



VDSL2 IP DSLAM

VC-2402 / VC2402-48

User's Manual

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FCC Warning

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the Instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

FCC Caution

To assure continued compliance (example-use only shielded interface cables when connecting to computer or peripheral devices). Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the Following two conditions: (1) This device may not cause harmful interference, and (2) this Device must accept any interference received, including interference that may cause undesired operation.

CE mark Warning

The is a class A device, In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

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To avoid the potential effects on the environment and human health as a result of the presence of hazardous substances in electrical and electronic equipment, end users of electrical and electronic equipment should understand the meaning of the crossed-out wheeled bin symbol. Do not dispose of WEEE as unsorted municipal waste and have to collect such WEEE separately.

Safety

This equipment is designed with the utmost care for the safety of those who install and use it. However, special attention must be paid to the dangers of electric shock and static electricity when working with electrical equipment. All guidelines of this and of the computer manufacture must therefore be allowed at all times to ensure the safe use of the equipment.

Revision

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Introduction

1.1 Product Features

1.2 Package Contents

1.3 Application

1.4 Outlook

1.5 Technical Specifications

1. Introduction

Planet VC-2402 is a rack-mountable pizza-box IP DSLAM. It supports two Gigabit Ethernet (GbE) trunk interfaces and 24 VDSL2 ports (ADSL 2+ compatible) at line side. It provides a non-blocking solution for the last mile of broadband access to facilitate digital family.

As the demand for broadband connections steadily increases, cable modems and ADSL are not fast enough to support the integration of home services. Many people see VDSL/VDSL2 as the next step in providing a complete home-communication/entertainment solution. The Planet VC-2402 takes advantage of VDSL2 technology with core IP switching functionality to participate in the competition of broadband last mile. This allows operators to easily offer services such as IPTV, VoIP, HDTV, VOD, videoconferencing, Internet access and advanced voice services at the same copper line.

Besides, due to the performance of VDSL2 is limited by loop length (performance degrades dramatically when loop length longer than 300m.), providing ADSL 2/2+ operation modes in the same copper line with VDSL2 will be beneficial to industry to compensate coverage weakness of a VDSL2 DSLAM. The Planet VC-2402 is suitable for small size application and can be easily deployed in remote location, for instance, remote terminal, business parks, street cabinets, etc... to extend the service reach distance.

1.1 Product Features

High Speed VDSL2 Technology

Planet VC-2402 supports VDSL2 service via POTS/ISDN user interface.

Built-in POTS/ISDN Splitters

Streamline installation and increase cost-effectiveness.

System Overheating Protection

This system includes three functions - FAN alarm indicating if FAN malfunction, temperature monitoring and system overheating trap functionality, and automatic power cutoff when system overheating.

Expanded Revenue Opportunities

ADSL 2+ backward compatibility enables service providers to migrate to VDSL2 service while continue providing existing customers with option of ADSL 2+ service.

High Reliability and Easy Maintenance

It is equipped with fan and air filter unit. Also, it is equipped low power requirements plus full diagnostic and alarm reporting capability. Powerful SNMP, CLI, and Web GUI management features yet easy-to-use. Remote login and software download help service providers minimize daily operational costs.

Compact Design for Limited Space

Planet VC-2402 VDSL2 mini-DSLAM occupies only 1U of standard telco rack space for 24 lines.

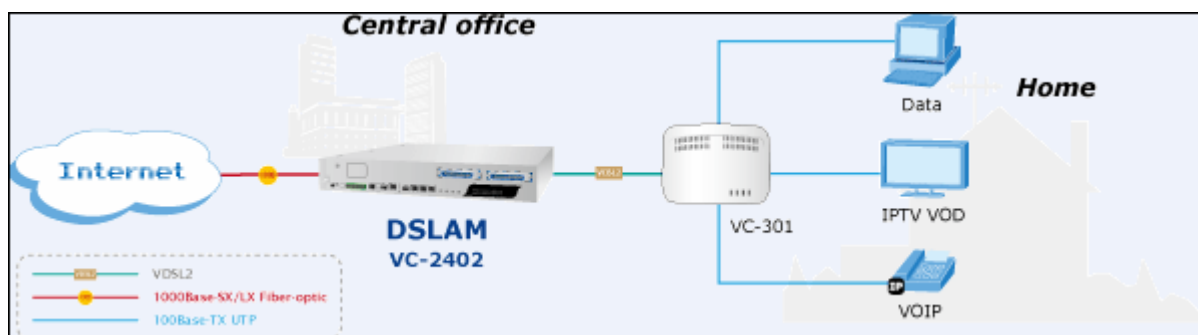
It will easily be fitted in existing Remote Terminals. With optional temperature-hardened design, VC-2402 VDSL2 mini-DSLAM is a good fit for outside plant cabinet, indoor rack, or wall-mounting enclosures.

1.2 Package Contents

- VC-2402 / VC-2402-48 Unit x 1
- AC / DC Power Cord x 1
- CD (Containing User's Manual, QIG) x 1
- Quick Installation Guide x 1
- 2-Meter Telco-50 Cable x 2
- Console Cable x 1
- Rack-mounting x 2
- Screw Package x 2
- Connector Tenon x 2

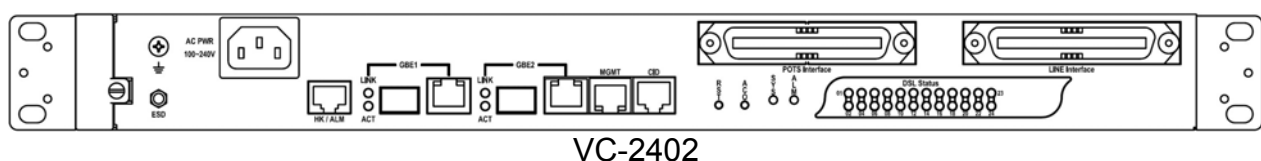
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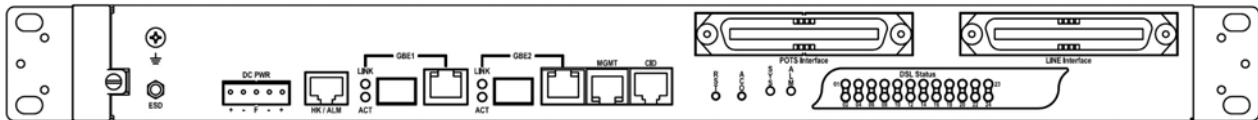
The PLANET VC-2402 offers the benefit of high performance to central office co-location and MTU (Multi-Tenant Unit) / MDU (Multi-Dwelling Unit) markets. It provides service of broadband data over existing copper wires without affecting the conventional voice service by 24 subscriber ports with built-in POTS splitter. The PLANET VDSL2 IP DSLAM is the perfect solution for NSP with cost-effective and high-value central management capability.



1.4 Outlook

Front Panel





VC-2402-48

Definition

LED	Description
SFP1 - LINK SFP2 - LINK	To indicate the mini-GBIC trunk port link status
SFP1 - ACT SFP2 - ACT	To indicate the mini-GBIC trunk port data traffic status
GBE1 - Speed GBE2 - Speed (LED on RJ-45)	To indicate the electrical trunk port transmission speed (orange color LED on the Ethernet port)
GBE1 - Link/Act GBE2 -Link/Act (LED on RJ-45)	To indicate the electrical trunk port link status (green color LED on the Ethernet port)
MGMT- Speed (LED on RJ-45)	To indicate the transmission speed of the Ethernet management port (green color LED on the Ethernet port)
MGMT- Link/Act (LED on RJ-45)	To indicate the link status of the Ethernet management port (orange color LED on the Ethernet port)
SYS	To indicate the system operation status
ALM	To indicate the system alarm status
DSL Status	To indicate the link status of the subscriber lines.
Interface	Description
GBE1/GBE2	Gigabit Ethernet trunk port 1/2
MGMT	Ethernet Port connected to LAN for providing system out-band EMS/Telnet control interface, such as system monitor, control or software upgrade.
CID	RS-232 port connected to the terminal for monitoring and controlling the trunk card.
HK / ALM	RJ-50 connector for four housekeeping inputs and one alarm contact output.
POTS	RJ-21 connector (50-pin dual row header) for connecting POTS lines.
LINE	RJ-21 connector (50-pin dual row header) for connecting DSL lines.
Button	Description
ACO	Alarm Cut Off
RST	A hidden reset button for hardware resetting.

1.5 Technical Specifications

Product		24-Port VDSL2 IP DSLAM
Model		VC-2402 / VC-2402-48
Hardware Specification		
Case		1U high box-type with a rack-mountable enclosure
Ports	Uplink	2 x Gigabit Ethernet Combo ports (10/100/1000 Based-T and SFP)

	Console	1 x RS-232 Serial Port (9600, 8, N, 1)
	MGMT	1 x RJ-45 10/100 Ethernet port for local management
	HK / ALM	1 x RJ-50 connector for four housekeeping inputs and one alarm contact output
	LINE	1 x RJ-21 Connector
	PHONE	1 x RJ-21 Connector
LED Indicators		1 x SYS LED 1 x ALM LED 2 x Link LEDs 2 x Act LEDs 24 x VDSL LEDs
Software Specification		
VDSL / VDSL2 Standard		<ul style="list-style-type: none"> ➤ VDSL/VDSL2 functions comply with ITU-T G.993.1 and G.993.2. ➤ Support Packet Transport Mode (PTM) per G.993.1 and G.993.2 when operating in VDSL mode. ➤ Support provisioning the VDSL optional band (25K to 138K Hz) usage ➤ Support VDSL OAM communication channels including IB (Indicator Bits) channel, EOC (Embedded Operations Channel), and VOC (VDSL Overhead control Channel). ➤ Support selectable band plan A (profile 998, Annex A of G.993.1 and plan B (profile 997, Annex B of G.993.1) for each VDSL line on a per port basis. ➤ Line rate of a VDSL2 line port can reach symmetrical 100/100 Mbps or asymmetrical 100/50 Mbps at an ideal loop condition. ➤ Support selectable spectrum profile of 8a/b/c/d, 12a/b, 17a, and 30a for frequency bands (Annex A, B and C) defined in G.993.2 when operating in VDSL2 mode.
Line Interface		<ul style="list-style-type: none"> ➤ Support a total of 24 xDSL subscribers lines and supports provisioning of the operation modes (VDSL/VDSL2, ADSL2/2+) with a default of VDSL2 on a per port basis. ➤ Handshake procedure of each DMT xDSL circuit complies with ITU-T G.994.1. ➤ Physical layer management of each DMT xDSL circuit complies with ITU-T G.997.1. ➤ xDSL subscriber interfaces support the following functions: <ol style="list-style-type: none"> 1. Upstream and downstream non-overlapped mode 2. Auto retrain 3. Scrambling functionality 4. FEC functionality 5. Trellis coding 6. Bit-swap 7. Interleaving selection 8. Target, maximum and minimum SRN margins programmable per port basis, independently for UP/DOWN directions 9. Tx power adjustment while the SNR margin detected from the xDSL line exceeds the configured maximum SNR margin ➤ Support rate adaptation modes defined in ITU-T G.992.5 and G.997.1 including Fixed (manually configured) and Adaptive at Init modes. ➤ xDSL subscriber interface is able to support Fast Channel or Interleaved Channel independently for each xDSL port. ➤ Support Upstream Power Back-off (UPBO) while received power exceeds configured max-aggregation-PSD in the upstream direction. ➤ Support detection of Dying Gasp message from xDSL CPE and indicate

	a CPE power loss alarm in the management interface. This is cleared upon the commencement of a retrain operation (i.e. when the CPE becomes active once more).
POTS Splitter	<ul style="list-style-type: none"> ➤ Compliant with ETSI TS 101 952-1-1 option A for European, ETSI TS 101 952-1-3 for Annex B European ISDN, or ANSI 600. ➤ The splitter/low pass filter is passive element. Even the system is loss of power (power supply fails), the POTS service is still OK.
Management	<ul style="list-style-type: none"> ➤ In-band management: provide all system OAM&P functions: software updates, configurations import/export, and management system interaction through trunk port. ➤ Out-band management: provide two kinds of management interfaces. One is the RS-232 local craft interface for basic provisioning. Interface default configuration: 9600 baud rate, 8-bit data, none parity, and 1 stop bit. The other is a 10/100 Base-T auto-sensing Ethernet Interface.
Ethernet / IP Functionality	<ul style="list-style-type: none"> ➤ Support L2 bridge functionalities defined in IEEE 802.1d including: <ol style="list-style-type: none"> 1. Automatic source MAC learning 2. Static source MAC address table provisioning 3. Maximum 8K MAC addresses allowed to be learned into MAC table per system; 1 ~ 4095 MAC addresses per trunk bridge port with a limitation of maximum 4096 MACs for total number assigned to two trunk interfaces; 0 ~ 512 MAC addresses per line bridge port 4. Provision-able aging time for MAC address table with a default of 300 seconds on a per bridge port basis. ➤ The uplink interfaces support Spanning Tree Protocol (STP) per IEEE 802.1D and Rapid Spanning Tree Protocol (RSTP) per IEEE 802.1w. ➤ Support DHCP Server (IP allocation to DSL users), DHCP transparent forward, and DHCP relay agent option-82 functionality (the value within Agent Circuit ID and Agent Remote ID sub-options are configurable).
VLAN	<ul style="list-style-type: none"> ➤ Support IEEE 802.1q Port-based VLAN and Protocol- based VLAN ➤ Support 512 active VLANs simultaneously and the VLAN ID ranges from 1 to 4094 ➤ Support 2 layers VLAN stacking ("Q-in-Q") ➤ Support VLAN translation ➤ Support port isolation functionality. When port isolation is enabled, no Layer-2 bridging between different ports (or subscriber lines) is supported in a VLAN ➤ Support static VLAN group and membership provisioning per bridge port basis ➤ Support configuring a port to be VLAN transparent (i.e., enabled for TLS)
Multicast	<ul style="list-style-type: none"> ➤ Support Multicast forwarding with IGMP Snooping v1 [RFC 1112] and v2 [RFC 2236], and Multicast MAC address mapping ➤ Support up to 512 concurrent IGMP groups (multicast channels) per system and a multicast channel has a maximum of 512 copies ➤ Support profile-based Multicast Access Control (up to 24 profiles) and assign any profile to a subscriber interface (the maximum number of registered multicast channels within a profile is 512) ➤ Able to limit the maximum number (0 ~ 20) of concurrent multicast groups to be joined per bridge port ➤ Support IGMP snooping/proxy v1, v2, and v3

