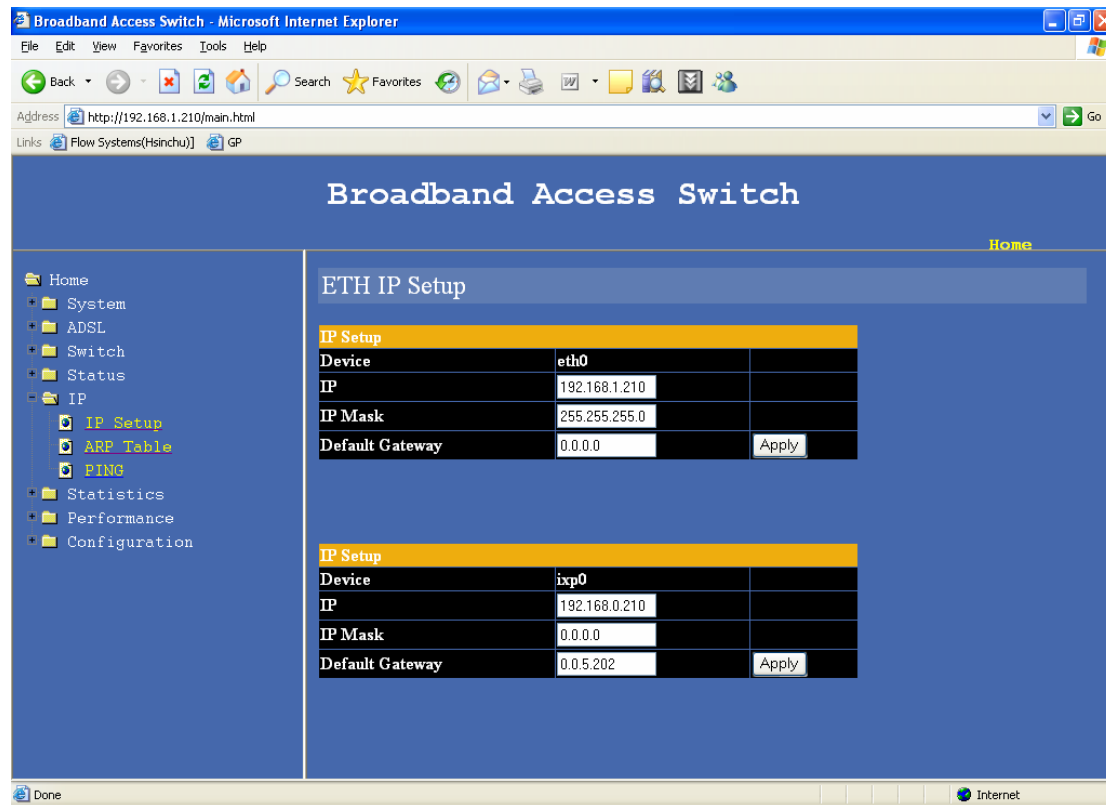
2.4.4 Line state



This page display the current state of the line .

2.5 IP

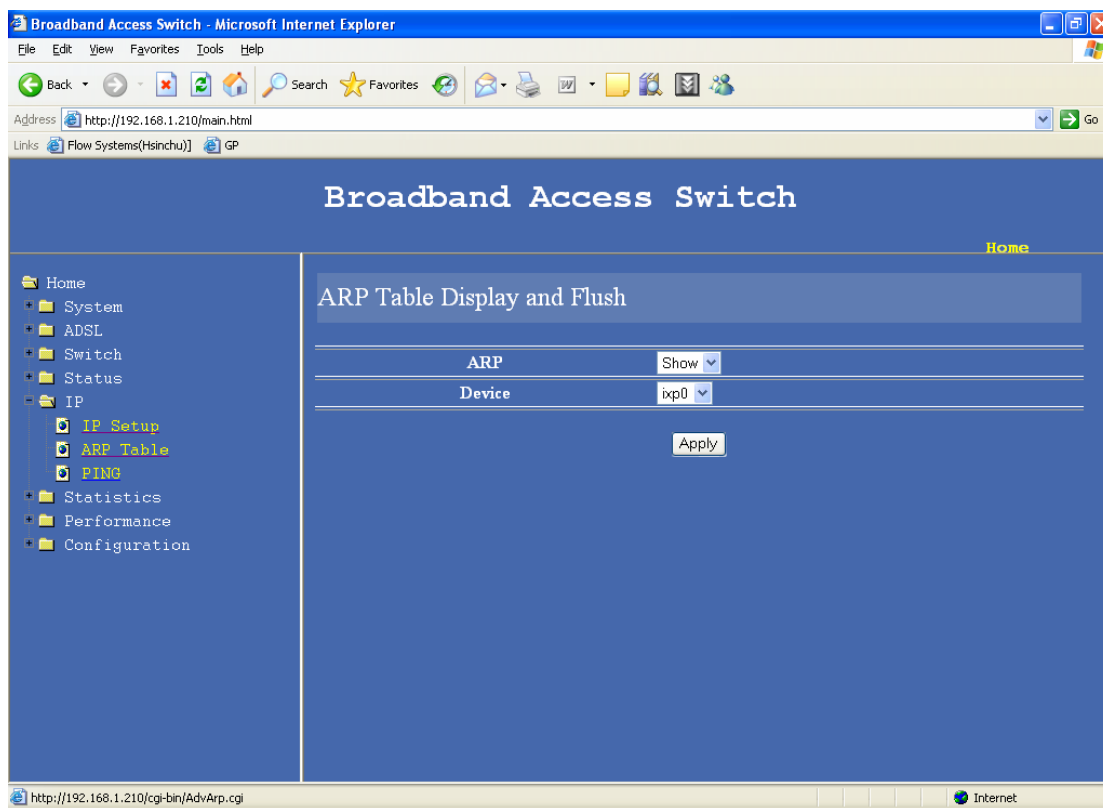
2.5.1 IP setup



For Setting IP, Net mask and Default gateway for Two 1000base uplink ports .

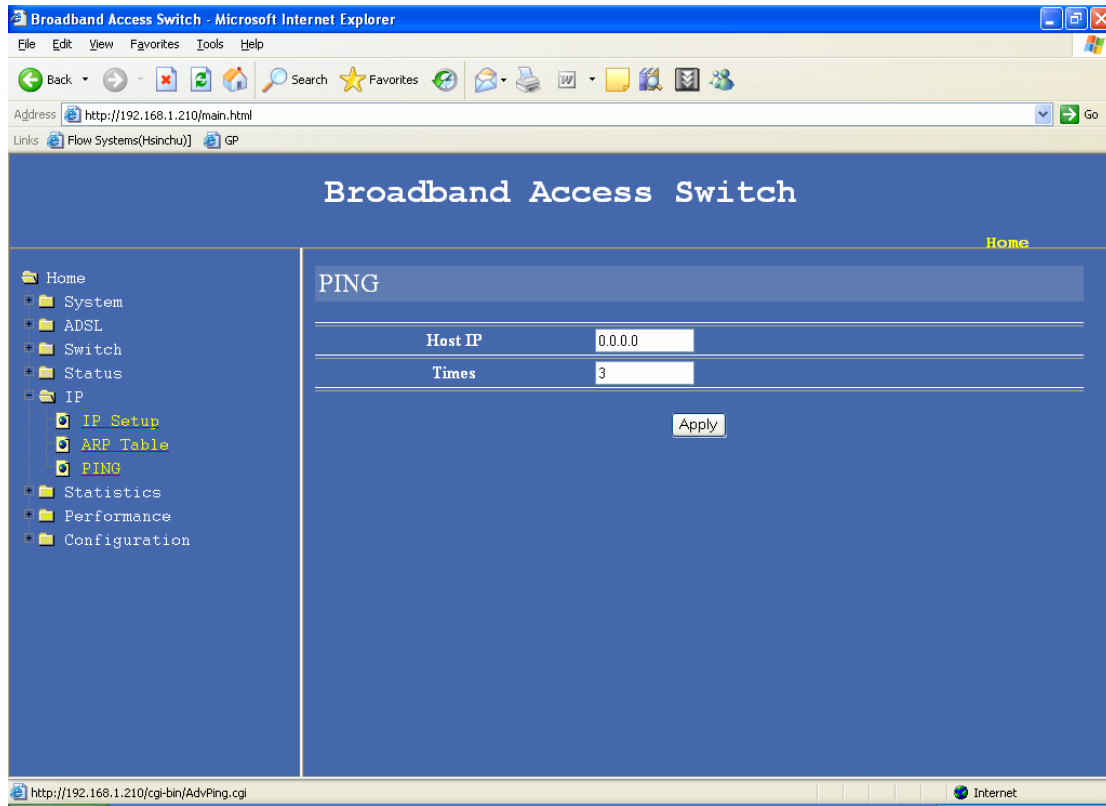
For setting IP, Net mask and Default gateway for the Management 100base Ethernet port.