	<ul style="list-style-type: none"> ➤ Support selection between IGMP proxy and IGMP snooping ➤ Support Fast and Normal Leave modes
Security	<ul style="list-style-type: none"> ➤ Support ARP anti-Spoofing and MAC anti-Spoofing ➤ Support Layer-2 frame filtering based on source/destination MAC addresses ➤ Support Layer-3 filtering based on IP header including source/destination IP address, protocol ID, and TCP/UDP destination port number ➤ Support filtering out broadcast frames (destination MAC Address 0xFFFFFFFFFFFF) in the downstream direction. When this option is activated, only protocol-specific broadcasts (DHCP, ARP) are allowed to be forwarded to downstream users. ➤ Support secured forwarding that forces upstream traffic to the specific gateway, by means of replying upstream ARP request with MAC address of default gateway
QoS	<ul style="list-style-type: none"> ➤ Support Ethernet rate limit function including: <ol style="list-style-type: none"> 1. Per bridge port rate limiting <ul style="list-style-type: none"> ✓ Profile based configuration ✓ Ingress: all kinds of traffic ✓ Egress: unicast traffic ✓ Apply to line bridge port 2. Per bridge port per VLAN rate limiting <ul style="list-style-type: none"> ✓ Profile based configuration ✓ Ingress: all kinds of traffic ✓ Egress: unicast traffic ✓ Apply to line bridge port 3. Per bridge port broadcast traffic rate limiting <ul style="list-style-type: none"> ✓ Profile based configuration ✓ Apply to line/trunk bridge port 4. Per VLAN rate limiting <ul style="list-style-type: none"> ✓ Non-profile based ✓ Broadcast: support rate limiting for PVIDs of trunk interfaces with an internal maximum rate 500K bps per PVID VLAN ✓ Flooding: support rate limiting for all defined VLANs, trunk/line ➤ Support Three Color Marking (TCM) rate limit policer in accordance with the Metro Ethernet Forum (MEF) Bandwidth Profile and RFCs 2697 & 2698. ➤ Support VLAN priority queue per IEEE 802.1p (4 priority queues for 8 802.1p CoS value. The mapping between 4 priority queues and 8 priority values are configurable.) ➤ Support selectable adopted priority queue mechanisms according to Strict Priority Queue (SPQ) and Weighted Fair Queue (WFQ) ➤ Support traffic classification by re-assigning CoS (p-bit) value according to CoS (802.1p priority bit), VLAN ID, ToS, DSCP, Source/Destination IP address, or Source/Destination MAC address ➤ Configurable mapping between ATM PVC and 802.1p CoS for received untagged frame from subscriber port
ATM and Interworking	<ul style="list-style-type: none"> ➤ Support 8 PVCs per subscriber line; VPI range is from 0 to 255 and VCI range from 32 to 65535 conforming to ATM Forum UNI 3.1/4.0, PVCs only. ➤ Support multi-protocol encapsulation over ATM per RFC 2684 / RFC

	<p>1483 for bridged mode, LLC encapsulation method only.</p> <ul style="list-style-type: none">➤ Support AAL5 per ITU-T I.363.5.➤ Commit the supported ATM service categories in the increasing order of UBR, CBR on a per port basis.➤ Provide PCR (peak cell rate) configurable parameter for CBR service.➤ Support profile-based ATM traffic management (up to 16 traffic descriptors with one default and 15 user-configurable descriptors).➤ Support PPPoE transparent forwarding and PPPoE intermediate agent.
--	--

2. Web Configuration Tool Overview

2.1 Accessing Web Configuration Tool

2.2 About Web Configuration Tool pages

2.3 Operating Examples

2.1 Accessing Web Configuration Tool

To access Web Configuration Tool on a VC-2402:

- 1 Connect a PC to the console port of the DSLAM. At the console, type the following CLI command:

```
WDS:>enable /*enter the enable command mode from initial mode*/
WDS:%show management /*display all in-band and out-band management IP
setting*/
```

- 2 At your web browser, enter the URL you retrieve by using the above command. If you need to change the accessing port number (default is 80) of the Web Configuration Tool, use the following CLI command (with the correct values added):

```
WDS:%configure /*enter the configuration command mode from enable mode*/
WDS:(conf)#http port <number> /*set http port number*/
```

- 3 Logging in to Web Configuration Tool:

Once you connect to the DSLAM, a login page is displayed. You must enter your username and password to access the pages. The system default login username and password are as follows (you should change the password as soon as possible, because the initial password is known to anyone who reads this manual):

User Name: **admin**

Password: **admin**

Click on the *Login* button. The *admin* user has super-user level access, so you can create new user account and access permissions from this account.

You are now ready to configure your DSLAM using the Web Configuration Tool.

IPDSLAM

IPDSLAM is a high performance, 24 port VDSL2 IP-DSLAM. It supports intelligent multimedia traffic management to deliver voice, video and data services.

Web Interface Login

User Name

Password

Figure 0-1 Web Configuration Tool login page

- 4 The following page is displayed. This is the homepage of the Web Configuration Tool.

Window title

Node ID selection (for Cluster)

Menu tree

Work area

IPDSLAM

Stacking Node ID: Main Unit

- System
- Security
- Bridge
- VDSL(ADSL)
- Traffic Profile
- SNMP
- Maintenance
- Fault Management
- Performance Monitoring
- Cluster
- Logout

Box Information

Access Level	SuperUser		
System Version	HW-C	SW-v0.05	FW-2.25-1.0.733
NT Trunk Card			
LED State	SYS:GREEN	ALM:AMBER	GBE1:OFF GBE2:OFF
GBE1	BpLinkMode:Uplink Speed:DOWN		
GBE2	BpLinkMode:Uplink Speed:DOWN		
Port 1-8	OFF	OFF	OFF
Port 9-16	OFF	OFF	OFF
Port 17-24	OFF	OFF	OFF
Hardware Alarm			
Housekeeping	HK1	HK2	HK3 HK4
Temperature	Above Below		
Equipment	FAN		

Figure 0-2 Web Configuration Tool homepage

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2.2 About Web Configuration Tool Pages and Access Permissions

The Web Configuration Tool provides a series of web pages for users to setup and configure the VC-2402 system. These pages are organized into nine main topics (only users with superuser access level can see all of them). You can select each of the topics from the menu on the left-hand side of the main window.

The exact information displayed on each web page depends on the specific configuration that an operator is using. The following chapters provide a general description of the setup and configuration details.

There are three access-level options for Web Tool users:

- **Superuser** – can access all of the web pages.
- **Engineer** – cannot access User Administration, Login User List, SNMP Community, SNMP Target, and SNMP Notify pages.
- **Guest** – cannot add/delete/modify any setting, and can only view information in Box Information, System Inventory, VDSL Inventory, VDSL Line Status, VDSL Channel Status, VDSL Failure State, Alarm/Event, Hardware Temp., Interface Counter, xDSL Day/Interval pages.

Table 2-1 lists the various pages of the web configuration tool.

Table 0-1 Pages of the Web Configuration Tool

System	<i>Box Information</i>	
	<i>System Information</i>	
	<i>NT-Trunk Setup</i>	
	<i>LT-Circuit Setup</i>	
	<i>System Inventory</i>	
	<i>Inband IP Routes</i>	
	<i>Outband IP Routes</i>	
	<i>SNTP</i>	
	<i>User Administration**</i>	
	<i>Login User List**</i>	
	<i>Operational Interface</i>	
	<i>System Restart</i>	
Bridge	<i>System Configuration</i>	
	<i>System AddOn Service</i>	
	<i>Secured Forwarding</i>	
	Interface Setup	<i>Packet Bridge Port</i>
		<i>ATM Bridge Port</i>
		<i>Trunk Bridge Port</i>
		<i>LACP Configuration</i>
		<i>Rate Limit Policer Profile</i>
		<i>Bridge Port Policer Select</i>

		<i>Bridge VLAN Policer Select</i>
		<i>Bridge Port Broadcast Policer Select</i>
	VLAN Configuration	<i>Trunk Priority Mapping</i>
		<i>Static VLAN</i>
		<i>VLAN Priority Remark</i>
		<i>VLAN Rate Limit</i>
		<i>VLAN Translation</i>
		<i>Protocol Base VLAN</i>
	Spanning Tree	<i>STP Bridge Settings</i>
		<i>STP Port Settings</i>
	Filtering	<i>Filtering</i>
		<i>Denial ACL</i>
	Forwarding	<i>TP Forwarding DB</i>
		<i>Forwarding Static</i>
	DHCP	<i>DHCP(PPPoE) Configuration</i>
		<i>DHCP(PPPoE) Circuit</i>
		<i>DHCP Server Profile Config</i>
		<i>DHCP Server Profile Select</i>
		<i>DHCP Client List</i>
		<i>DHCP Static IP Config</i>
	IGMP	<i>IGMP Configuration</i>
		<i>IGMP ACL Profile Config.</i>
		<i>IGMP ACL Profile Select</i>
		<i>IGMP Group List</i>
		<i>IGMP Route</i>
	IP Filtering	<i>System Allow IP Filter</i>
		<i>Allow IP Filtering</i>
	Anti Spoofing	<i>System Anti Spoofing</i>
		<i>Anti Arp Spoofing</i>
VDSL(ADSL)	<i>VDSL Configuration Profile</i>	
	VDSL PSD Configuration	<i>Downstream PSD</i>
		<i>Upstream PSD</i>
	<i>VDSL Alarm Profile</i>	
	<i>VDSL Inventory</i>	
	<i>VDSL Line Status</i>	
	<i>VDSL Channel Status</i>	
	<i>VDSL Failure State</i>	
	<i>VDSL Test</i>	
	<i>VDSL POST State</i>	
Traffic Profile	<i>Traffic Descriptor</i>	

	<i>VPMT Profile</i>	
SNMP	<i>SNMP Community**</i>	
	<i>SNMP Target**</i>	
	<i>SNMP Notify**</i>	
Maintenance	<i>SYS Log Server</i>	
	<i>Database</i>	
	<i>Firmware Update</i>	
	<i>Boot Loader Update</i>	
Fault Management	<i>Alarm/Event</i>	
	<i>Alarm Profile</i>	
	<i>Hardware Temp.</i>	
Performance Monitoring	<i>Interface Counter</i>	
	<i>RMON</i>	
	xDSL Day/Interval	<i>Summary of Performance Statistics</i>
		<i>Interval Statistics</i>
		<i>Day Statistics</i>
Cluster	<i>Cluster Config.</i>	
	<i>Cluster State</i>	
Logout		

** for Superuser only

2.3 Operating Examples

This section explains how to operate in the web pages of this tool.

Entry Setup area

Line Bridge Port Setup for Packet Mode

Previous Command Result: **Success.**

Area for creating a new bridge port in Packet Mode

Create

Physical Port	VPMT Profile	VID	MaxMac	V-Pri	VLAN Tagging	AgingTime	Ingress Filter	Acceptable Frame	Isolation	VLAN Mode	ProtocolBaseVlan	ForcePriorityMode	MacLearning
Port-1	1	1	16	Pri-0	Untagged	300	On	All	Enable	Non-TLS	Disable	Disable	Enable

Line Bridge Port for Packet Mode

Delete Modify ☐ Check All to Modify/Delete ☐ UnCheck All to Modify/Delete

Physical Port	User Port	VPMT Profile	VID	AgingTime	MaxMac	V-Pri	VLAN Tagging	VLAN Mode	Ingress Filter	Acceptable Frame	Isolation	ProtocolBaseVlan	ForcePriorityMode	MacLearning
Port-1	196	1	1	300	16	Pri-0	Untagged	Non-TLS	On	All	Enable	Disable	Disable	Enabled

Data Table

The Entry Setup area is for setting the parameter value of the entries in the table. The Data Table is for listing the setting of each interface (bridge port). Often, there is a checkbox for each port. By clicking on the checkbox, you can specify which entry to be modified or deleted.

In the above example, to create a new entry in the Data Table, firstly you must select the parameter values in the Entry Setup area and then click on **Create** button. You can remove an entry from the Data Table by clicking on the *Select to delete* checkbox of that entry and then click on **Delete**.

In some pages, the Entry Setup area is located at the top inside the Data Table.

Inband IP Routes

Previous Command Result: Normal

Entry setup area

Next No: Page 1 of 2

Inband IP: 192.168.5.3 Subnet Mask: 255.255.255.0

	Destination	Net Mask	Gateway
Next	0 . 0 . 0 . 0	0 . 0 . 0 . 0	0 . 0 . 0 . 0
<input type="radio"/> 1	--	--	--
<input type="radio"/> 2	--	--	--
<input type="radio"/> 3	--	--	--
<input type="radio"/> 4	--	--	--
<input type="radio"/> 5	--	--	--
<input type="radio"/> 6	--	--	--
<input type="radio"/> 7	--	--	--
<input type="radio"/> 8	--	--	--

In some pages, you modify the data directly in the Data Table.

IGMP Configuration

Previous Command Result: Normal.

Modify

IGMP Version	IGMP V2
IGMP Mode	Normal Snooping
IGMP ACL Mode	Enable
IGMP Leave Mode	Normal Leave
Timeout Parameters	Value 1~500(s)
Query (Query Interval)	125
URI (Unsolicited Report Interval)	1
BC (Older host present interval)	400
MRT(Max Response Time)	10
LMQT(Last Member Query Time)	1
GMT (Group Membership Timeout)	260

Modify values directly in the data table

The Query and MRT times are configured as follows : Query Interval > Max Response Time

3. System

3.1 Box Information

3.2 System Information

3.3 NT-Trunk Setup

3.4 LT-Circuit Setup

3.5 System Inventory

3.6 Inband IP Routes

3.7 Outband IP Routes

3.8 SNTP

3.9 User Administration

3.10 Login Users List

3.11 Operational Interface

3.12 System Restart

3.1 Box Information

The *Box Information* page (the default page you'll see after you login the web configuration tool) contains information about the access level of current login user, system HW/SW/FW version, GBE interface status, LED status (SYS and ALM), circuit operational status (ON/OFF), and hardware alarm status.

From the *System* menu, click on *Box Information*. The following page is displayed:

Box Information

Access Level	SuperUser							
System Version	HW:C		SW:v0.05		FW:2.25-1.0.7x33			
NT Trunk Card								
LED State	SYS:GREEN		ALM:AMBER		GBE1:OFF		GBE2:OFF	
GBE1	BpLinkMode:Uplink				Speed:DOWN			
GBE2	BpLinkMode:Uplink				Speed:DOWN			
Port 1-8	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Port 9-16	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Port 17-24	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Hardware Alarm								
Housekeeping	HK1		HK2		HK3		HK4	
Temperature	Above				Below			
Equipment	FAN							

Figure 0-1 Box Information Page

3.2 System Information

The *System Information* page allows you to setup the name of the system, the contact of the system, and the location of the system.

From the *System* menu, click on *System Information*. The following page is displayed:

System Contact Information

Previous Command Result: Normal.

System Name	DSLAM_01
System Location	Mak Office
System Contact	Jesse
System Description	IPDSLAM 24-port VDSL2 DC

3.3 NT-Trunk Setup

This option allows you to configure the Gigabit Ethernet interface. The in-band IP address, gateway address, and MAC address of the DSLAM is also displayed in this page.

From the *System* menu, click on *NT-Trunk Setup*. The following page is displayed:

NT-Trunk Setup

Previous Command Result: Normal.

Address Management			
GBE (In Band)		MGMT (Out Band)	
IP Address	192 . 168 . 5 . 3	IP Address	172 . 16 . 77 . 84
Subnet Mask	255 . 255 . 255 . 0	Subnet Mask	255 . 255 . 255 . 0
MAC	00:FF:CC:0B:92:F8	Gateway	172 . 16 . 77 . 177
Inband VID	0		
Priority	0		
Gigabit Ethernet Speed Configuration			
	Config Status	OpState	Determine First
GBE1	(1)Auto Negotiate ▼	Down	Fiber first ▼
GBE2	(1)Auto Negotiate ▼	Down	Fiber first ▼
HTTP Port	MGMT Speed	Remote ADDR	System Name
80	AutoNegotiate	192.168.8.224	Name

Table 0-1 NT-Trunk Setup

Label		Description
Address Management		
GBE (In Band)	IP Address	Type in the in-band IP address of the DSLAM.
	Subnet Mask	Type in the in-band subnet mask of the DSLAM.
	MAC	This field shows the MAC address of the DSLAM.
MGMT (Out Band)	IP Address	Type in the out-band IP address of the DSLAM.
	Subnet Mask	Type in the out-band subnet mask of the DSLAM.
	Gateway	Type in the out-band IP address of the gateway.
Inband VID		The VLAN ID for individual in-band management VLAN. (0 means disable the feature).
Priority		Type in the VLAN priority level (0 ~ 7) of the in-band management traffic sent out from GBE port.

Gigabit Ethernet Speed Configuration	
Config Status	Click on the drop-down list and select the speed mode of the trunk port.
OpState	This field shows the operational state of the trunk interfaces.
Determine First	Click on the drop-down list and select the cable mode for trunk port. Options are: Fiber First: when both optical and electrical uplinks are connected, optical interface is chosen to transport data. Copper First: when both optical and electrical uplinks are connected, electrical interface is chosen to transport data.
HTTP Port	Shows current HTTP port setting for Web access. You can modify http port setting in this field.
MGMT Speed	Shows current speed / mode of the MGMT port.
Remote ADDR	Shows the IP address of the management PC currently connected to this DSLAM.
System Name	Shows the name of the server (DSLAM)
Modify	Click on this button to apply the modification.

3.4 LT-Circuit Setup

This option allows you to setup the service status of the line ports and to bind the selected configuration profiles and alarm profiles. Also, you can query current setting and the operational status of the line ports. From the *System* menu, click on *LT-Circuit Setup*.

LT-Circuit Setup

Previous Command Result: Normal.

☐ Check All to Modify ☐ Check All to Enable ☐ Check All to Disable

Modify Refresh

Physical Port	Select to modify	Admin Status	opStatus	Config. Profile	Alarm Profile	PortID	PhoneNumber	Description
Port-1	<input checked="" type="checkbox"/> Modify	On	Idle	DEFVAL	DEFVAL			
Port-2	<input type="checkbox"/> Modify	Off	Idle	DEFVAL	DEFVAL			
Port-3	<input type="checkbox"/> Modify	Off	Idle	DEFVAL	DEFVAL			
Port-4	<input type="checkbox"/> Modify	Off	Idle	DEFVAL	DEFVAL			
Port-5	<input type="checkbox"/> Modify	Off	Idle	DEFVAL	DEFVAL			
Port-6	<input type="checkbox"/> Modify	Off	Idle	DEFVAL	DEFVAL			

Table 0-2 Circuit Setup

Label	Description
Check All to Modify	Clicking on this checkbox is equal to select the <i>Modify</i> checkboxes of all circuits.
Check All to Enable	Click on this checkbox to service-on all the circuits.
Check All to Disable	Click on this checkbox to service-off all the circuits.
Modify	Once you have changed the parameter value, click on this button to apply the modification.
Refresh	Click on this button to get most recent setup and status of the circuits.
Physical Port	This field shows the number of physical line port.
Select to modify	Click on the checkbox of the circuit you want to modify. Without clicking on the checkbox, the modification will not take effect.
Admin Status	Click on the drop-down list and select the Administrative status: ON or OFF.
Op Status	This field shows current operational status of the circuit.
Config. Profile	Click on the drop-down list and select the xDSL configuration profile to bind with the circuit.
Alarm Profile	Click on the drop-down list and select the xDSL alarm profile to bind with the circuit.
PortID	Type in the line identifier.
PhoneNumber	Type in the phone number of this line.
Description	Type in any comment of this line.

3.5 System Inventory

This option allows you to view the system inventory such as Power Type (DC/AC), Splitter Type, Serial Number, FW/SW module version, etc. From the *System* menu, click on *System Inventory*. The following page is displayed:

System Inventory

System Information

Power Type	[DC]
Port Count	[24]
Temperature Hardened	[Industrial]
VLR Support	[Supported]
Filter Type	[POTS]
VDSL Band	[6 Bands(Maximum)]
Hardware Version	[C]
CPLD Version	[B3]
Splitter Type	[(No splitter)]
Boot Loader Version	[1.2.9]
Firmware Version	[2.25-1.0.7r33]
Software Version	[v0.05]
Model Info	[xxxxxxxxxxxx]
Part Number	[xxxxxxxxxxxxxxxxxxxxxxxxxxxx]
System Revision	[xxxxxxxxxxxx]
Serial Number	[xxxxxxxxxxxxxxxxxxxxxxxxxxxx]

Module Version

FWAPI Module Version	[1.0.4.9]
SNMP Module Version	[R3.0 v1.0]
SNTP Module Version	[1.0]
OAMP Module Version	[3.0.0.75]
VDSL MGR Module Version	[2.25]
VDSL MGR_EMU Module Version	[2.1.0.18]
WEB Module Version	[3.0-D]
WDDI Module Version	[2.4.3.05]
WLS Module Version	[3.2.3.05]

3.6 Inband IP Routes

This option allows you to configure the IP route table for the in-band management channels. From the *System* menu, click on *Inband IP Routes*. The following page is displayed:

Inband IP Routes

Previous Command Result: Normal

Next No: Page 1 of 2

Inband IP: 192.168.5.3 Subnet Mask: 255.255.255.0

	Destination	Net Mask	Gateway
Next →	0 . 0 . 0 . 0	0 . 0 . 0 . 0	0 . 0 . 0 . 0
<input type="radio"/> 1	--	--	--
<input type="radio"/> 2	--	--	--
<input type="radio"/> 3	--	--	--
<input type="radio"/> 4	--	--	--
<input type="radio"/> 5	--	--	--
<input type="radio"/> 6	--	--	--
<input type="radio"/> 7	--	--	--
<input type="radio"/> 8	--	--	--

Table 0-3 Inband IP Routes Setup

Label	Description
ADD	Click on this button to add a new IP route.
Delete	Click on the radio button to select a route and then click on this button to delete this route from the table.
Destination	Type in the destination IP address for the new IP route.
Net Mask	Type in the subnet mask for the new IP route.
Gateway	Type in the IP address of the gateway for the new IP route.

3.7 Outband IP Routes

This option allows you to configure the IP route table for the out-band management channels. From the *System* menu, click on *Outband IP Routes*. The following page is displayed:

Outband IP Routes

Previous Command Result: Normal

Next No: Page 1 of 2 ▼

Outband IP: 172.16.77.84 Subnet Mask: 255.255.255.0

		Destination	Net Mask	Gateway
Next →		0 . 0 . 0 . 0	0 . 0 . 0 . 0	0 . 0 . 0 . 0
<input type="radio"/>	1	--	--	--
<input type="radio"/>	2	--	--	--
<input type="radio"/>	3	--	--	--
<input type="radio"/>	4	--	--	--
<input type="radio"/>	5	--	--	--
<input type="radio"/>	6	--	--	--
<input type="radio"/>	7	--	--	--
<input type="radio"/>	8	--	--	--

Table 0-4 Inband IP Routes Setup

Label	Description
ADD	Click on this button to add a new IP route.
Delete	Click on the radio button to select a route and then click on this button to delete this route from the table.
Destination	Type in the destination IP address for the new IP route.
Net Mask	Type in the subnet mask for the new IP route.
Gateway	Type in the IP address of the gateway for the new IP route.

3.8 SNTP

This option allows you to setup the Simple Network Time Protocol (SNTP). From the *System* menu, click on *SNTP*. The following page is displayed.

Simple Network Time Protocol

Previous Command Result: Normal

Select Time Zone: GMT +00:00 Greenwich Mean Time ▼

Time Zone	GMT
System Date	2007 / 08 / 31
System Time	08 : 11 : 19
Polling Interval	600
SNTP Server address	61 . 206 . 115 . 3

Table 0-5 SNTP Setup

Label	Description
Select Time Zone	Sets the local time zone by selecting in the Time Zone drop-down list. Sixty-six of the world's time zones are presented (including those using standard time and summer/daylight savings time).
System Date	Sets system date (yyyy/mm/dd).
System Time	Sets system time (hh:mm:ss).
Polling Interval	Sets the polling interval (in seconds) that SNTP client will sync with a designated SNTP server.
SNTP Server address	Sets the dedicated unicast server IP address for which the SNTP client can synchronize its time.
Modify	Click on this button to apply the modification.

3.9 User Administration

This option allows you to administer accounts for users who access the DSLAM. Note that this option is for super user only. From the *System* menu, click on *User Administration*. Click on *Select*: drop-down list and select a page to display. The following page is displayed:

User Administration

Command Result:Normal

Select: Page 1 of 4 (No.1 to 8)

	No.	User Name	Access Level	Comment
<input checked="" type="radio"/>	1	admin	Super User	

Table 0-6 User Administration

Label	Description						
User Name	Shows the name of the user (up to 32 characters).						
Access Level	The available access levels include: SUPERUSER, ENGINEER, and GUEST.						
Comment	Description about the user account (up to 31 characters).						
New	<p>Click on this button to create a new user account. You will enter the following page:</p> <div style="text-align: center;"> <p>Access Level: <input type="text" value="GUEST"/></p> <table border="1"> <tr> <td>User Name</td><td>Test1</td></tr> <tr> <td>Password</td><td>****</td></tr> <tr> <td>Comment</td><td>testing</td></tr> </table> <p><input type="button" value="Apply"/> <input type="button" value="Back"/></p> </div> <p>Once you have typed in all the information for the new user, click on the Apply button.</p>	User Name	Test1	Password	****	Comment	testing
User Name	Test1						
Password	****						
Comment	testing						
Delete or Modify	Click on the radio button on the leftmost column of the user table to select the user you want to delete / modify. Then click on Delete / Modify button. Note that the default admin user cannot be deleted.						

3.10 Login Users List

This option allows you to query current log-in users with both interface type and IP information. From the *System* menu, click on *Login Users List*. The following page is displayed.

Login Users List

The user marked with '*' means yourself.

Index	Interface Type	Account Name	Information
1	WEB	*admin	192.168.8.224 via http

Table 0-7 Login Users List

Label	Description
Index	This field shows the index of login user list.
Interface Type	This field shows the interface type through which the user accesses the DSLAM.
Account Name	This field shows the account name of the user.
Information	This field shows more information about the user including IP address of the management PC, etc.

3.11 Operational Interface

This option allows you to modify the timeout setting for the operational interface. Note that this option is for super user only. From the *System* menu, click on *Operational Interface*. The following page is displayed.

Operational Interface

Previous Command Result: Normal.

Idle Timeout	<input style="width: 80%;" type="text" value="600"/> seconds
Max session count	<input style="width: 80%;" type="text" value="4"/>

Table 0-8 Operational Interface Timeout Setup

Label	Description
Idle Timeout	Type in the timeout seconds for the operational interface (CLI or Web GUI session). The session will be closed once the idle time exceeds this timeout value. Value range is 60 ~ 65535. 0 means disable timeout setting.
Max session count	Specify the maximum allowed sessions for the operational interface (1 ~ 10).
Modify	Click on this button to apply the modification. But you have to re-login the web GUI to make the new setting take effect.

3.12 System Restart

This option allows you to software restart the DSLAM (the same with pushing the hardware reset button). Note that this option is for super user only. From the *System* menu, click on *System Restart*. The following page is displayed. Click on **Restart** button to restart the system without saving current running config. Or click on **Save Running Config & Restart** to save current running config. and then restart the system.

System Restart

Previous Command Result: Normal.

Restart

Save Running Config & Restart

4. Bridge

4.1 System Configuration

4.2 System AddOn Service

4.3 Secured Forwarding

4.4 Interface Setup

4.5 VLAN Configuration

4.6 Spanning Tree

4.7 Filtering

4.8 Forwarding

4.9 DHCP

4.10 IGMP

4.11 IP Filtering

4.12 Anti Spoofing

4.1 System Configuration

This option allows you to setup some system-type function. From the *Bridge* menu, click on *SystemType Configuration*. The following page is displayed.