2.5.2 ARP table Display and flush



For display and Flush ARP table

2.5.3 PING function

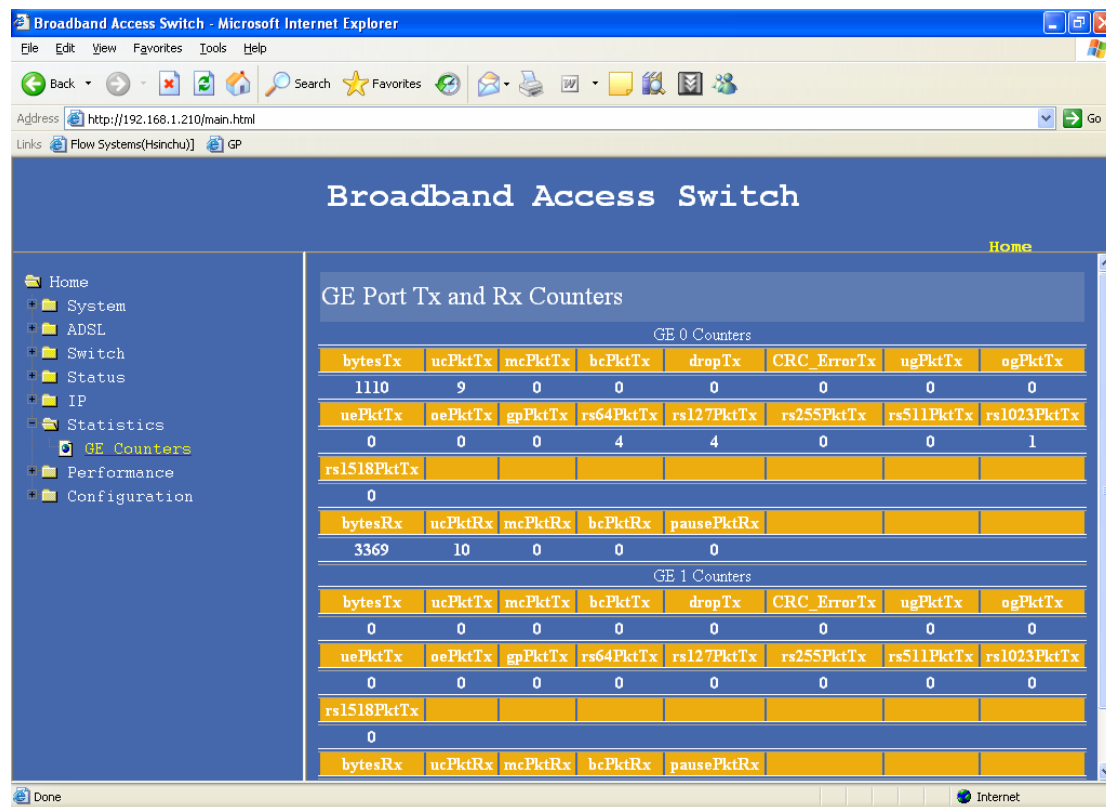


For pinging any IP address for diagnostic purposes

2.5.4 VLAN (For management)

2.6 Statistics

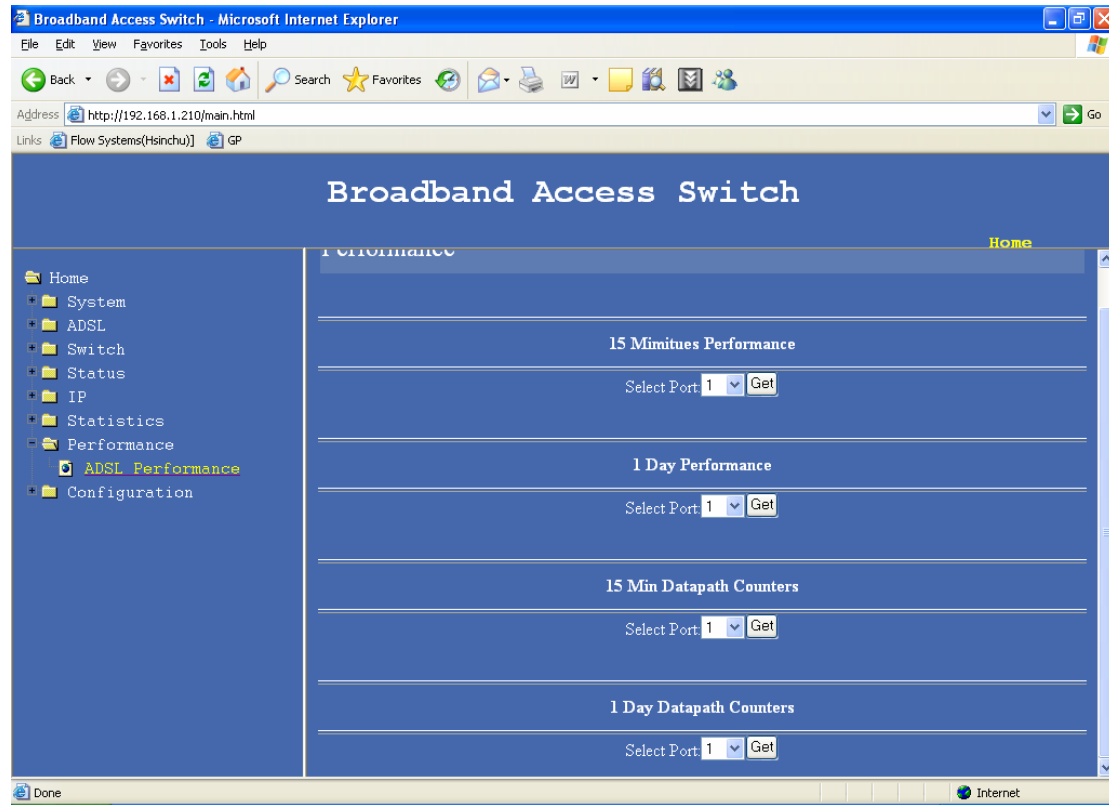
2.6.1 Gigabit Ethernet port counters



For 15 minutes to 1days performance data for BAS-8124/BAS-8124c

2.7 Performance

2.7.1 ADSL performance

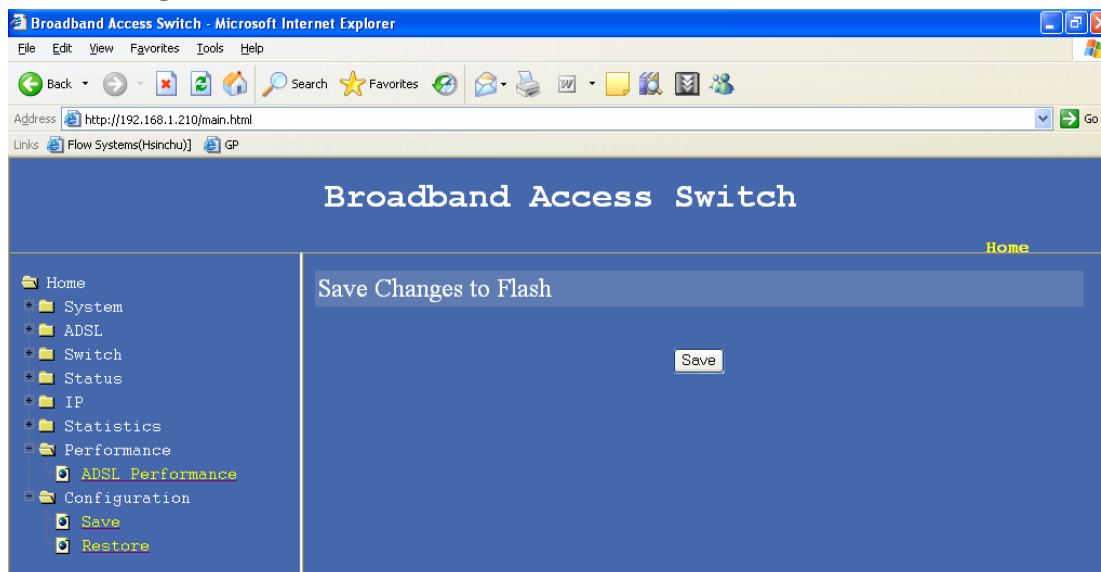


15 minutes ADSL performance

1day ADSL performance

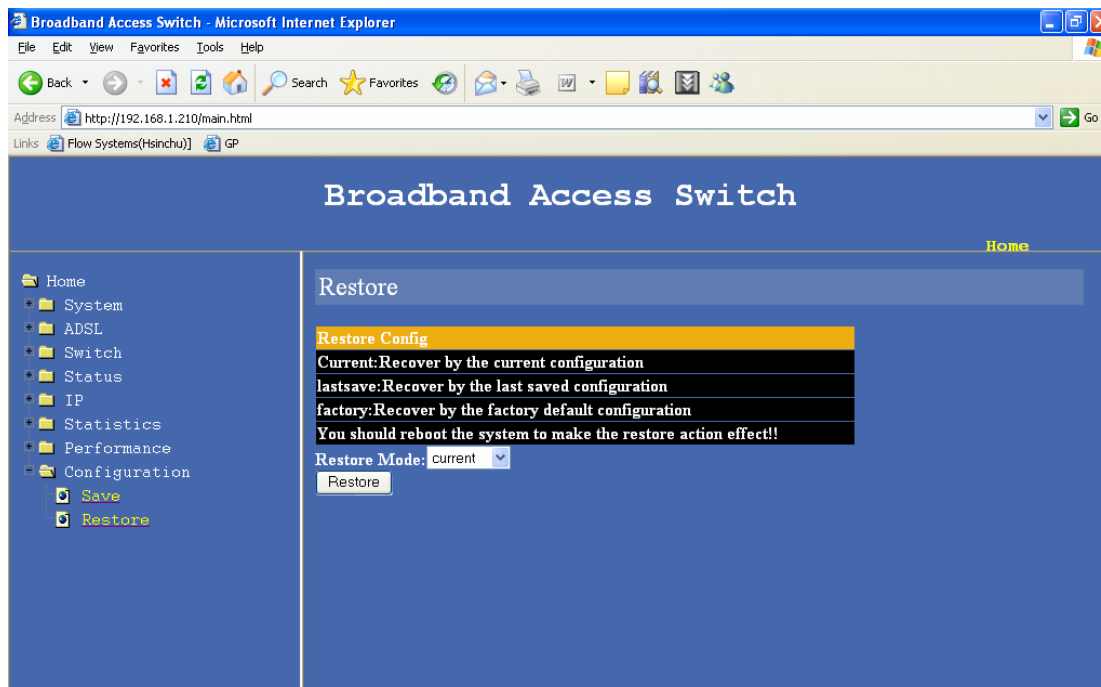
2.8 Configuration

2.8.1 Configuration save



SAVE the current configuration of BAS-8124/BAS-8124c in to non volatile Memory

2.8.2 restore



Set the current configuration to last saved or factory default settings

2.8.3 Software upgrade and Configuration backup

Page for setting the FTP server settings

Update Setting	Setting Value
User Name	root
Format	Login user name of remote-host(FTP user)
Password	*****
Format	Login password of remote-host(FTP password)
Port	21
Format	Port number(Default is 21)
Remote Host IP	192.168.0.120
Format	IP of the remote host
Remote Path	/opt/
Format	[FTP PATH]/path/of/update/ -type=path-> /path/of/
<input type="button" value="Apply"/>	

Page for selecting which file to upgrade

<ul style="list-style-type: none"> <input type="checkbox"/> Save <input type="checkbox"/> Restore <input type="checkbox"/> Upgrade and Backup 	<table border="1"> <thead> <tr> <th>Update Setting</th> <th>Item</th> </tr> </thead> <tbody> <tr> <td>System</td> <td>ramdisk</td> </tr> <tr> <td>Backup Files</td> <td>ADSL2</td> </tr> </tbody> </table>	Update Setting	Item	System	ramdisk	Backup Files	ADSL2
Update Setting	Item						
System	ramdisk						
Backup Files	ADSL2						

Page to back the files

<ul style="list-style-type: none"> <input type="checkbox"/> Save <input type="checkbox"/> Restore <input type="checkbox"/> Upgrade and Backup 	<table border="1"> <thead> <tr> <th>Backup Files</th> </tr> </thead> <tbody> <tr> <td>ADSL2</td> </tr> <tr> <td>vcprofile</td> </tr> </tbody> </table>	Backup Files	ADSL2	vcprofile
Backup Files				
ADSL2				
vcprofile				

3. Configuring the Switch by CLI Interface

If the user uses “super terminal” software to get into CLI interface, a configuration need to be set as the method below:

GOTO –

Start > Programs > Accessories > Communications > HyperTerminal

Creating a New connection



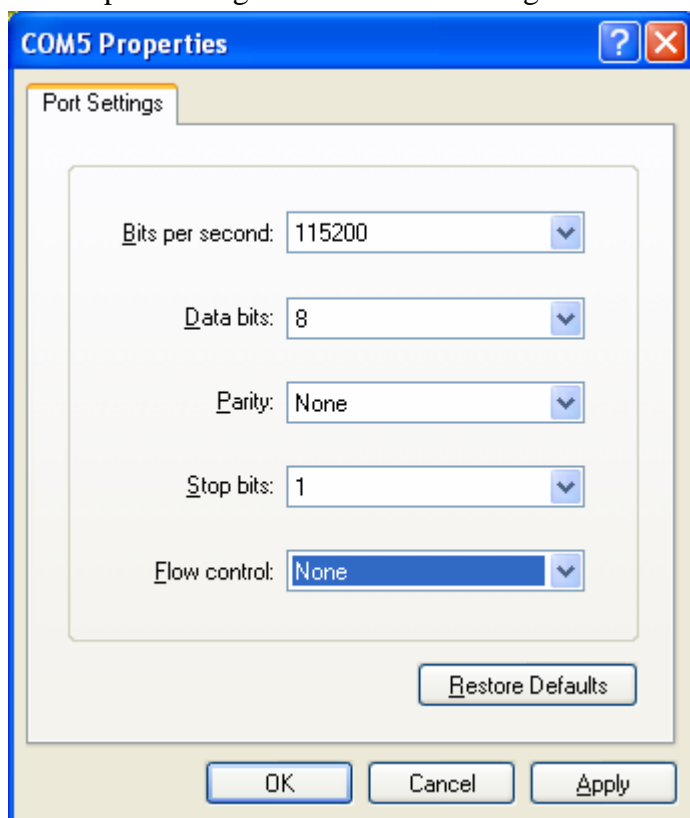
Give a Name to the connection



Select the comport the device is connected to - (if you are using a computer with a built in comport the port number will be COM1 or COM2 but if you are using a RS232 to USB converter the number of com-port can be any other number)



Set the port settings as shown in the image below

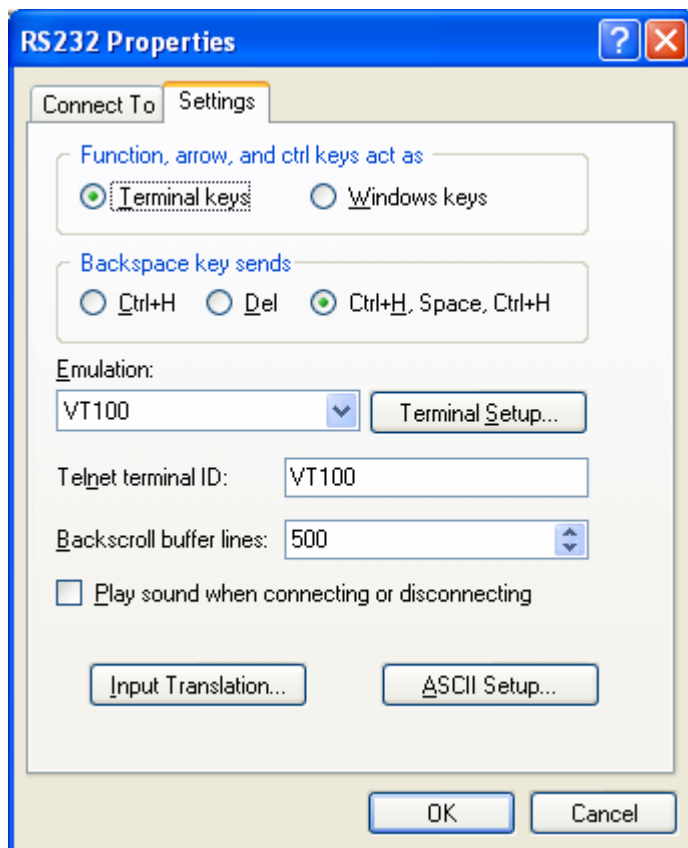


After completing the initial setup,

GOTO –

File > Properties > settings

And do the settings according to the window below.



Log in Process

When connected to the CLI for the first time , the following commands have to be given in order to log in to the system. (commands are in NON bold letters)

BAS login: admin

Password: admin

BAS>

This chapter introduces the command line interface and lists the available commands.