System Configuration

Previous Command Result: Normal.

ExtEtherType	0x 8100 ▾
Allow Downstream Broadcast	Enable ▾
AgingTime PerPort	Disable ▾
Delete Old Mac	Disable ▾

Table 0-1 SystemType Configuration

Label	Description
ExtEtherType	Select the EtherType for the 802.1ad tagging, i.e. S-Tags. Options are: 0x88a8 (802.1ad) or 0x8100 (802.1q, Q-in-Q).
Allow Downstream Broadcast	The VC-2402 protects the aggregation network and BNGs from broadcast storms at user and network port levels. It supports filtering out broadcast frames (destination MAC address 0xFFFFFFFFFFFF) in the downstream direction. When Allow Downstream Broadcast is disabled, only protocol- specific broadcasts (DHCP, ARP) frames are allowed to be forwarded to downstream users.
Aging Time per Port	Enable/disable aging timer for the MAC address table per bridge port.
Delete Old Mac	Disable: stop learning new MAC address when the bridge port has learned maximum supported MACs. Enable: delete the oldest MAC address if the bridge port has learned maximum supported MACs while coming a new MAC.

4.2 System AddOnService Configuration

This option allows you to setup which of the add-on services to be enabled or disabled. From the *Bridge* menu, click on *System AddOnService Configuration*. The following page is displayed. Click on the drop-down list and click on **Enable** or **Disable** to make the service on or off.

System AddOnService Configuration

Previous Command Result: Normal.

ACL Service	Disable ▼
PPPoE Service	Disable ▼
Filter And Priority Remark Service	Disable ▼
RateLimit Service	Disable ▼
Vlan Translation Service	Disable ▼
NetBios Denial Service	Disable ▼
Allow IP Service	Disable ▼

Table 0-2 Add-on Services setup

Label	Description
ACL Service	Select Enable to enable the following functions: Bridge port broadcast policer (0), downstream broadcast, Secure Forwarding (0), Anti ARP Spoofing (0), DHCP Relay (0), DHCP Server (0, 0), and DHCP Snooping.
PPPoE Service	For configuration of this service, refer to 0 and 0.
Filter And Priority Remark Service	For configuration of this service, refer to 0 and 0.
Rate Limit Service	For configuration of this service, refer to 0 and 0.
VLAN Translation Service	For configuration of this service, refer to 0.
NetBios Denial Service	For configuration of this service, refer to 0.
Allow IP Service	For configuration of this service, refer to 0.

4.3 Secured Forwarding

This option allows you to configure the Secured Forwarding function. Secured Forwarding means that traffic directly forwarding between two DSLAMs is not allowed. The forwarding among DSLAMs must be forwarded through the gateway. The VC-2402 supports secured forwarding (forced forwarding) that forces upstream traffic to the specific gateway by means of replying upstream ARP request with MAC address of default gateway.

Secure Forwarding

Previous Command Result: Normal.

Secured Forwarding	Disable ▾
Default Gateway MAC	FF:FF:FF:FF:FF:FF

DefaultGateway Port Configuration

Query Table

Query Page Number: page-1 ▾

Physical Port	Learn By DHCP	Default Gateway MAC	Select to modify
Port-3 -- PVC-1	Preconfigured ▾	FF:FF:FF:FF:FF:FF	<input type="checkbox"/> Modify
Port-1 -- PacketMode	Preconfigured ▾	FF:FF:FF:FF:FF:FF	<input type="checkbox"/> Modify

Table 0-3 Secured Forwarding Setup

Label	Description
Secure Forwarding	Select to enable/disable Secured Forwarding.
Default Gateway MAC	Type in the MAC address of the default gateway.
Query Table	
Query Page Number	Select the page to be displayed.
Physical Port	This field shows the physical line port number (and ATM PVC number for ADSL mode).
Learn By DHCP	Click on the drop-down list and select the way of setting default gateway MAC address: Preconfigured : manual configuration LeanByDHCP : learned from DHCP snooping
Default Gateway MAC	This field shows current MAC address of default gateway.
Select to modify	Click on the checkbox to select the entry you want to modify before you click on Modify button.
Modify	Click on this button to apply the modification.

4.4 Interface Setup

4.4.1 Packet Bridge Port

This option allows you to create a new bridge port in packet mode (for VDSL use). For a DSL line port, if any ATM mode bridge port (for ADSL use) has been created, you cannot create packet mode bridge port. From the *Bridge* menu, click on *Interface Setup* and then *Packet Bridge Port*. The following page is displayed:

Line Bridge Port Setup for Packet Mode

Previous Command Result: **Success.**

Area for creating a new bridge port in Packet Mode

Create

Physical Port	VPMT Profile	VID	MaxMac	V-Pri	VLAN Tagging	AgingTime	Ingress Filter	Acceptable Frame	Isolation	VLAN Mode	ProtocolBaseVlan	ForcePriorityMode	MacLearning
Port-1	1	1	16	Pri-0	Untagged	300	On	All	Enable	Non-TLS	Disable	Disable	Enable

Line Bridge Port for Packet Mode

Delete Modify ☐ Check All to Modify/Delete ☐ UnCheck All to Modify/Delete

Physical Port	User Port	VPMT Profile	VID	AgingTime	MaxMac	V-Pri	VLAN Tagging	VLAN Mode	Ingress Filter	Acceptable Frame	Isolation	ProtocolBaseVlan	ForcePriorityMode	MacLearning	Select to delete
Port-1	196	1	1	300	16	Pri-0	Untagged	Non-TLS	On	All	Enable	Disable	Disable	Enabled	<input type="checkbox"/> Select

Table 0-4 Interface Setup – Packet Bridge Port

Label	Description
Area for creating a new bridge port in Packet Mode	
Physical Port	Click on the drop-down list and select the port number (1~24, or All).
VPMT Profile	Click on the drop-down list and select the VPMT (VLAN priority mapping table, refer to section 0) profile to bind.
VID	Type in the default port VID. Valid value is 1 ~ 4094.
MaxMac	Type in the maximum number of MAC addresses that can be learned by the bridge port (0 ~ 512, default is 16).
V-Pri	Click on the drop-down list and select the VLAN priority level for egress traffic (0 ~7).
VLAN Tagging	Click on the drop-down list and select tagging/untagging the outgoing frames (downstream direction for line bridge port).
Aging Time	The aging time for MAC address table (10 ~ 600 sec). If a MAC does not transmit a new frame within the aging time, this MAC entry will be deleted from the MAC address table.
Ingress Filter	Click on the drop-down list and select Ingress filter On/Off. Ingress filter ON: check if the VID of the incoming frame is in the member set. If not in the member set, block the frame. Ingress filter OFF: Ingress filter disabled.
Acceptable Frame	Click on the drop-down list and select to accept ALL Frame or only VLAN tagged frame.
Isolation	Click on the drop-down list and select enable/disable Isolation for this bridge port. When port isolation is enabled, packets received from a line bridge port (including trunk interface configured as user-link) cannot be forwarded to any other line

	bridge port even for broadcasting.														
VLAN Mode	<p>non-TLS: normal VLAN mode</p> <p>QinQ: enable N:1 VLAN stacking feature (our system adds the default VLAN tag to all the incoming frames through this port)</p> <p>TLS: enable TLS (Transparent LAN Service) so that this bridge port becomes VLAN transparent (refer to DSL Forum, TR-101). A pre-configured S-Tag is used to encapsulate TLS traffic going through this port. That is, an S-Tag (PVID here) will be added to all the upstream frames received on this port, and the C-Tags will be the original tags of these frames (no C-Tag for untagged incoming frames). On the other hand, the S-Tag will be removed from all the downstream (outgoing) frames.</p>														
ProtocolBaseVLAN	Enable/disable protocol based VLAN feature.														
ForcePriorityMode	<p>Click on the drop-down list and select the priority-forcing mode. Options are:</p> <p>Disabled: Reserve the original priority of all packets.</p> <p>Force-ingress: All packets, no matter what VLAN ID they are, if they come into this line bridge port, their VLAN priority will be changed to this line bport's default VLAN priority. No dependency on configured 'VLAN Mode'.</p> <p>Force-egress:</p> <p>For single tagged packet - when the line bridge port is ready to output the packet, if the packet's VLAN ID is equal to the line bport's default VLAN ID, the packet's VLAN priority will be changed to this line bport's default VLAN priority.</p> <p>Ex. If the line bport's default VLAN ID and priority is (5,5)</p> <table border="1"> <thead> <tr> <th>Original (VID, V-Pri)</th><th>Result (VID, V-Pri)</th></tr> </thead> <tbody> <tr> <td>(5,1)</td><td>(5,5)</td></tr> <tr> <td>(1,1)</td><td>(1,1)</td></tr> </tbody> </table> <p>For double tagged packet – if the packet's S-VID is equal to the line bport's default VLAN ID, the packet's S-Tag priority is replaced with this line bport's default priority value (but when VLAN Mode = TLS, the packet's C-Tag priority is replaced instead and the S-Tag will be removed from the packet before it is sent out).</p> <p>Ex. If the line bport's default VLAN ID and priority is (5,5), VLAN Tagging mode is tagged</p> <p>When VLAN Mode = TLS,</p> <table border="1"> <thead> <tr> <th>Original S(VID, V-Pri) and C(VID, V-Pri)</th><th>Result (VID, V-Pri)</th></tr> </thead> <tbody> <tr> <td>(5,1) (2,2)</td><td>(2,5)</td></tr> </tbody> </table> <p>When VLAN Mode = QinQ,</p> <table border="1"> <thead> <tr> <th>Original S(VID, V-Pri) and C(VID, V-Pri)</th><th>Result S(VID, V-Pri) and C(VID, V-Pri)</th></tr> </thead> <tbody> <tr> <td>(5,1) (2,2)</td><td>(5,5) (2,2)</td></tr> </tbody> </table>	Original (VID, V-Pri)	Result (VID, V-Pri)	(5,1)	(5,5)	(1,1)	(1,1)	Original S(VID, V-Pri) and C(VID, V-Pri)	Result (VID, V-Pri)	(5,1) (2,2)	(2,5)	Original S(VID, V-Pri) and C(VID, V-Pri)	Result S(VID, V-Pri) and C(VID, V-Pri)	(5,1) (2,2)	(5,5) (2,2)
Original (VID, V-Pri)	Result (VID, V-Pri)														
(5,1)	(5,5)														
(1,1)	(1,1)														
Original S(VID, V-Pri) and C(VID, V-Pri)	Result (VID, V-Pri)														
(5,1) (2,2)	(2,5)														
Original S(VID, V-Pri) and C(VID, V-Pri)	Result S(VID, V-Pri) and C(VID, V-Pri)														
(5,1) (2,2)	(5,5) (2,2)														

	Force-both: Combine the rules of Ingress and Egress.
MacLearning	Enable/disable MAC learning ability. Sometimes you can disable MAC learning on specified bridge port. This function is for 1:1 VLAN translation scenario.
Create	Click on this button to create a new entry in the table.
Line Bridge Port for Packet Mode	
User Port	<p>This field shows the bridge port index. The bridge port index can be calculated by the following formula:</p> <p>GBE1 → User Port = 1 GBE2 → User Port = 2 Link Aggregation bridge port → User Port = 3 Line side → User port = phyport_id + [24* (bridge port_id - 1)] + 3 where</p> <p>phyport_id : Circuit ID (1~24) bridge port_id : PVC ID of a circuit (1~8) for ATM bridge port;</p>
Delete	Select an entry in the table (select the checkbox), and then click on this button to delete it.
Modify	Select an entry in the table (select the checkbox), change the parameters to new value, and then click on this button to
Select to Delete	You must remember to click on the checkbox of the bridge port you want to modify or delete.
Other Labels	As described in Area for creating a new bridge port in Packet Mode.

4.4.2 ATM Bridge Port

This option allows you to create a new bridge port in ATM mode (for ADSL use). For a DSL line port, if packet mode bridge port (for VDSL use) has been created, you cannot create any ATM mode bridge port. From the *Bridge* menu, click on *Interface Setup* and then *ATM Bridge Port*. The following page is displayed:

Line Bridge Port Setup for ATM Mode

Previous Command Result: Success.