It is divided into 7 topics:

1. **System:-** Deal with system configuration and maintenance.
2. **ADSL:-** Introducing and configuring ADSL parameters.
3. **Status :-** Display the system status
4. **Switch:-** Deal with Switch functions, such as activates and configures IGMP, RSTP and other protocol parameters. (NOTE: some of the functions describe in this topic is still under development).
5. **IP:-** Deal with IP (Internet Protocol) parameters configuration.
6. **Statistics:-** Deal with Error performance and statistic counters.
7. **Config:-** Deal with system parameters and display settings.

After login, help command can be accessed at any time. Help command can be accessed by typing “help” or a “h”. Help command lists all the available commands that are accessible to the user. The following is a screenshot of the system.

```
help          Display command list
?            Display command list
< sys >
< adsl >
< status >
< switch >
< ip >
< statistics >
< config >
exit         Return to upper level
```

Figure 1: Help menu under root directory

Figure 1 showed all the commands under root directory. User can access different directory by typing the corresponding directory name. For example, to enter *system* directory, just type “system” or simply “sys”. To return to parent directory, just type

“exit”. To end CLI session, type “end” under root directory.

Command format

Some commands required parameter(s). The number of parameter required is different for each command. To know each command’s parameters, just type the command name. For example, to know the command format for *XXX*, you can type *XXX*; the screen will show something like this:

```
XXX <aaa/bbb/ccd/ddd> <eee/fff> [ggg]
```

Each set of “<>” bracket represent a parameter and the possible options are enclosed within the bracket, separated by “|”. The option enclosed in the square bracket “[]” means this parameter is optional. In this example, we can see that command *XXX* has three parameters. There are 4 possible options for 1st parameter, namely *aaa*, *bbb*, *ccc* and *ddd*, and two possible option for 2nd parameter, namely *eee* and *fff*, and an optional 3rd parameter. For the command to be executed, you can either type:

```
XXX aaa eee ggg
```

or

```
XXX aaa eee
```

Both of them are valid input, since this command takes two OR three parameters.

SYSTEM:

These are the commonly used commands that belong to the sys (system) group of commands as the figure 2. You can input “help” or “?” for help.

BAS/sys>help	
help	Display command list
?	Display command list
daisycontrol	The management of daisy chain
update	update system version
info	Show general system information
user	Setup user information
userpasswd	Password of administrator
reboot	Reboot the system
server	The device's service status and port numbers information
syslog	Log the system status and exception
time	The system's current time
date	The system's current date
timeserver	The system's time server
exit	Return to upper level

Figure 2 : sys command

daisycontrol

syntax : daisycontrol <show|setdevice|settarget|tsetslavenum|tshowslavenum>

- show Display the settings of daisy chain management.
- setdevice Set the local device ID.
- settarget Set the target ID.
- setslavenum Set the max slave number.
- showslavenum Show the max slave number.

BAS0/sys>daisy	
The management of daisy chain.	
Usage:	
daisycontrol <show setdevice settarget tsetslavenum tshowslavenum>	
show	Display the settings of daisy chain management.

setdevice	Set the local device ID.
settarget	Set the target ID.
setslavenum	Set the max slave number.
showslavenum	Show the max slave number.

Update

Syntax : update <system|setting|backup>

- system Update the system into new version.
- setting Update parameters setting.
- backup Backup the config files (ADSL/vcprofile) into remote .

command usage

```
BAS0/sys>update
usage:
update <system|setting|backup>
    system  Update the system into new version.
    setting Update parameters setting.
    backup  Backup the config files (ADSL/vcprofile) into remote .
```

Info

This command shows general system setting about switch name, switch location, contact person and contact phone number.

Syntax: info <show| switchname <switchname>| location| contact| phone>

- show – list all the settings of the info menu
- switchname – switch name
- location – switch location, you can set this device location into the system
- contact – contact person that you maybe contact to
- phone – contact phone number

Command usage:

Example:

```
BAS/sys>info
```

Show general system information.	
Usage:	
info <show switchname location contact phone>	
show	Display general system information.
switchname	Set the switch name.
location	Set the location information.
contact	Set the contact person information.
phone	Set the contact phone number.

Figure 3 : info command

User

The commands can add/del/list users in the system. It provides several methods of user management .

Syntax: user <add <username>|del <username>|list |online| passwd <username>>

- add – add an account and assign it's group to management or browse system.
- del – delete an account from the system
- list – list all registered users in the system
- online – list all online users in the system
- passwd – set or change users password in the system

Command usage:

- add <username> - username is the name you want add into the system.
- del <username> - you must specify the username that you want delete from the system, otherwise system will ignore this action

Example:

BAS/sys>user	
Setup user information.	
Usage:	
user <add del list online passwd>	
add	Add an account and assign it's group.
del	Delete an account.
list	List all registered users in the system

online	List all online users in the system
passwd	Set the user's password.

Figure 4 : user command

Reboot

This command let user reboot the system.

Syntax: reboot <now >

Command useage:

reboot <now >

Example:

```

BAS/sys>reboot

Reboot the system.

Usage:
reboot < now >
        now      Reboot the system immediately.

```

Figure 6 : reboot command

Server

Syntax: server <show| enable <telnet| ftp| web| ssh>|disable <telnet |ftp| web| ssh>| port>

- show – display current server service status.
- enable – open the telnet, ftp, web or ssh server service
- disable – close the telnet, ftp, web or ssh server service
- port – show the port of a service

Command usage:

- default setting are
 - telnet – enable
 - ftp – enable
 - web – disable
 - ssh – disable

Example:

```
BAS/sys>server
```

The device's service status and port numbers information

Usage:

```
server <show| enable| disable| port><telnet| ftp| web| ssh>
```

show Display the device's service status and port numbers.

enable Turn on a service.

disable Turn off a service.

port Show the port of a service.

Figure 7 : server command

Syslog

syslog is a utility for tracking and logging all manner of system messages from the merely informational to the extremely critical. Each system message sent to the syslog server has two descriptive labels associated with it that makes the message easier to handle

- The first describes the function (facility) of the application that generated it. For example, applications such as mail and cron generate messages with easily identifiable facilities named mail and cron
- The second describes the degree of severity of the message

Syntax: syslog <show|config|enable|disable|clean>

- show Display the system log.
- config Display the syslog settings.
- clean Clean the syslog show.
- enable Turn on the syslog logging.
- disable Turn off the syslog logging.

Example:

```
BAS/sys>syslog
```

Log the system status and exception.

Usage:

```
syslog <show|config|enable|disable|clean|server>
```

show Display the system log.

config	Display the syslog settings.
clean	Clean the syslog show.
enable	Turn on the syslog logging.
disable	Turn off the syslog logging.
server	Log message to remote log server.

Figure 8 : syslog command

Time

This command can display and set system's time.

Syntax: time <show | set>

- show – display system time
- set – set system time

Command usage:

- set time use this format hh:mm:ss
- BAS-8124/BAS-8124c uses 24 hours format

Example:

```
BAS/sys>time

The system's current time

Usage:
time <show| set>
    show    Display the system's current time.
    set     Set the system's time.
```

Figure 9 : time command

Date

This command can display and set system's date.

Syntax: date <show | set>

- show – display system date

- set – set system date

Command usage:

- set date use this format yyyy:mm:dd

Example:

```
BAS/sys>date

The system's current date

Usage:
date <show| set>

    show    Display the system's current date.
    set     Set the system's date.
```

Figure 10 : date command

Timeserver

This command can display and use system's time server.

Syntax: timeserver <show | set>

- show – display system's time server
- sync – retrieves the date and time from the timeserver

Example:

```
BAS/sys>timeserver

Usage:
timeserver <show|sync|setting>

    show    Display the system's time server.
    sync    Retrieves the date and time from the timeserver.
    setting Set the IP of timeserver,Set the periods of sync.
```

Figure 11: timeserver command

Alarm

Syntax : alarm <show>

show Display the recorded system alarm.

alarm show <current|history>

Command usage:

```
BAS0/sys>alarm
```

The recorded system alarm.

Usage:

```
alarm <show>
```

show Display the recorded system alarm.

```
BAS0/sys>alarm show
```

Usage:

```
alarm show <current|history>
```

ADSL:

This chapter explains how to configure BAS-8124/BAS-8124c system's ADSL ports. It also covers how to configure virtual channels and virtual channel profiles.