Area for creating a new bridge port in ATM Mode

Create

Physical Port	VPI	VCI	Traffic Descriptor	AgingTime	Encapsulation	VID	MaxMac	V-Pri	VLAN Tagging	Ingress Filter	Acceptable Frame	Isolation	VLAN Mode	ProtocolBaseVlan	ForcePriorityMode	MacLearning
Port-1	0	35	1	300	LLC	1	16	Pri-0	Untagged	On	All	Enable	Non-TLS	Disabled	Disabled	Enable

Line Bridge Port for ATM Mode

Query Table

Query Page Number: page-1 Delete Modify ☐ Check All to Modify/Delete ☐ UnCheck All to Modify/Delete

Physical Port	User Port	VPI	VCI	Traffic Descriptor	AgingTime	Encapsulation	VID	MaxMac	V-Pri	VLAN Tagging	VLAN Mode	Ingress Filter	Acceptable Frame	Isolation	ProtocolBaseVlan	ForcePriorityMode	MacLearning	Select to delete
Port-2	5	0	35	1	300	LLC	1	16	Pri-0	Untagged	Non-TLS	On	All	Enable	Disable	Disabled	Enabled	<input type="checkbox"/> Select

Table 0-5 Interface Setup – ATM Bridge Port

Label	Description
Area for creating a new bridge port in ATM Mode	
Circuit Number	Click on the drop-down list and select the circuit number (1~24).
VPI	Type in the VPI value: 0 ~ 255. Default value is 0.
VCI	Type in the VCI value: 21, 32 ~ 65535. Default value is 35.
Traffic Descriptor	Click on the drop-down list and select the traffic descriptor.
Aging Time	The aging time for MAC address table (10 ~ 600 sec). If a MAC does not transmit a new frame within the aging time, this MAC entry will be deleted from the MAC address table.
Encapsulation	Select AAL5 Encapsulation Type: VCMUX/LLC
VID	Type in the default port VID. Valid value is 1 ~ 4094.
MaxMac	Type in the maximum number of MAC addresses that can be learned by the bridge port (0 ~ 512, default is 16).
V-Pri	Click on the drop-down list and select the VLAN priority level for egress traffic (0 ~ 7).
VLAN Tagging	Click on the drop-down list and select tagging/untagging the frames in egress direction.
Ingress Filter	Click on the drop-down list and select Ingress filter On/Off. Ingress filter ON: check if the VID of the incoming frame is in the member set. If not in the member set, block the frame. Ingress filter OFF: Ingress filter disabled.
Acceptable Frame	Click on the drop-down list and select to accept ALL Frame or only VLAN tagged frame.
Isolation	Click on the drop-down list and select enable/disable Isolation for this bridge port. When port isolation is enabled, packets received from a line bridge port (including trunk interface configured as user-link) cannot be forwarded to any other line bridge port even for

	broadcasting.														
VLAN Mode	<p>non-TLS: normal VLAN mode</p> <p>QinQ: enable N:1 VLAN stacking feature (our system adds the default VLAN tag to all the incoming frames through this port)</p> <p>TLS: enable TLS (Transparent LAN Service) so that this bridge port becomes VLAN transparent (refer to DSL Forum, TR-101). A pre-configured S-Tag is used to encapsulate TLS traffic going through this port. That is, an S-Tag (PVID here) will be added to all the upstream frames received on this port, and the C-Tags will be the original tags of these frames (no C-Tag for untagged incoming frames). On the other hand, the S-Tag will be removed from all the downstream (outgoing) frames.</p>														
ProtocolBaseVLAN	Enable/disable protocol based VLAN feature.														
ForcePriorityMode	<p>Click on the drop-down list and select the priority-forcing mode. Options are:</p> <p>Disabled: Reserve the original priority of all packets.</p> <p>Force-ingress: All packets, no matter what VLAN ID they are, if they come into this line bridge port, their VLAN priority will be changed to this line bport's default VLAN priority. No dependency on configured 'VLAN Mode'.</p> <p>Force-egress:</p> <p>For single tagged packet - when the line bridge port is ready to output the packet, if the packet's VLAN ID is equal to the line bport's default VLAN ID, the packet's VLAN priority will be changed to this line bport's default VLAN priority.</p> <p>Ex. If the line bport's default VLAN ID and priority is (5,5)</p> <table border="1"> <thead> <tr> <th>Original (VID, V-Pri)</th><th>Result (VID, V-Pri)</th></tr> </thead> <tbody> <tr> <td>(5,1)</td><td>(5,5)</td></tr> <tr> <td>(1,1)</td><td>(1,1)</td></tr> </tbody> </table> <p>For double tagged packet – if the packet's S-VID is equal to the line bport's default VLAN ID, the packet's S-Tag priority is replaced with this line bport's default priority value (but when VLAN Mode = TLS, the packet's C-Tag priority is replaced instead and the S-Tag will be removed from the packet before it is sent out).</p> <p>Ex. If the line bport's default VLAN ID and priority is (5,5), VLAN Tagging mode is tagged</p> <p>When VLAN Mode = TLS,</p> <table border="1"> <thead> <tr> <th>Original S(VID, V-Pri) and C(VID, V-Pri)</th><th>Result (VID, V-Pri)</th></tr> </thead> <tbody> <tr> <td>(5,1) (2,2)</td><td>(2,5)</td></tr> </tbody> </table> <p>When VLAN Mode = QinQ,</p> <table border="1"> <thead> <tr> <th>Original S(VID, V-Pri) and C(VID, V-Pri)</th><th>Result S(VID, V-Pri) and C(VID, V-Pri)</th></tr> </thead> <tbody> <tr> <td>(5,1) (2,2)</td><td>(5,5) (2,2)</td></tr> </tbody> </table> <p>Force-both: Combine the rules of Ingress and Egress.</p>	Original (VID, V-Pri)	Result (VID, V-Pri)	(5,1)	(5,5)	(1,1)	(1,1)	Original S(VID, V-Pri) and C(VID, V-Pri)	Result (VID, V-Pri)	(5,1) (2,2)	(2,5)	Original S(VID, V-Pri) and C(VID, V-Pri)	Result S(VID, V-Pri) and C(VID, V-Pri)	(5,1) (2,2)	(5,5) (2,2)
Original (VID, V-Pri)	Result (VID, V-Pri)														
(5,1)	(5,5)														
(1,1)	(1,1)														
Original S(VID, V-Pri) and C(VID, V-Pri)	Result (VID, V-Pri)														
(5,1) (2,2)	(2,5)														
Original S(VID, V-Pri) and C(VID, V-Pri)	Result S(VID, V-Pri) and C(VID, V-Pri)														
(5,1) (2,2)	(5,5) (2,2)														

MacLearning	Enable/disable MAC learning ability. Sometimes you can disable MAC learning on specified bridge port. This function is for 1:1 VLAN translation scenario.
Create	Click on this button to create a new entry in the table.
Line Bridge Port for ATM Mode	
User Port	<p>This field shows the bridge port index. The bridge port index can be calculated by the following formula:</p> <p>GBE1 → User Port = 1 GBE2 → User Port = 2 Link Aggregation bridge port → User Port = 3 Line side → User port = $\text{phyport_id} + [24 * (\text{bridge port_id} - 1)] + 3$ where</p> <p>phyport_id : Circuit ID (1~24) bridge port_id : PVC ID of a circuit (1~8) for ATM bridge port; 9 for Packet mode bridge port</p>
Delete	Select an entry in the table, and then click on this button to delete it.
Modify	Select an entry in the table (select the checkbox), change the parameters to new value, and then click on this button to modify.
Select to Delete	You must remember to click on the checkbox of the bridge port you want to modify or delete.
Other Labels	As described in Area for creating a new bridge port in ATM Mode.

4.4.3 Trunk Bridge Port

This option allows you to setup trunk bridge port for packet mode. From the *Bridge* menu, click on *Interface Setup* and then *Trunk Bridge Port*. The following page is displayed:

Trunk Bridge Port Setup for Packet Mode

Previous Command Result: Normal.

Modify Refresh LACP Individual

Physical Port	VID	MaxMac	AgingTime	V-Pri	VLAN Tagging	Ingress Filter	Acceptable Frame	Isolation	Mode	Select to Modify
GigaBit-1	1	1024	300	Pri-0	Untagged	On	All	Enable	Up-Link	<input type="checkbox"/> Select
GigaBit-2	1	1024	300	Pri-0	Untagged	On	All	Enable	Up-Link	<input type="checkbox"/> Select

Table 0-6 Interface Setup – Trunk Bridge Port

Label	Description
Physical Port	This field shows the physical gigabit trunk port number: GigaBit-1 or GigaBit-2.
VID	Type in the default port VID. Valid value is 1 ~ 4094.
MaxMac	Type in the maximum number of MAC addresses that can be learned by the trunk bridge port (1 ~ 4095, default is 1024).
Aging Time	The aging time for MAC address table (10 ~ 600 sec). If a MAC does not transmit a new frame within the aging time, this MAC entry will be deleted from the MAC address table.
V-Pri	Click on the drop-down list and select the VLAN priority level for egress traffic.
VLAN Tagging	Click on the drop-down list and select tagging/untagging the outgoing frames (upstream direction for trunk bridge port).
Ingress Filter	Click on the drop-down list and select Ingress filter On/Off. Ingress filter ON: check if the VID of the incoming frame is in the member set. If not in the member set, block the frame. Ingress filter OFF: Ingress filter disabled.
Acceptable Frame	Click on the drop-down list and select to accept ALL Frame or only VLAN tagged frame.
Isolation	Click on the drop-down list and select enable/disable Isolation for this bridge port. When port isolation is enabled, packets received from a trunk port (when both the trunk interfaces are configured as up-link) cannot be forwarded to the other trunk port even for broadcasting.
Mode	Click on the drop-down list and specify the trunk link to be an Up-Link or User-Link.
Select to Modify	Click on the checkbox of the bridge port you want to modify before you click on Modify button.
Refresh	Click on this button to get most recent status.
LACP	Click on this button to enable LACP (Link Aggregation Control

	Protocol) mode.
Individual	Click on this button to disable LACP mode.

When LACP mode is enable, following page is displayed:

Trunk Bridge Port Setup for Packet Mode

Previous Command Result: **Success.**

Modify Refresh LACP Individual

Physical Port	VID	MaxMac	AgingTime	V-Pri	VLAN Tagging	Ingress Filter	Acceptable Frame	Isolation	Mode	Select to Modify
LACP-3	1	1024	300	Pri-0 ▾	Untagged ▾	On ▾	All ▾	Enable ▾	Up-Link ▾	<input type="checkbox"/> Select

4.4.4 LACP Configuration

This option allows you to do the LACP configuration and is only available when LACP mode is selected for the trunk interface (refer to 0). The Link Aggregation Control Protocol (LACP) is part of IEEE 802.3ad that allows bundling trunk ports together to form a single logical channel. This feature can provide load sharing and failover when link status fails on a port. From the *Bridge* menu, click on *Interface Setup* and then *LACP Configuration*. The following page is displayed:

LACP

mand Result: Normal.

LACP System

State Items	Values	Config. Items	Values
Bridge ifIndex mapping	3	Actor Admin Key	1
MAC Address	00-00-00-00-00-00	Actor Priority	0
Aggregate or Individual	Aggregate		
ActorOperKey	1		
PartnerSystemID	02-05-65-71-1B-44		
PartnerSystemPriority	21845		
PartnerOperKey	1		

Table 0-7 LACP Configuration – LACP System

Label	Description
Bridge ifindex mapping	This field shows the bridge interface index of the LACP interface. The value is 3.
MAC Address	This field shows a 6-octet value carrying the individual MAC address assigned to the Aggregator.
Actor Admin Key	Admin Key of the Actor (read-only). The Admin Key is the current administrative value of the Key for the Aggregator. The administrative Key value may differ from the operational Key value. The meaning of particular Key values is of local significance. Valid value: 0x0000 ~ 0xFFFF (Hex). Note: Actor is the local entity in a Link Aggregation Control Protocol exchange; Partner is the remote entity in a Link Aggregation Control Protocol exchange.
Actor Priority	Type in the System Priority of the Actor. System Priority is a value indicating the priority value associated with the Actor's System ID. Valid value: 0 ~ 65535.
Aggregate or Individual	Indicating whether the Aggregation Port is able to Aggregate or is only able to operate as an Individual link.
Actor Oper Key	The current operational value of the Key for the Aggregator. The administrative Key value may differ from the operational Key value. The meaning of particular Key values is of local significance.

Partner System ID	This is a 6-octet MAC address which is a unique identifier for the System that contains this Aggregator.
Partner System Priority	A value that indicates the priority value associated with the Partner's System ID. Value range is 0 ~ 65535.
Partner Oper Key	The current operational value of the Key for the Aggregator. The administrative Key value may differ from the operational Key value. The meaning of particular Key values is of local significance.

LACP Port

[Modify](#) [Refresh](#)

State Items	Gb1	Gb2	State Items	Gb1	Gb2
Actor Admin State(Fixed)	<input checked="" type="checkbox"/> Activity <input type="checkbox"/> Timeout <input checked="" type="checkbox"/> aggregation <input type="checkbox"/> synchronisation <input type="checkbox"/> collecting <input type="checkbox"/> distributing <input type="checkbox"/> defaulted <input type="checkbox"/> expired	<input checked="" type="checkbox"/> Activity <input type="checkbox"/> Timeout <input checked="" type="checkbox"/> aggregation <input type="checkbox"/> synchronisation <input type="checkbox"/> collecting <input type="checkbox"/> distributing <input type="checkbox"/> defaulted <input type="checkbox"/> expired	Partner Admin State	<input type="checkbox"/> Activity <input type="checkbox"/> Timeout <input type="checkbox"/> aggregation <input type="checkbox"/> synchronisation <input type="checkbox"/> collecting <input type="checkbox"/> distributing <input type="checkbox"/> defaulted <input type="checkbox"/> expired	<input type="checkbox"/> Activity <input type="checkbox"/> Timeout <input type="checkbox"/> aggregation <input type="checkbox"/> synchronisation <input type="checkbox"/> collecting <input type="checkbox"/> distributing <input type="checkbox"/> defaulted <input type="checkbox"/> expired
Actor Port	1	1	Partner Oper Port	1	1
Actor ID	00-FF-32-F5-75-D9	00-FF-32-F5-75-D9	Partner Oper ID	02-05-65-71-1B-44	00-00-00-00-00-00
Actor Oper Key	1	1	Partner Oper Key	1	1
Partner Oper Priority	21845	0	Partner Oper Port Priority	1	1
Actor Oper State	[(Activity)(Aggre)(Sync)]	[(Activity)(Aggre)(Sync)]	Partner Oper State	[(Activity)(Aggre)(Expired)]	[(Timeout)(Aggre)]
Aggregate Or Individual	[Aggregate]	[Aggregate]			

Table 0-8 LACP Configuration – LACP Port

Label	Description
-------	-------------

Actor Admin State(Fixed) / Partner Admin State	<p>The administrative state of Actor / Partner. Currently the state is fixed.</p> <p>Parameters include:</p> <p>Activity - If the operational state shows Activity ON, this indicates the Activity control is Active LACP; otherwise, the Activity control is Passive LACP.</p> <p>Timeout - Timeout means the Timeout control value with regard to this link. If the operational state shows Timeout ON, this indicates Short Timeout, otherwise, Long Timeout.</p> <p>Aggregation - If the operational state shows aggregation ON, this indicates that the System considers this link to be Aggregatable; i.e., a potential candidate for aggregation. If not, the link is considered to be Individual; i.e., this link can be operated only as an individual link.</p> <p>Synchronization - If the operational state shows Sync ON, the system considers this link to be IN_SYNC; i.e., it has been allocated to the correct Link Aggregation Group, the group has been associated with a compatible Aggregator, and the identity of the Link Aggregation Group is consistent with the System ID and operational Key information transmitted. If Sync OFF, then this link is currently OUT_OF_SYNC; i.e., it is not in the right Aggregation.</p>
---	--

	<p>Collecting - If the operational state shows collecting ON, this means collection of incoming frames on this link is definitely enabled; i.e., collection is currently enabled and is not expected to be disabled in the absence of administrative changes or changes in received protocol information.</p> <p>Distributing - If the operational state shows distributing OFF, this means distribution of outgoing frames on this link is definitely disabled; i.e., distribution is currently disabled and is not expected to be enabled in the absence of administrative changes or changes in received protocol information.</p> <p>Defaulted - If the operational state shows defaulted ON, this indicates that the Actor's Receive machine is using defaulted operational Partner information, administratively configured for the Partner. If defaulted OFF, the operational Partner information in use has been received in a LACPDU.</p> <p>Expired - If the operational state shows expired ON, this indicates that the Actor's Receive machine is in the EXPIRED state; if expired OFF, this indicates that the Actor's Receive machine is not in the EXPIRED state.</p>
Actor Port / Partner Oper Port	The port number associated with this link assigned to the port by the Actor/Partner. Port number range is 0 ~ 65535.
Actor ID / Partner Oper ID	A 6-octet MAC address value that defines the value of the System ID for the System that contains this Aggregation Port.
Actor Oper Key / Partner Oper Key	The current operational value of the Key for the Aggregation Port. This is a value between 0000 ~ FFFF. The meaning of particular Key values is of local significance.
Actor Oper Port Priority / Partner Oper Port Priority	The current value of the port priority for the protocol Actor / Partner. Value range is 0 ~ 65535.
Actor Oper State / Partner Oper State	The operational state of Actor / Partner. For more information, refer to the description for Actor Admin State / Partner Admin State.
Aggregate Or Individual	Shows current state is aggregate link or individual.

4.4.5 Rate Limit Policer Profile

This option allows you to configure the rate limit policer profile. From the *Bridge* menu, click on *Interface Setup* and then *Rate Limit Policer Profile*. The following page is displayed:

Rate Limit Policer

Previous Command Result: Normal.

Query Profile Selection:

Current Configuration and Modification Area

Profile Contents

Profile Index	Profile Mode	CIR	CBS	Color Aware	Non Conf	Color Field
1	Single Leaky Bucket	1000000000 [bps]	80 [ms]	Color Blind	To Discard	Vlan Priority
	EIR	EBS	Green Val	Yellow Val	Red Val	
	1000000000 [bps]	80 [ms]	?	3	1	

The VC-2402 supports TCM Policer in accordance with the Metro Ethernet Forum (MEF) Bandwidth Profile and RFCs 2697 & 2698. Our TCM Policer supports both Color Aware and Color Blind modes. The “color” is used for determining whether a packet will proceed to the policer when TCM Policer works in Color Aware mode; also in the policer the packet may be remarked with new color according to the packet’s conformance to the policer rules. A packet is considered green when it enters the TCM Policer only if its input color field, VLAN priority bits or DSCP field, has the same value with the green value configured in this page (see also the following parameter description). Likewise, a packet is considered yellow only if its input color field has the same value with the yellow value configured in this page. All other values are considered red. Once a packet has passed through the TCM Policer, it will be directed to the class queues for scheduling.

The VC-2402 supports two kinds of TCM Policer: two-rate TCM (with dual leaky buckets) and single-rate TCM (with single leaky bucket).

The single-rate TCM meters a traffic stream and marks its packets according to Committed Information Rate (CIR) and Committed Burst Size (CBS) to be either green, or red. The single-rate TCM operates with a single leaky bucket that is updated according to only one rate, the committed information rate - CIR. A packet is marked green if the leaky bucket is not full and red otherwise.

The two-rate TCM meters a traffic stream and marks its packets based on two rates, Committed Information Rate (CIR) and Excess Information Rate (EIR), and their associated burst sizes, Committed Burst Size (CBS) and Excess Burst Size (EBS), to be either green, yellow, or red. The two-rate TCM operates with dual leaky bucket, where each bucket is updated according to a different rate. The first bucket is updated according to the CIR, the second bucket is updated according to the EIR. A packet is marked red if it exceeds the PIR. Otherwise it is marked either yellow or green depending on whether it exceeds or doesn’t exceed the EIR.

Table 0-9 Rate Limit Policer setup

Label	Description
Query Profile Selection	Click on the drop-down list and select the profile you want to query. Select CREATE_NEW to create a new profile. Note that DEFVAL is a system default profile.
Profile Index	This field shows the profile index.
Profile Mode	For Single Leaky Bucket mode, there is one controlling parameter: CIR. For Dual Leaky Bucket mode, there are two controlling parameters: CIR and EIR.
CIR	Committed Information Rate (bit per second). The threshold rate to turn on the rate-limit mechanism. Value range is 1536 ~ 10000000000.
CBS	Committed Burst Size. The unit is millisecond. This parameter ranges from 1 to 1024. The first bucket depth is the product of CIR and this parameter.
Color Aware	Color aware mode: the packets are classified before they're sent through the policer. Color blind mode: the packets are directed through the entire policer regardless of their color.
Non Conf	This parameter defines the action for non-conforming packets. You can choose Tag or Discard. If Tag is chosen, then all the packets will be marked as red in the Color field rather than be discarded.
Color Field	There are two fields you can select for determining the packet's input color: the VLAN priority bits within the Ethernet header or the DSCP field within the IP header.
EIR	Excess Information Rate (1536 ~ 1G bits per second) controls the number of tokens in the second bucket (EBS bucket).
EBS	Excess Burst Size. The unit is millisecond. This parameter ranges from 1 to 1024. The second bucket depth is the product of EIR and this parameter.
Green Val	Type in the green color value that is used when determining a packet's input color (for Color Aware mode) or remarking a packet's output color as green. Valid value is 0 ~ 7 for VLAN Priority color field or 0 ~ 63 for DSCP color field.
Yellow Val	Type in the yellow color value that is used when determining a packet's input color (for Color Aware mode) or remarking a packet's output color as yellow. Valid value is 0 ~ 7 for VLAN Priority color field or 0 ~ 63 for DSCP color field.
Red Val	Type in the red color value that is used when remarking a packet's output color as red. Valid value is 0 ~ 7 for VLAN Priority color field or 0 ~ 63 for DSCP color field.

Create	Once you have typed in the parameter values, click on this button to create a new profile.
Delete	Click on this button to delete a profile. Note that the default profile (DEFVAL) cannot be deleted.

4.4.6 Bridge Port Policer Select

This option allows you to select the policer profile (refer to 0) to limit data rate for a line bridge port. From the *Bridge* menu, click on *Interface Setup* and then *Bridge Port Policer Select*. The following page is displayed:

Bridge Port Policer Select

Previous Command Result: Normal.

Make a bridge port to apply a policer

Query Table

Query Page Number: page-1

[Modify](#)

Physical Port	Egress Policer Index	Ingress Policer Index	Egress CIR	Egress Leaky Bucket	Ingress CIR	Ingress Leaky Bucket	Select to Modify		
Port-3 -- PVC-1	<input type="text" value="1"/>	<input type="text" value="1"/>	Unlimited	80	Unlimited	80	Ex: <input type="text" value="1"/>	In: <input type="text" value="1"/>	<input type="checkbox"/> Modify
Port-1 -- PacketMode	<input type="text" value="1"/>	<input type="text" value="1"/>	Unlimited	80	Unlimited	80	Ex: <input type="text" value="1"/>	In: <input type="text" value="1"/>	<input type="checkbox"/> Modify

Table 0-10 Bridge Port Policer Select

Label	Description
Physical Port	This field shows the physical line port number and its mode (ATM PVC or Packet)
User Port	This field shows the bridge port index. The bridge port index can be calculated by the following formula: $\text{User port} = \text{phyport_id} + [24 * (\text{bridge port_id} - 1)] + 3$ where phyport_id : Circuit ID (1~24) bridge port_id : PVC ID of a circuit (1~8) for ATM bridge port; 9 for Packet mode bridge port.
Egress Policer Index / Ingress Policer Index	This field shows the policer profile index for Egress/Ingress direction.
Egress CIR / Ingress CIR	This field shows the Egress/Ingress CIR.
Egress Leaky Bucket / Ingress Leaky Bucket	This field shows the Egress/Ingress Leaky Bucket size.
Select to Modify	To bind a bridge port with a policer profile, click on the drop-down list to select a policer profile index for egress and ingress direction respectively and select the Modify checkbox, then click on Modify button.

4.4.7 Bridge VLAN Policer Select

This option allows you to select the policer profile (refer to 0) to limit data rate per VLAN plus per bridge port. From the *Bridge* menu, click on *Interface Setup* and then *Bridge VLAN Policer Select*. The following page is displayed:

Bridge VLAN Policer Select

Previous Command Result: **Success.**

Creation Area:

Index	Physical Port	VID	Egress	Ingress
3	Port-2 -- PVC-1	1	1	1

Current Policer Configuration

Index	Physical Port	VID	Egress Configured	Ingress Configured	Egress changed to	Ingress changed to	Select to modify/delete
1	Port-2 -- PVC-1	1	1	1	1	1	<input type="checkbox"/> Delete/Modify
2	Port-2 -- PVC-1	2	1	1	1	1	<input type="checkbox"/> Delete/Modify

Table 0-11 Bridge VLAN Policer Select

Label	Description
Creation Area:	
Index	This field shows the index of next created entry.
Physical Port	Click on the drop-down list and select a bridge port.
VID	Type in the VLAN ID (1 ~ 4094).
Egress	Click on the drop-down list and select the policer profile index for egress direction.
Ingress	Click on the drop-down list and select the policer profile index for ingress direction.
Create	Click on this button to create a new row.
Current Policer Configuration:	
Index	This field shows the index of entry in the table.
Physical Port	This field shows the physical port number (and PVC number for ADSL mode).
VID	This field shows the VLAN ID.
Egress Configured / Ingress Configured	This field shows current policer profile configured for the egress/ingress direction.
Egress changed to / Ingress changed to	Click on the drop-down list and select the new policer profile index for egress/ingress direction.

Select to modify/delete	Select this checkbox before you click on Modify or Delete; otherwise the action won't take effect.
Delete	Click on this button to delete a row.
Modify	Click on this button to modify a row.

4.4.8 Bridge Port Broadcast Policer Select

This option allows you to modify the policer profile for broadcast traffic per bridge port. From the *Bridge* menu, click on *Interface Setup* and then *Bridge Port Broadcast Policer Select*. The following page is displayed:

Bridge Port Broadcast Policer Select

Previous Command Result: Normal.

Make a Bridge port to apply a Broadcast Policer

Query Table

Query Page Number:

Physical Port	Ingress Configured	Ingress changed to	Select to modify
GigaBit-1	<input type="text" value="1"/>	<input type="text" value="1"/>	<input type="checkbox"/> Modify
GigaBit-2	<input type="text" value="1"/>	<input type="text" value="1"/>	<input type="checkbox"/> Modify
Port-3 -- PVC-1	<input type="text" value="1"/>	<input type="text" value="1"/>	<input type="checkbox"/> Modify
Port-1 -- PacketMode	<input type="text" value="1"/>	<input type="text" value="1"/>	<input type="checkbox"/> Modify

Click on *Select to modify* checkbox to select the bridge port you want to modify, and click on the *Ingress changed to* drop-down list to select the new policer profile index. Then click on **Modify** button to apply.

4.5 VLAN Configuration

4.5.1 Trunk Priority Mapping

This option allows you to map 8 IEEE 802.1p priority values (0 ~ 7) to internal priority queue (0 ~ 3) (the smallest number has the highest priority) for each trunk interface. From the *Bridge* menu, click on *VLAN Configuration* and then *Trunk Priority Mapping*. The following page is displayed:

Trunk Priority Mapping

Previous Command Result: Normal.

Modify

Physical Port	Pri-0	Pri-1	Pri-2	Pri-3	Pri-4	Pri-5	Pri-6	Pri-7
GigaBit-1	3	3	2	2	1	1	0	0
	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
GigaBit-2	3	3	2	2	1	1	0	0
	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass

Type in the internal queue value (0 ~ 3) and select Pass or Deny filter.

4.5.2 Static VLAN

This option allows you to configure the static VLAN. From the *Bridge* menu, click on *VLAN Configuration* and then *Static VLAN*. The *Static VLAN* page is displayed. You can choose to list the VLAN table by Member Set or Interface. Click on the *List By* drop-down list and select Interface (All) or Member Set.

Creating Static VLAN:

In the Creation Area, select a bridge port you want to create the VLAN for, select the values for Tagged and Isolated parameters, and type in the VLAN ID. Then click on **Create** button to create the VLAN containing the bridge port member you just selected. You can also select the *Create Empty VLAN* checkbox to create a VLAN without any bridge port member (see the following figure).

Static VLAN Configuration

Previous Command Result: Normal.

Creation Area:

Physical Port	VID	Tagged	Isolated
GigaBit-1	<input checked="" type="checkbox"/> Create Empty VLAN 8	Tagged	Same

Query Table

Query Page Number: page-1

Query VID Index: 8
 List By: Member Set

Physical Port	VID	Tagged	Isolated	PVID	Igmp Value	Select to Delete/Modify
EMPTY	8	Tagged	Disabled	EMPTY	EMPTY	<input type="checkbox"/> Delete/Modify

Table 0-12 Static VLAN Creation

Label	Description
Physical Port	Select the bridge port.
VID	Type in the VID (1 ~ 4094). Select the <i>Create Empty VLAN</i> checkbox if you want to create a VLAN without any bridge port member. Note: up to 512 static VLANs can be created per bridge port. But the total number of VLAN members (bridge ports) must not exceed 1024 per system.
Tagged	Click on the drop-down list and select tagging/untagging the frames in egress direction.
Isolated	Same/Disable. When port isolation is enabled (same), packets received from a trunk port (when both the trunk

interfaces are configured as up-link) cannot be forwarded to the other trunk port even for broadcasting. Also, packets received from a line bridge port (including trunk interface configured as user-link) cannot be forwarded to any other line bridge port even for broadcasting.

Listed By Interface:

In the Query Table area, select List By "Interface (All)" and then click on Query. The static VLAN settings of all the created bridge interfaces are listed. If you want to delete a VID from a VLAN set of a bridge port, type the VID in **DeleteVID** field and select the *Select to Delete/Modify* checkbox, and then click Delete button. Note that PVID of a bridge port cannot be deleted or modified.