A profile is a table that contains a list of pre-configured ADSL settings. Each ADSL port has one profile assigned to it. The profile defines the latency mode and upstream/downstream latency delay maximum and minimum upstream/downstream rates, the target upstream/downstream signal noise margins, and the maximum and minimum upstream/downstream acceptable noise margins of all the ADSL ports that have this profile. You can configure multiple profiles, including profiles for troubleshooting.

help	Display command list
?	Display command list
enable	Turn on the specified ADSL ports
disable	Turn off the specified ADSL ports
profile	Display, create, modify, delete, or copy an ADSL line profile
name	Set the name of the port
linediag	set,get line diagnostics
vcprofile	display, create, modify, delete a virtual channel profile
alarmprofile	Display, create, modify, delete, or copy an ADSL line alarmprofe
pvc	Display, create, modify, and remove a PVC setting
exit	Return to upper level

Figure 12: adsl command

Enable

Syntax: enable <port>

- enable an ADSL port

Command usage:

- port – the default

Example:

```
BAS/adsl>enable

Turn on the specified ADSL ports

Usage:
enable portlist (1-24)

BAS/adsl>enable 1~24 (will enable all the ports)
```

Figure 13 : enable command

Disable

Syntax: disable <port>

- disable an ADSL port

Command usage:

- port – the default

Example:

```
BAS/adsl>disable

Turn off the specified ADSL ports

Usage:
disable portlist (1-24)

BAS/adsl>disable 1~24 (will disable all the ports)
```

Figure 14 : disable command

Profile

Syntax: profile <show| set| delete| map>

- show –show an ADSL profile
- set – create an ADSL line profile downstream max rate – downstream minimum rate
- delete – remove an ADSL profile
- map – assign a specified profile to a port and set the port's ADSL mode

Command usages:

- set – the default
- delete – the default
- map <portlist> <profile> <glite| gdm| t1413| auto| adsl2>

Example:

```
BAS/adsl>profile

Display, create, modify, delete, or copy an ADSL line profile

Usage:
profile <show| set| delete| map>
    show      Show an ADSL profile.
    set       Create an ADSL line profile.
    delete    Remove an ADSL profile.
    map       Assign a specified profile to a port and set the port's ADSL
              mode.
```

Figure 15: profile command

Name**Syntax:** name <port> <name>

- Give a name for ADSL port profile

Example:

```
BAS/adsl>name

Enter port number you want to set
```

Figure 16: name command

Line diagnostic

Syntax : linediag <port number>

- Run line diagnostic on the specified port

Example :

```
BAS/adsl>linediag
```

Usage:

```
linediag
```

Set the specified port to line diagnostics and display the result.

Vcprofile

Syntax: vcprofile <show| set| delete>

- show – show a virtual channel profile's contents
- set – create a VBR virtual channel profile (with encapsulation)
- delete – remove a virtual channel profile (with encapsulation)

Example:

```
BAS/adsl>vcprofile
```

display, create, modify, delete a virtual channel profile

Usage:

```
vcprofile <list|show|set|delete>
```

list List all exist vcprofiles.

show Show a virtual channel profile's contents.

set Create a VBR virtual channel profile (with encapsulation).

delete Remove a virtual channel profile (with encapsulation).

Figure 17 : vcprofile command

Vcprofile set ,

Syntax :

```
vcprofile set vcprofilename EncapsulationType(0|1) VPI(0~4095) VCI(0~65535)
```

Alarmprofile

Syntax: alarmprofile <show| set| delete| map>

- show – display alarm profiles and their settings
- set – configure an alarm profile
- delete – remove an alarm profile
- map – map specified ADSL ports to an alarm profile

Example:

```

BAS/adsl>alarmprofile

Display,create,modify,delete,or copy an ADSL line alarmprofile

Usage:
alarmprofile <list| show| set| delete| map>
    list          List all alarm profiles.
    show          Display alarm profiles and their settings.
    set           Configure an alarm profile.
    delete        Remove an alarm profile.
    map           Map specified ADSL ports to an alarm profile.
    showmap       Showmap Display alarm profile to ADSL mapping
    showport      Showport Display which alarm profile parameterst

```

Figure 18 : vprofile command

PVC

Syntax: pvc <show| set| delete>

- show –display PVC settings
- set –create or modify a PVC setting
- delete –remove a PVC setting

Example:

```
BAS/adsl>pvc

Display, create, modify, and remove a PVC setting

Usage:
pvc <show| set| delete>
    show    Display PVC settings.
    set     Create or modify a PVC setting.
    delete  Remove a PVC setting.
```

Figure 19 : pvc command

Status:

This chapter will guide user to show some system status.

```
help          Display command list
?            Display command list
exit         Return to upper level
chstatusget  channel status get
linestatusget line status get
linestateget line state get
```

Figure 20 : status command list

Chstatusget**Syntax: chstatusget****Example:**

```
BAS/status>chstatusget

channel status get
```

Usage:
chstatusget nLine(1-24) nChannel(0) nDirection(0-1)

Figure 21 : Chstatusget command

Linestatusget

This command will list the line status.

Syntax: linestatusget

Example:

BAS/status>linestatusget
line status get
Usage:
linestatusget nLine(1-24) nDirection(0-1)

Figure 22 : linestateget command

Linestateget

This command will list the line states.

Syntax: linestateget

Example:

BAS/status>linestateget
line state get
Usage:
linestateget nline(1-24)

Figure 23 : linestatusget command

SWITCH:

This chapter will guide user how to configure the BAS-8124/BAS-8124c switch features.

help	Display command list
?	Display command list
queuemap	The system's priority level to physical queue mapping
vlan	Vlan setup
eth	The Ethernet port settings
looptest	The loop setting
exit	Return to upper level

Figure 24 : switch command list

Queuemap

This command display system related physical queue map and set a degree to a physical queue.

Syntax: queuemap <show | set <priority> <queue>>

Example:

BAS/switch>queuemap	
The system's priority level to physical queue mapping	
Usage:	
queuemap <show set>	
show	Display the system's priority level to physical queue mapping.
set	Map a priority level to a physical queue.

Figure 25 : queuemap command

VLAN

Usage:

vlan <show|portshow|basicset|advset|switchmode|frametype>

- show Display VLAN settings.
- portshow Display the port(s) VLAN settings.

- **basicset** Basic Configuration of a VLAN entry.
- **advset** Advanced Configuration of a VLAN entry.
- **switchmode** Set forwarding mode.
- **frametype** Set the specified DSL port to accept tagged, untagged or Ethernet frames (or both).

```
BAS/switch>vlan
```

Usage:

```
vlan <show|portshow|basicset|advset|switchmode|frametype>
```

- | | |
|------------|-------------------------------------------------------------------------------------|
| show | Display VLAN settings. |
| portshow | Display the port(s) VLAN settings. |
| basicset | Basic Configuration of a VLAN entry. |
| advset | Advanced Configuration of a VLAN entry. |
| switchmode | Set forwarding mode. |
| frametype | Set the specified DSL port to accept tagged, untagged or Ethernet frames (or both). |

MAC

Syntax : mac <agingtime|agingtimeshow|filter>

- **agingtime** Set MAC table aging time
- **agingtimeshow** Show MAC table aging time
- **filter** Set MAC filter table

```
BAS/switch>mac
```

Usage:

```
mac <agingtime|agingtimeshow|filter>
```

- | | |
|---------------|---------------------------|
| agingtime | Set MAC table aging time |
| agingtimeshow | Show MAC table aging time |
| filter | Set MAC filter table |

Eth

Syntax: eth <show| speed| enable| disable>

- show – display the Ethernet port settings
- speed – set the Ethernet port(s) connection speed
- enable – Turn on the specified Ethernet port
- disable – Turn off the specified Ethernet port

Example:

```
BAS/switch>eth
```

```
The Ethernet port settings
```

```
Usage:
```

```
eth <show| speed| enable| disable>
```

```
    show    Display the Ethernet port settings.
    speed   Set the Ethernet port(s) connection speed.
    enable  Turn on the specified Ethernet port(s).
    disable Turn off the specified Ethernet port(s).
```

Figure 26 : eth command

Looptest

Using this command you can diagnostic this device through four ways loops.

Syntax: looptest <ingutopia|egutopia|ingge0|egge0|disable>

- ingutopia - LoopLine Interface, UTOPIA Ingress Loop enable
- egutopia - LoopLine Interface, UTOPIA Egress Loop enable
- ingge0 - System Interface, LAN Interface Ingress Loop enable
- egge0 - System Interface, LAN Interface Egress Loop enable
- disable - All Loop disable

Example:

```
BAS/switch>looptest
```

```
The loop setting
```

Usage:		
looptest <ingutopia egutopia ingge egge disable>		
ingutopia	LoopLine Interface, UTOPIA	Ingress Loop enable.
egutopia	LoopLine Interface, UTOPIA	Egress Loop enable.
ingge	System Interface, LAN Interface	Ingress Loop enable.
egge	System Interface, LAN Interface	Egress Loop enable.
disable	All Loop disable.	