Creation Area:

Physical Port	VID	Tagged	Isolated
GigaBit-1	<input type="checkbox"/> Create Empty VLAN 1	Tagged	Same

Query Table

Query Page Number: page-1

Query VID Index: 8 List By: Interface(All)

Physical Port	AddedVIDs	DeleteVID	Select to Delete/Modify
GigaBit-1	--	1	<input type="checkbox"/> Delete/Modify
GigaBit-2	--	1	<input type="checkbox"/> Delete/Modify
Port-3 -- PVC-1	100,	1	<input type="checkbox"/> Delete/Modify
Port-1 -- PacketMode	10,11,20,21,100,200,	1	<input type="checkbox"/> Delete/Modify

Listed By Member Set:

In the Query Table area, select List By “Member Set” and type VID in *Query VID Index* field, then click on Query button. All the bridge ports within this VLAN will be listed. If you want to delete a bridge port from the VLAN member set, just select the *Select to Delete/Modify* checkbox of that port and then click on Delete button. To modify the parameter values of a bridge port, also remember to select the *Select to Delete/Modify* checkbox. Note that if the VID is the default VLAN ID of the bridge ports, you cannot delete or modify the entries in the table.

Query TableQuery Page Number: page-1Query VID Index: 100 List By: Member Set Query Delete Modify

Physical Port	VID	Tagged	Isolated	PVID	Igmp Value	Select to Delete/Modify
Port-3 -- PVC-1	100	Tagged	Same	False	No	<input type="checkbox"/> Delete/Modify
Port-1 -- PacketMode	100	Tagged	Same	False	No	<input type="checkbox"/> Delete/Modify

4.5.3 VLAN Priority Remark

This option allows you to configure the VLAN priority mapping. From the *Bridge* menu, click on *VLAN Configuration* and then *VLAN Priority Remark*. The following page is displayed:

Click on the *VPRI Remark* drop-down list and select a type of VLAN Priority Remark, including Type of Service, IP Source, IP Destination, MAC Source, MAC Destination, VLAN ID, VLAN Priority Regeneration, and DSCP Priority Regeneration.

Note: when system is in LACP mode, do not set DSCP and TOS priority remark at the same time for the same bridge port. Because some bits of DSCP and of TOS overlap.

VLAN Priority Remark

VPRI Remark

VLAN Priority Remark Table	
(1)	Type of Service(TOS) Remark
(2)	IP Source Remark
(3)	IP Destination Remark
(4)	MAC Source Remark
(5)	MAC Destination Remark
(6)	VLAN ID Remark
(7)	VLAN Priority Regen(Re-Generation)
(8)	DSCP Priority Regen(Re-Generation)

✧ TOS

VLAN TOS Priority Remark

Previous Command Result: Success.

VPRI Remark (1)TOS

Next No:[2] Interface From: 4 To: 4 TOS 0 Priority(Out): 0 Create

No. From 1 To 1 Query Delete

No.	Interface#	Incoming TOS	Outgoing Vlan Priority
1	1	1	3

Table 0-13 VLAN Priority Remark Setup - TOS

Label	Description
Interface From...To....	Type in the range of interface index you want to create. The value of interface index is 1 ~ 219.
TOS	In order to provide basic support for classes of service to the Internet Protocol. The IP protocol header contains what is known as the ToS (Type of Service) bits. Click on the drop-down list and select incoming TOS (value range 0 ~ 7), then you can create the mapping between TOS and VLAN priority.
Priority (Out)	Click on the drop-down list and select the outgoing VLAN priority (0 ~ 7).
Create	Click on this button to create a new row in the priority table.
No. FromTo.....	Type in the range of rows in the VLAN Priority table you want to view. (No. range: 1~200)
Query	Once you have selected the row number range, click on this button to retrieve VLAN priority information in the table.
Delete	Once you have selected the row number range, click on this button to delete the rows in the priority table.

✧ IP Source

VLAN IP Source Priority Remark

Previous Command Result: Success.

VPRI Remark (2) IP Source

Next No: [2] Interface From: 4 To: 4 Priority(Out): 0 Create

Source IP 0 . 0 . 0 . 0 MASK 0 . 0 . 0 . 0

No. From 1 To 1 Query Delete

No.	Interface#	IP Source ADDRESS	Subnet Mask	Outgoing Vlan Priority
1	5	172 . 16 . 8 . 23	255 . 255 . 0 . 0	0

Table 0-14 VLAN Priority Remark Setup – IP Source

Label	Description
Interface From...To....	Type in the range of interface index you want to create. The value of interface index is 1 ~ 219.
Priority (Out)	Click on the drop-down list and select the outgoing VLAN priority (0 ~ 7).
Create	Click on this button to create a new row in the priority table.
Source IP	Type in the IP address of the coming source.
MASK	Type in the subnet mask.
No. FromTo.....	Type in the range of rows in the VLAN Priority table you want to view. (No. range: 1~200)
Query	Once you have selected the row number range, click on this button to retrieve VLAN priority information in the
Delete	Once you have selected the row number range, click on this button to delete the rows in the priority table.

✧ IP Destination

VLAN IP Destination Priority Remark

Previous Command Result: Success.

VPRI Remark (3)IP Destination

Next No:[2] Interface From: 4 To: 4 Priority(Out): 0 Create

Destination IP 0 . 0 . 0 . 0 MASK 0 . 0 . 0 . 0

No. From 1 To 1 Query Delete

No.	Interface#	IP Destination ADDRESS	Subnet Mask	Outgoing Vlan Priority
1	5	172 . 16 . 5 . 21	255 . 255 . 255 . 0	7

Table 0-15 VLAN Priority Remark Setup – IP Destination

Label	Description
Interface From...To....	Type in the range of interface index you want to create. The value of interface index is 1 ~ 219.
Priority (Out)	Click on the drop-down list and select the outgoing VLAN priority (0 ~ 7).
Create	Click on this button to create a new row in the priority table.
Destination IP	Type in the IP address of the destination.
MASK	Type in the subnet mask.
No. FromTo.....	Type in the range of rows in the VLAN Priority table you want to view. (No. range: 1~200)
Query	Once you have selected the row number range, click on this button to retrieve VLAN priority information in the table.
Delete	Once you have selected the row number range, click on this button to delete the rows in the priority table.

✧ MAC Source

VLAN MAC Source Priority Remark

Previous Command Result: Success.

VPRI Remark (4)MAC Source

Next No:[2] Interface From: 4 To: 4 Priority(Out): 0 Create

Source MAC Address 00 : 00 : 00 : 00 : 00 : 00

No. From 1 To 1 Query Delete

No.	Interface#	MAC Source ADDRESS	Outgoing Vlan Priority
1	5	10:00:00:31:00:ff	0

Table 0-16 VLAN Priority Remark Setup – MAC Source

Label	Description
Interface From...To....	Type in the range of interface index you want to create. The value of interface index is 1 ~ 219.
Priority (Out)	Click on the drop-down list and select the outgoing VLAN priority (0 ~ 7).
Create	Click on this button to create a new row in the priority table.
Source MAC Address	Type in the MAC Address of the coming source.
No. FromTo.....	Type in the range of rows in the VLAN Priority table you want to view. (No. range: 1~200)
Query	Once you have selected the row number range, click on this button to retrieve VLAN priority information in the
Delete	Once you have selected the row number range, click on this button to delete the rows in the priority table.

✧ MAC Destination

VLAN MAC Destination Priority Remark

Previous Command Result: Success.

VPRI Remark (5)MAC Destination ▼

Next No:[2] Interface From: 4 To: 4 Priority(Out): 0 ▼ Create

Destination MAC Address 00 : 00 : 00 : 00 : 00 : 00

No. From 1 To 1 Query Delete

No.	Interface#	MAC Destination ADDRESS	Outgoing Vlan Priority
1	29	aa:00:ee:00:35:10	0

Table 0-17 VLAN Priority Remark Setup – MAC Source

Label	Description
Interface From...To....	Type in the range of interface index you want to create. The value of interface index is 1 ~ 219.
Priority (Out)	Click on the drop-down list and select the outgoing VLAN priority (0 ~ 7).
Create	Click on this button to create a new row in the priority table.
Destination MAC Address	Type in the MAC Address of the destination.
No. FromTo.....	Type in the range of rows in the VLAN Priority table you want to view. (No. range: 1~200)
Query	Once you have selected the row number range, click on this button to retrieve VLAN priority information in the
Delete	Once you have selected the row number range, click on this button to delete the rows in the priority table.

✧ VLAN ID

VLAN ID Priority Remark

Previous Command Result: Success.

VPRI Remark (6)VLAN ID

Next No: [2] Interface From: 4 To: 4 VID: 1 Priority(Out): 0 Create

No. From 1 To 1 Query Delete

No.	Interface#	VID	Outgoing Vlan Priority
1	1	1	4

Table 0-18 VLAN Priority Remark Setup – VLAN ID

Label	Description
Interface From...To....	Type in the range of interface index you want to create. The value of interface index is 1 ~ 219.
VID	Type in the VLAN ID (1 ~ 4094).
Priority (Out)	Click on the drop-down list and select the outgoing VLAN priority (0 ~ 7).
Create	Click on this button to create a new row in the priority table.
No. FromTo.....	Type in the range of rows in the VLAN Priority table you want to view. (No. range: 1~200)
Query	Once you have selected the row number range, click on this button to retrieve VLAN priority information in the table.
Delete	Once you have selected the row number range, click on this button to delete the rows in the priority table.

✧ VLAN Priority Regeneration

VLANs Priority Re-Generation

Previous Command Result: **Success.**

VPRI Remark: (7)VLAN Priority Regen ▼

Next No: [2] Interface From: 4 To: 4 Priority(In): 0 ▼ Priority(Out): 0 ▼

No. From 1 To 1

No.	Interface#	Incoming Vlan Priority	Outgoing Vlan Priority
1	5	2	3

Table 0-19 VLAN Priority Remark Setup – VLAN Priority Regen

Label	Description
Interface From...To....	Type in the range of interface index you want to create. The value of interface index is 1 ~ 219.
Priority (In)	Click on the drop-down list and select the incoming VLAN Priority (0 ~ 7).
Priority (Out)	Click on the drop-down list and select the outgoing VLAN priority (0 ~ 7).
Create	Click on this button to create a new row in the priority table.
No. FromTo.....	Type in the range of rows in the VLAN Priority table you want to view. (No. range: 1~200)
Query	Once you have selected the row number range, click on this button to retrieve VLAN priority information in the
Delete	Once you have selected the row number range, click on this button to delete the rows in the priority table.

✧ DSCP Priority Regeneration

VLAN DSCP Priority Remark

Previous Command Result: Success.

VLAN DSCP Priority Remark Setup Interface

VPRI Remark: (8)DSCP

Next No: [2] Interface From: [4] To: [4] DSCP: DIFFSERV_DEFAULT Priority(Out): [0]

No. From: [1] To: [1]

No.	Interface#	Incoming DSCP	Outgoing Vlan Priority
1	5	DEFAULT	5

Table 0-20 VLAN Priority Remark Setup – Differentiated Services

Label	Description																								
Interface From...To....	Type in the range of interface index you want to create. The value of interface index is 1 ~ 219.																								
TOS	<p>Click on the drop-down list and select the incoming DSCP (Differentiated Services Code Points, which is a 6-bit number).</p> <p>The standardized combinations are listed below:</p> <table> <tr> <td>default</td><td>Default value (bits:000000)</td></tr> <tr> <td>af11</td><td>Assured Forwarding Class 1:Low Drop (bits:001010)</td></tr> <tr> <td>af12</td><td>Assured Forwarding Class 1:Medium Drop (bits:001100)</td></tr> <tr> <td>af13</td><td>Assured Forwarding Class 1:High Drop (bits:001110)</td></tr> <tr> <td>af21</td><td>Assured Forwarding Class 2:Low Drop (bits:010010)</td></tr> <tr> <td>af22</td><td>Assured Forwarding Class 2:Medium Drop (bits:010100)</td></tr> <tr> <td>af23</td><td>Assured Forwarding Class 2:High Drop (bits:010110)</td></tr> <tr> <td>af31</td><td>Assured Forwarding Class 3:Low Drop (bits:011010)</td></tr> <tr> <td>af32</td><td>Assured Forwarding Class 3:Medium Drop (bits:011100)</td></tr> <tr> <td>af33</td><td>Assured Forwarding Class 3:High Drop (bits:011110)</td></tr> <tr> <td>af41</td><td>Assured Forwarding Class 4:Low Drop (bits:100010)</td></tr> <tr> <td>af42</td><td>Assured Forwarding Class 4:Medium Drop (bits:100100)</td></tr> </table>	default	Default value (bits:000000)	af11	Assured Forwarding Class 1:Low Drop (bits:001010)	af12	Assured Forwarding Class 1:Medium Drop (bits:001100)	af13	Assured Forwarding Class 1:High Drop (bits:001110)	af21	Assured Forwarding Class 2:Low Drop (bits:010010)	af22	Assured Forwarding Class 2:Medium Drop (bits:010100)	af23	Assured Forwarding Class 2:High Drop (bits:010110)	af31	Assured Forwarding Class 3:Low Drop (bits:011010)	af32	Assured Forwarding Class 3:Medium Drop (bits:011100)	af33	Assured Forwarding Class 3:High Drop (bits:011110)	af41	Assured Forwarding Class 4:Low Drop (bits:100010)	af42	Assured Forwarding Class 4:Medium Drop (bits:100100)
default	Default value (bits:000000)																								
af11	Assured Forwarding Class 1:Low Drop (bits:001010)																								
af12	Assured Forwarding Class 1:Medium Drop (bits:001100)																								
af13	Assured Forwarding Class 1:High Drop (bits:001110)																								
af21	Assured Forwarding Class 2:Low Drop (bits:010010)																								
af22	Assured Forwarding Class 2:Medium Drop (bits:010100)																								
af23	Assured Forwarding Class 2:High Drop (bits:010110)																								
af31	Assured Forwarding Class 3:Low Drop (bits:011010)																								
af32	Assured Forwarding Class 3:Medium Drop (bits:011100)																								
af33	Assured Forwarding Class 3:High Drop (bits:011110)																								
af41	Assured Forwarding Class 4:Low Drop (bits:100010)																								
af42	Assured Forwarding Class 4:Medium Drop (bits:100100)																								

Priority (Out)	Click on the drop-down list and select the outgoing VLAN priority (0 ~ 7).
Create	Click on this button to create a new entry in the table.
No. From ...To...	Type in the range of entry number in the table you want to view (value range is 1~200).
Query	To query entries, type in the entry number range and then click on this button.
Delete	To delete entries, type in the entry number range and then click on this button.