Figure 27 : loop command

IP:

A set of IP commands may be used for management access to BAS-8124/BAS-8124c over your network.

help	Display command list
?	Display command list
show	Display the management ip address settings
arp	Display, flush the device ARP table
set	Set the management ip address and subnet mask and mac address
gateway	Set the default gateway of the device's default gateway
route	The routing table.
ping	Ping a remote host
exit	Return to upper level

Figure 28 : IP command list

Show**Syntax:** show

- show – displays the IP settings for this device

Example:

BAS/ip>show			
ixp0	ip addr:	192.168.0.210	
	mac addr:	00:aa:aa:aa:aa:aa	
	gateway:	0.0.0.0	
	net mask:	255.255.255.0	

eth0	ip addr:	172.168.1.210
	mac addr:	00:05:ca:00:04:10
	gateway:	0.0.0.0
	net mask:	255.255.255.0

Figure 29 : show command

Arp

Syntax: arp <show | flush>

- show – displays the ARP table
- flush – remove all of the entries from the ARP table

Example:

<pre>BAS/ip>arp</pre> <p>Display, flush the device ARP table</p> <p>Usage:</p> <pre>arp <show flush></pre> <pre> show Display the device ARP table</pre> <pre> flush Flush the device ARP table</pre>

Figure 30 : arp command

Set

Syntax: set <ip| netmask| mac>

- ip –set the management ip address
- netmask –set the management subnet mask
- mac –set the management mac address

Example:

<pre>BAS/ip>set</pre> <p>Set the management ip address and subnet mask and mac address</p> <p>Usage:</p>

set <ip netmask mac>	
ip	Set the management ip address
netmask	Set the management subnet mask
mac	Set the management mac address
vlan	Set the request vlan

Figure 31 : set command

Gateway

Use this command to establish a static route between this device and management stations that exist on another network segment.

Syntax: gateway <gateway ip>

- gateway ip – the IP address of the gateway that you want to send the packets through

Example:

BAS/ip>gateway
Set the default gateway of the device's default gateway
Usage:
gateway <gateway ip>

Figure 32 : gateway command

Route

Use this command to display the routing table.

Syntax: route <show>

- show – display the routing table

Example:

BAS/ip>route
The routing table

Usage:
route <show>
show Display the routing table.

Figure 33 : route command

Ping

This is an IP facility to check for network functionality by sending an echo request to another IP host and waiting for the replay

Syntax: ping <ip> [count]

- ip – the IP address of the target
- count – the number of pings you want the BAS-8124/BAS-8124c to send

Example:

BAS/ip>ping
 Ping a remote host
 Usage:
ping <ip> <count>

Figure 34 : ping command

STATISTICS:

Use these commands to display ADSL statistics.

help	Display command list
?	Display command list
adsl	Display DSL statistics
ethuto	Display UTOPIA VCC ETHER GE data
exit	Return to upper level

Figure 35 : statistics command list

Adsl

Syntax: adsl < 15mperf|1dayperf|15mdpc|1daydpc>

- 15mperf – display the line performance statistics for the current and previous 15-minute periods
- 1dayperf –display the line performance statistics for the current and previous 24 hours
- 15mdpc – display the data path counters statistics for the current and previous 15-minute periods
- 1daydpc – display the data path counters statistics for the current and previous 24 hours

Example;

```

BAS/statistics>adsl

Display DSL statistics

Usage:
adsl <15mperf|1dayperf|15mdpc|1daydpc>
    15mperf      Display the line performance statistics for the current
                  and previous 15-minute periods.
    1dayperf     Display the line performance statistics for the current
                  and previous 24 hours.
    15mdpc       Display the data path counters statistics for the curren
t                t
                  and previous 15-minute periods.
    1daydpc      Display the data path counters statistics for the curren
t                t
                  and previous 24 hours.

```

Figure 36 : adsl command

Ethuto

Syntax: ethuto <utopia| vcc| ether| ge| vcencapgroup| exception>

- utopia –display UTOPIA port rx and tx counters
- vcc –display Vcc interface rx and tx counters
- ether –display ether interface rx and tx counters
- ge – display ge port rx and tx counters
- vcencapgroup – display Vc EncapGroup rx and tx counters

- exception – display exception rx and tx counters

Example;

```
BAS/statistics>ethuto

Display all counter data

Usage:
ethuto <utopia| vcc| ether| ge| vcencapgroup| exception>
    utopia          Display UTOPIA port rx and tx counters.
    vcc             Display Vcc interface rx and tx counters.
    ether          Display Ether interface rx and tx counters.
    ge             Display GE port rx and tx counters.
    vcencapgroup   Display Vc EncapGroup rx and tx counters.
    exception      Display Exception rx and tx counters.
```

Figure 37 : ethuto command

CONFIG:

These command let user save/restore/setdefault the configuration in system.

```
help          Display command list
?            Display command list
save         Save the current configuration
restore      Recover the specified configuration
exit        Return to upper level
```

Figure 38 : config command list

Save

This command saves all system configurations to nonvolatile memory. You must use this command to save any configuration changes that you make, otherwise the BAS-8124/BAS-8124c will ignore the changes. Save your changes after each configuration session.

Syntax: save

- use this command to save your configuration when you are done with a configuration session

Example:

```
BAS/config>save  
  
Do you want to save the current configuration? (y/n)
```

Figure 39 : save command

Restore

This command will reload the last correct configuration in the system. Using this command you can easily back to the latest successful configuration

Syntax: restore <current| last| factory>

- current – recover by the current configuration
- last – recover the by last saved configuration
- factory – recover by the factory default configuration

Example:

```
BAS/config>restore  
  
Recover the specified configuration  
  
Usage:  
restore <current| last| factory>  
  
current      Recover by the current configuration.  
last         Recover by the last saved configuration.  
factory      Recover by the factory default configuration.
```

Figure 40 : restore command

4. VLAN feature

VLAN can be set using both web interface as well as the Command line Interface through Console , Telnet or SSH shell. VLAN IDs can be set to each ADSL port as well as to the Management functions built in.

4.1 ADSL port VLAN

ADSL ports support both single VID as well as Double VID , to setup single VID (only the default VID) the command **basic VLAN set** is used , for setting two VIDs , that is to set default VLAN tag as well as a Stack tag the **Advanced Vlan** set is used.

Using CLI for setting up VLAN

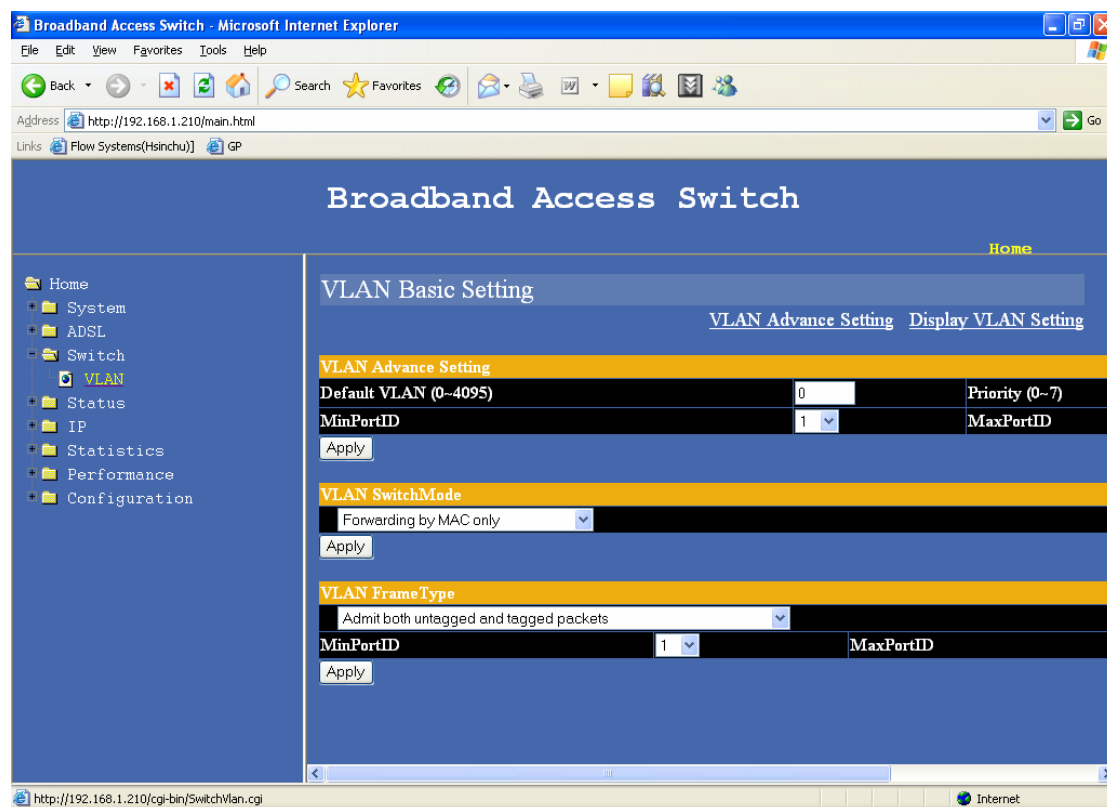
```
BAS/switch>vlan
```

Usage:

```
vlan <show|portshow|basicset|advset|switchmode|frametype>
```

show	Display VLAN settings.
portshow	Display the port(s) VLAN settings.
basicset	Basic Configuration of a VLAN entry.
advset	Advanced Configuration of a VLAN entry.
switchmode	Set forwarding mode.
frametype	Set the specified DSL port to accept tagged, untagged or Ethernet frames (or both).

Using the WEB interface



4.1.1 Simple VLAN setup

Command : **vlan basicset**

Usage:

vlan basicset default_vlan(0~4095) prio(0~7) minPort_ID(1~24) maxPort_ID(1~24)

Example:

set port # 2 to port # 5 as a members if the VLAN with VID 100 priority 1

vlan basicset default_vlan(0~4095) prio(0~7) minPort_ID(1~24) maxPort_ID(1~24)

BAS/Switch > vlan basicset 100 1 2 5

4.1.2 Advance VLAN setup

Command : vlan advset

Usage:

vlan advset default_vlan(0~4095) prio(0~7) stacked_vlan prio RX_vlan_StripMode(
0~2) RX_vlan_TagMode(0~3) TX_vlan_StripMode TX_vlan_TagMode minPort_ID(1~24) max
Port_ID(1~24)

vlan_StripMode:

- 0 :no VLAN tag is stripped
- 1 :top VLAN tag is stripped
- 2 :all VLAN tags are stripped

vlan_TagMode:

- 0 :no VLAN tag is added
- 1 :top VLAN tag is added
- 2 :default VLAN and stacked VLAN tags are added
- 3 :default VLAN tag is added

Example:

set port # 2 to port # 5 to VLAN with,

1. default VID 200 – priority 1
2. Stack VID 500 – priority 1
3. pkt receive strip mode 0
4. pkt receive TAG mode 2
5. pkt Transmit Strip mode 2
6. pkt transmit TAG mode 0

vlan advset default_vlan(0~4095) prio(0~7) stacked_vlan prio RX_vlan_StripMode(
0~2) RX_vlan_TagMode(0~3) TX_vlan_StripMode TX_vlan_TagMode minPort_ID(1~24) max
Port_ID(1~24)

```
BAS/switch > vlan advset 200 1 500 1 0 2 2 0 2 5
```

4.1.3 VLAN frame rule

BAS/switch>vlan frame

Usage:

vlan frametype Frametype(0~3) minPort_ID(1~24) maxPort_ID(1~24)

Frametype:

- 0 :Admit both untagged and tagged packets
- 1 :Admit tagged packets(both priority tagged and VLAN tagged) only
- 2 :Admit untagged and priority tagged packets only
- 3 :Admit untagged packets only

Example: if you want the ports from port # 2 to port # 5 to admit only VLAN tagged packets

BAS/switch > vlan frametype 1 2 5

4.1.4 VLAN enable and Disable

After setting required settings the Switch mode of the BAS-8124/BAS-8124c has to be set , if VLAN setting to take effect the packet forwarding mode has to be set to use both MAC address and VID for packet forwarding ,

Usage:

vlan switchmode Mode(0~1)

Mode:

- 0 :Forwarding by MAC only
- 1 :Forwarding by MAC and VLAN both

Example :

BAS/switch > vlan switchmode 1

4.2 Management VLAN

Setting a VID for management purposes is a not related to setting the VIDs of ADSL ports. A VID is set for Management if the in band Management is done using a VLAN , for example if the in band management is done using a separate VLAN with the VID 4080 and priority 1 , that can be set in the IP setup for Uplink ports ,

BAS/ip>set vlan

Usage:

set vlan <enable|disable> vlanID(1~4094)

Example:

set the management VLAN ID to 4080 with priority 1

set vlan <enable|disable> vlanID(1~4094)

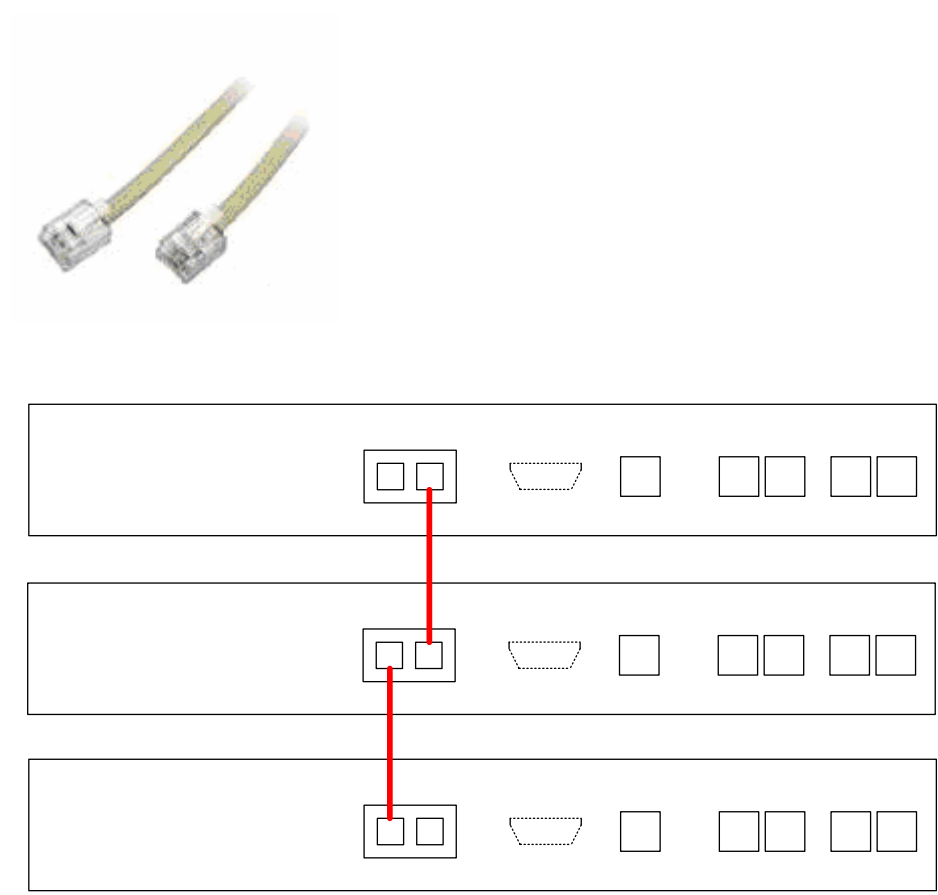
Bas/ip > set vlan enable 4080

5. Daisy control – Management cascade (only for BAS-8124)

Daisy control is used for managing a stack of BAS-8124 s (max – 5 devices) using a single IP address or using the console port of one device in the stack. One device should be set as the Master device and all other devices should be configured as slave individually.

Physical setup ,

The connection marked in RED is cable with standard RJ 11 connector and wire connection (this is as same as the cable used in connecting domestic telephones)



Step – 1

Connect the console and Ethernet to the master device
Configure the device as the Master device

CLI command :

daisycontrol setDevice id(0~5)

```
BAS/sys> daisycontrol setdevice 0
```

step – 2

Connect the console and Ethernet to the slave # 1
configure second device as slave # 1

CLI command :

daisycontrol setDevice id(0~5)

```
BAS/sys> daisycontrol setdevice 1
```

step – 3

Connect the console and Ethernet to the slave # 2
configure third device as slave # 2

CLI command :

daisycontrol setDevice id(0~5)

```
BAS/sys> daisycontrol setdevice 2
```

Step – 4

Reconnect the console and/or Ethernet management link to the Master device
Select the device you want to control

Command:

daisycontrol setTarget id(0~5)

Device under control – MASTER

```
BAS0/sys> daisycontrol settarget 0  
BAS0/sys>
```

Device under control – SLAVE # 1

```
BAS0/sys> daisycontrol settarget 1  
BAS1/sys>
```

Device under control –SLAVE # 2

```
BAS0/sys> daisycontrol settarget 2  
BAS2/sys>
```

After setting the target device , the BAS> prompt will display the target device number ,

E.g. – if the target device is 2 , BAS prompt will look like ,

```
BAS2/sys>
```

When the target is set to device 2 the CLI interface will control the Device two .

6. Software upgrade and Configuration backup

For this feature you have to have a FTP server in your PC or in the network for BAS-8124 to access , when upgrading BAS-8124 will connect to the FTP server as a client and download the software from the FTP server.

6.1 Upgrade procedure

Step 1 :

In your FTP server ,

Create a directory named – update

Create a directory named – backup

Step 2 :

Copy the two files – **newrandisk.image** and **newkernal.image** , new configuration files **adsl** and **vcprofile** in to the update directory in the FTP server

Step 3 :

Setup the FTP client in BAS-8124,

Update Setting	Setting Value
User Name	root
Format	Login user name of remote-host(FTP user)
Password	*****
Format	Login password of remote-host(FTP password)
Port	21
Format	Port number(Default is 21)
Remote Host IP	192.168.0.120
Format	IP of the remote host
Remote Path	/opt/
Format	[FTP PATH]/path/of/update/ =type=path=> /path/of/
<input type="button" value="Apply"/>	

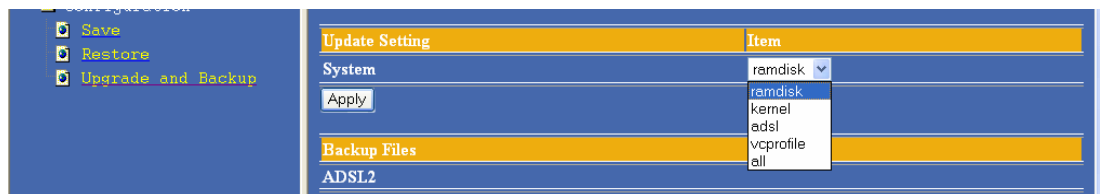
Remote path – is the path to the update directory in the FTP server ,

E.g. – if update directory is in,

“**Bas/software/update**” you should enter “**Bas/software/**”

(always use a FTP client to obtain the path – internet explorer will not display the complete path)

Step 4 : select which file you want to upgrade and apply – select the option “all” if you want to update all the files.



6.2 Back up –configuration file,

Step – 1

Create a directory named “backup” in the same location where the update directory is created ,

Step – 2 – just click **apply** – the two configuration files **adsl** and **vcprofile** will be copied in to the backup directory. If you want to copy the configuration files to another device , copy the two files **adsl** and **vcprofile** in to the update folder and use the update command .



7. Troubleshooting

Troubleshooting guide

Trouble	Possible cause	Solution
PWR indicator does not light up after power on.	Power outlet, power cord, or internal power supply may be defective.	<ul style="list-style-type: none"> • Check the power outlet by plugging in another device that is functioning properly. • Check the power cord with another device.
SYS indicator does not light up after startup.	Microprocessor, SDRAM, Flash or Software may be defective.	<ul style="list-style-type: none"> • Verify that the switch are powered on. • Check the boot-up statement from console. The boot up procedure is Boot -> kernel->application •
ADSL2+ LINK indicator does not light up after making a connection.	BAS-8124/BAS-8124c Switch, cabling, ADSL Line, or ADSL Switch Ports may be defective.	<ul style="list-style-type: none"> • Verify that the Access Switch and attached CPE are powered on. • Be sure the RJ-21 cables are plugged into the Access Switch from ADSL2+ modem through the Phone-line punch-down block. • Verify that the cable length does not exceed specified limits. • Check the cable connections on the access Switch, punch-down block/patch panel, and the Extended Ethernet CPE for possible defects. Replace the defective cable if necessary.
UP LINK indicator does not light up after making a connection.	Network cable or Ethernet device attached to this port may be defective.	<ul style="list-style-type: none"> • Verify that the access switch and attached device are powered on. • Be sure an Ethernet cable is plugged into both the switch and attached device. • Verify that the proper cable type is used and its length does not exceed specified limits. • Check the network cable connections for possible defects. Replace the defective cable if necessary.

8. Related Documentation

Installation Guide for BAS-8124/Bas-8124c. July. 2006 Release 1.0

Installation Guide for BAS-8124/BAS-8124c. Oct. 2006 Release 1.1

Please contact your HITRON service representative for more information regarding to BAS-8124/BAS-8124c.

9. Glossary

10BASE-T

IEEE 802.3 specification for 10 Mbps Ethernet over two pairs of Category 3, 4, or 5 UTP cable.

100BASE-TX

IEEE 802.3u specification for 100 Mbps Fast Ethernet over two pairs of Category 5 UTP cable.

100BASE-FX

IEEE 802.3u specification for 100 Mbps Fast Ethernet over two strands of 50/125, 62.5/125 or 9/125 micron core fiber cable.

1000BASE-T

IEEE 802.3ab specification for Gigabit Ethernet over 100-ohm Category 5 or 5e twisted-pair cable (using all four wire pairs).

Auto-Negotiation

Signalling method allowing each node to select its optimum operational mode (e.g., 10 Mbps or 100 Mbps and half or full duplex) based on the capabilities of the node to which it is connected.

Bandwidth

The difference between the highest and lowest frequencies available for network signals. Also synonymous with wire speed, the actual speed of the data transmission along the cable.

Collision

A condition in which packets transmitted over the cable interfere with each other. Their interference makes both signals unintelligible.

Collision Domain

Single CSMA/CD LAN segment.

CSMA/CD

CSMA/CD (Carrier Sense Multiple Access/Collision Detect) is the communication method employed by Ethernet, Fast Ethernet, or Gigabit Ethernet.

End Station

A workstation, server, or other device that does not forward traffic.

Ethernet

A network communication system developed and standardized by DEC, Intel, and Xerox, using baseband transmission, CSMA/CD access, logical bus topology, and coaxial cable. The successor IEEE 802.3 standard provides for integration into the OSI model and extends the physical layer and media with repeaters and implementations that operate on fiber, thin coax and twisted-pair cable.

Fast Ethernet

A 100 Mbps network communication system based on Ethernet and the CSMA/CD access method.

Gigabit Ethernet

A 1000 Mbps network communication system based on Ethernet and the CSMA/CD access method.

Full-Duplex

Transmission method that allows two network devices to transmit and receive concurrently, effectively doubling the bandwidth of that link.

IEEE

Institute of Electrical and Electronic Engineers.

IEEE 802.3

Defines carrier sense multiple access with collision detection (CSMA/CD) access method and physical layer specifications.

IEEE 802.3ab

Defines CSMA/CD access method and physical layer specifications for 1000BASE-T Fast Ethernet.

IEEE 802.3u

Defines CSMA/CD access method and physical layer specifications for 100BASE-TX Fast Ethernet.

IEEE 802.3x

Defines Ethernet frame start/stop requests and timers used for flow control on full-duplex links.

IEEE 802.3z

Defines CSMA/CD access method and physical layer specifications for 1000BASE Gigabit Ethernet.

Local Area Network (LAN)

A group of interconnected computer and support devices.

LAN Segment

Separate LAN or collision domain.

LED

Light emitting diode used for monitoring a device or network condition.

Local Area Network

A group of interconnected computers and support devices.

Media Access Control (MAC)

A portion of the networking protocol that governs access to the transmission medium, facilitating the exchange of data between network nodes.

MDF (Main Distribution Frame)

Equipment where outside telephone lines are terminated at a building or site.

MIB

An acronym for Management Information Base. It is a set of database objects that contains information about the device.

MPOE (Minimum or Main Point of Entry)

The location in a building where cables from the telephone service provider are terminated.

Network Diameter

Wire distance between two end stations in the same collision domain.

Private Branch Exchange (PBX)

A telephone exchange local to a particular organization who use, rather than provide, telephone services.

POTS

Plain Old Telephone Service.

Redundant Power Unit (RPU)

A backup power supply that automatically takes over in case the primary power supply should fail.

RJ-45 Connector

A connector for twisted-pair wiring.

Splitter

A filter to separate DSL signals from POTS signals to prevent mutual interference.

Switched Ports

Ports that are on separate collision domains or LAN segments.

Transmission Control Protocol/Internet Protocol (TCP/IP)

Protocol suite that includes TCP as the primary transport protocol, and IP as the network layer protocol.

UTP

Unshielded twisted-pair cable.

ADSL

asymmetric data rate Digital Subscriber Line: A family of digital telecommunications protocols designed to allow high speed data communication at data rates deliver data rates up to 25 Mbps downstream and 1 Mbps upstream with corresponding maximum reach 18K feet of 24 gauge twisted pair cable over the existing copper telephone lines between end-users and telephone companies.

Virtual LAN (VLAN)

A Virtual LAN is a collection of network nodes that share the same collision domain regardless of their physical location or connection point in the network. A VLAN serves as a logical workgroup with no physical barriers, allowing users to share information and resources as though located on the same LAN.