4.5.4 VLAN Rate Limit

This option allows you to limit the rate of broadcast/multicast packets that are received on a VLAN. However, the usage of broadcast rate limiting has some restriction. That is operators can only apply broadcast rate limit to the default VLAN (PVID) of trunk interfaces. From the *Bridge* menu, click on *VLAN Configuration* and then *VLAN Rate Limit*. A page similar to the following page is displayed:

Rate Limit-Broadcast

Previous Command Result: Success.

Limit By

Broadcast ▼

VID From

1

To

1

CIR:

80000

LB:

40

Create

Modify

VID From

1

To

1

Query

Delete

VID	CIR	LBSL
1	80000	40

Table 0-21 Rate Limit

Label	Description
Limit By	Select Broadcast or Multicast packets to be limited.
VID FromTo.....	Type in VID range. (VID value: 1 ~ 4094)
CIR	Committed Information Rate (1536 ~ 1G bits/econd). The threshold rate to turn on the rate-limit mechanism.
LB	Leakage bucket size. Set the sustained rate at which broadcast packets can be accommodated (1 ~ 1024
Create	Click on this button to create a new row in the rate limit
Modify	Click on this button to modify data in the table.
Query	Once you have selected the VID range, click on this button to retrieve the rows in the table.
Delete	Once you have selected the VID range, click on this button to delete the rows in the table.

4.5.5 VLAN Translation

This option allows you to configure the translation VLAN table, which defines some special VLAN working rules such as VLAN stack, VLAN cross-connect, etc. Before you configure the Translation VLAN table for a line bridge port, you shall configure the Static VLAN table for this line bridge port and the GIGA bridge port in advance. Also, you must select **Non-TLS** VLAN mode in the *Bridge → Interface Setup → Packet or ATM Bridge Port* page, otherwise the VLAN translation rule here will not take effect. From the *Bridge* menu, click on *VLAN Configuration* and then *VLAN Translation*. The following page is displayed.

VLAN Translation Configuration

Previous Command Result: **Success.**

Area for creating a new VLAN Translation

Create

Index	Physical Port	UserVlanId	UplinkPort	UplinkPriority	Translation Vlan Mode
2	Port-3 -- PVC-1	1	1	0	1:1 Reserved

VLAN Translation Query

Query Table

Query Page Number: page-1 Delete

Index	Physical Port	UserVlanId	UplinkPort	UplinkPriority	Translation Vlan Mode	UplinkVlanId	New CVLAN ID	New CVLAN Priority	Select to delete
1	Port-3 -- PVC-1	1	1	0	1:1 Reserved				<input type="checkbox"/> Select

Actually the VC-2402 provides five translation modes: four for 1:1 VLAN, one for N: 1 VLAN (refer to *DSL Forum TR-101*).

1:1 VLAN (including 1:1 User Mode and C_VLAN Stacking Replaced Mode):

If the ADSL user bridge port only has 1:1 VLAN, then MAC learning function of this bridge port can be disabled.

1. Reserved

In this mode, the system does not make any change on C-Tag. That is the uplink port's S-Tag is actually the C-Tag. The system provides a tunnel for the user port and uplink port. And one VLAN ID can only make one tunnel.

2. Replaced

In this mode, the system will change the user port's C-Tag to the Uplink port's S-Tag. And the mapping is one to one, that is, one user port's C-Tag (one VID) can only translate to one uplink port's S-Tag (one VID), and vice versa. For example, for ADSL Port1-PVC1, if ADSL VID 5 translates to GIGA1 VID 1, then you cannot make ADSL VID 5 translate to another GIGA VID. You also cannot make another ADSL VID translate to GIGA VID1.

Upstream:

C-Tag→(User port)----->(Uplink port)→S-Tag

Downstream:

S-Tag→(Uplink port)----->(User port)→C-Tag

3. Stacking

In this mode, the system will add S-TAG before user port's C-TAG. Note that the mapping from C-Tag to S-Tag+C-Tag is still one to one. So a user port's C-Tag can't be used for another translation rule, as well as an uplink port's S-Tag+C-Tag.

Upstream:

C-Tag→(User port)------(Uplink port)→S-Tag+C-Tag

Downstream:

S-Tag+C-Tag→(Uplink port)------(User port)→C-Tag

4. Stacking and Replaced

In this mode, the system will replace the user port's C-Tag to C'-Tag and add S-Tag before C'-Tag. Note that the mapping from C-Tag to S-Tag+C'-Tag is still one to one. So a user port's C-Tag can't be used for another translation rule, as well as an uplink port's S-Tag+C'-Tag.

Upstream:

C-Tag→(User port)------(Uplink port)→S-Tag+C'-Tag

Downstream:

S-Tag+C'-Tag→(Uplink port)------(User port)→C-Tag

Area for creating a new VLAN Translation

Create

Index	Physical Port	UserVlanId	UplinkPort	UplinkPriority	Translation Vlan Mode	UplinkVlanId	New CVLAN ID	New CVLAN Priority
2	Port-2 -- PVC-1	1	1	0	1:1 C-Tag VLAN Stacking Replaced	1	1	0

N:1 VLAN (N:1 User Mode):

N:1 can also be called shared VLAN, so in this mode MAC learning function of the bridge ports must not be disabled.

1. Replaced N:1

In this mode, the system will change the user port's C-Tag to the Uplink port's S-Tag. And the mapping is N to 1, so a user port's C-Tag can't be used for another VLAN translation rule. But an uplink port's S-Tag can be used for another N:1 VLAN translation rule.

So in this mode several bridge ports can have the same VLAN cross-connect rule.

Table 0-22 VLAN Translation Setup

Label	Description
Index	Indicating the index of the next created entry in the VLAN Translation table.
Physical Port	Select the line bridge port you want to create the VLAN translation rule for.
UserVlanId	Type in the VLAN ID of the user port.
UplinkPort	Select the uplink port.

Uplink VlanId	Type in the VLAN ID of the uplink port.
Uplink Priority	Select the uplink priority (1 ~ 7 or Reserve the original priority)
Translation VLAN Mode	Select the VLAN translation mode, including: 1:1 VLAN Reserved 1:1 VLAN Replaced 1:1 VLAN Stacking N:1 VLAN Replaced 1:1 VLAN Stacking and Replaced
New CVLAN ID	Type in the new CVLAN ID only for 1:1 Stacking and Replaced translation mode.
New CVLAN Priority	Type in the new CVLAN priority only for 1:1 Stacking and Replaced translation mode.

4.5.6 Protocol Base VLAN

This option allows you to configure the protocol based VLAN table. From the *Bridge* menu, click on *VLAN Configuration* and then *Protocol Base VLAN*. The following page is displayed.

Protocol Base Vlan Configuration

Previous Command Result: **Success.**

Area for creating a new Protocol Base Vlan

Create

Index	ProtocolBaseVlanId	VlanEthType	
3	1	PPPoE Discovery Stage	0x 8863

Protocol Base Vlan Query Query Table

Query Page Number: page-1 Delete

Index	ProtocolBaseVlanId	VlanEthType		Select to delete
1	1	PPPoE Discovery Stage	0x 8863	<input type="checkbox"/> Select
2	5	Internet Protocol	0x 800	<input type="checkbox"/> Select

To create a new entry, type in the VLAN ID and select the EtherType (protocol), and then click on **Create**. If you select **Other** for EtherType, type the EtherType value in the rightmost field. To delete an entry in the table, be sure to select the *Select to delete* checkbox and then click Delete.

4.6 Spanning Tree

Spanning Tree Protocol (STP) can detect and eliminate network loops and provide backup links between bridges or switches. It allows a device to interact with other STP-aware devices to ensure that only one path exists between any two stations on the network.

BPDU: STP-aware devices exchange Bridge Protocol Data Units (BPDUs) periodically. When the bridged LAN topology changes, a new spanning tree is constructed.

Root Bridge: the base of the spanning tree. It is the bridge with the lowest identifier value (Bridge ID, which is a field in the BPDU).

Path Cost: the transmission cost sum of transmitting a frame to the Root Bridge through that path. The transmission cost is assigned according to the speed of the link to which a port is attached. The slower the media is, the higher the cost become - see the following table.

Table 0-23 Transmission Cost

Link Speed	Recommended Cost	Recommended Cost Range
4Mbps	250	100 to 1000
10Mbps	100	50 to 600
16Mbps	62	40 to 400
100Mbps	19	10 to 60
1Gbps	4	3 to 10
10Gbps	2	1 to 5

Root Port: On a Non-Root Bridge, the port having the lowest path cost to the Root Bridge.

Designated Port: Each LAN segment has a Designated Port. If one port is determined to have the lowest path cost, it becomes the Designated Port for that segment. If there is more than one port having the same path cost in a segment, the port having the lowest Bridge ID will be selected to be the Designated Port. For a Root Bridge, each port on it is a Designated Port for the connected segment.

After the STP determined the lowest cost-spanning tree, it enables all the root ports and designated ports and disables all other ports that participate in the spanning tree. Network packets are therefore only forwarded between enabled ports, eliminating any possible network loops.

Once a stable network topology has been established, all devices listen for Hello BPDUs transmitted from the Root Bridge. If a device does not get a Hello BPDU after a predefined interval (Max Age), the device assumes that the link to the root bridge is down. This device then will negotiate with other devices to re-establish a valid network topology.

STP assigns five port states (see the following table) to eliminate packet looping. A device port is not allowed to go directly from blocking state to forwarding state so as to eliminate transient loops.

Table 0-24 Port States

Port State	Description
Disabled	STP is disabled (default).
Blocking	Only configuration and management BPDUs are received and

Listening	All BPDUs are received and processed.
Learning	All BPDUs are received and processed. Information frames are submitted to the learning process but not forwarded.
Forwarding	All BPDUs are received and processed. All information frames are received and forwarded.

4.6.1 STP Bridge Settings

This page allows you to setup the STP Bridge. From the *Bridge* menu, click on *Spanning Tree* and then *STP Bridge Settings*. The following page is displayed:

Spanning Tree Protocol [System]

Previous Command Result: Success.

STP: Disabled ☐ Enabled ☒ Modify

Version: RSTP ☒ STP ☐ **Priority:** **MaxAge:** **HelloTime:** **ForwardDelay:**

Current Status [STP:Enabled]	
Running Version	RSTP
Bridge ID	F00000FF5B8A69DF
The version of STP is being run	IEEE802.1D(3)
Time Since Last Topology Change	37127
The total number of Topology changes	3
Designated Root	F00000FF5B8A69DF
Root Cost	0
Root Port	65535
Hold Time	3
Bridge Priority	61440
Bridge Hello Time	2
Bridge Forward Delay	15
Bridge Max Age	20

The maxage, hellotime and forwarddelay times are constrained as follows:

$$2 \times (\text{forwarddelay} - 1) \geq \text{maxage} \geq 2 \times (\text{hellotime} + 1)$$

Figure 0-1 STP Bridge Settings page

Table 0-25 STP Bridge Settings

Label	Description
Disable / Enable	Specify whether or not the system is to implement the spanning tree protocol.
Modify	Once you have modified the parameters, click on this button to apply the modification.
Version	Select RSTP (IEEE 802.1W) or STP (IEEE 802.1D).
Priority	Sets the spanning tree protocol priority. The lower the priority number, the more significant the bridge becomes in protocol terms. Where two bridges have the same priority, their MAC address is compared and the smaller MAC address is treated as the most significant. The priority can be any value between 0 and 61440 in step of
MaxAge	Sets the maximum age of received spanning tree protocol information before it is discarded. This is used when the bridge is or is attempting to become the root bridge. This can be any value (in seconds) between 6 and 40. BUT it is constrained by the hellotime and forwarddelay times.
Hello Time	Sets the time after which the spanning tree process sends notification of topology changes to the root bridge. This is used when the bridge is or is attempting to become the root bridge. This can be any value (in seconds) between 1 and 10. BUT it is constrained by the maximum age and forwarddelay times.
Forwarding Delay	Sets the time that the bridge spends in listening or learning states when the bridge is or is attempting to become the root bridge. This can be any value (in seconds) between 4 and 30. BUT it is constrained by the maxage and hellotimes. The maxage, hellotime and forwarddelay times are constrained as follows: $2 \times (\text{forwarddelay} - 1) \geq \text{maxage}$ $\text{maxage} \geq 2 \times (\text{hellotime} + 1)$ For example, the default settings are: $2 \times (15 - 1) \geq 20$
Current Status	Current system STP setting and status are shown in the Current Status table.

4.6.2 STP Port Settings

This page allows you to setup the STP Port. From the *Bridge* menu, click on *Spanning Tree* and then *STP Port Settings*. The following page is displayed:

Spanning Tree Protocol [Bridging Ports]

Previous Command Result: Normal

RSTP Link Type: Edge-True P2P-Auto STP Port: Disabled
Priority: 128 Path Cost: 20 Modify Query

	Physical Port	Priority	Edge P2P	State	STP Port	Path Cost	Designated Root Cost Bridge Port	Forward Transitions
<input type="radio"/>	GigaBit-1	128	False Auto	FORWARDING	Enabled	100	F00000FFB5390E9F 0 F00000FFB5390E9F 8001	1
<input type="radio"/>	GigaBit-2	128	False Auto	FORWARDING	Enabled	100	F00000FFB5390E9F 0 F00000FFB5390E9F 8002	1

Table 0-26 STP Port Settings

Label	Description
RSTP Link Type	Click on first drop-down list and select Edge-True or Edge-False. Click on second drop-down list and select P2P-True, P2P-False, or P2P-Auto. (This configuration is currently disabled.)
STP Port	Select Disabled or Enabled. (This configuration is currently disabled.)
Priority	Type in the priority level of the port (0 ~ 240 in step of 16).
Path Cost	Type in the Path Cost through the port (integer number).
Modify	Click on this button to apply the modification.
Query	Click on this button to display the STP setting of the port.

4.7 Filtering

4.7.1 Filtering

This option allows you to setup the filter rule for the packets. From the *Bridge* menu, click on *Filtering* and then *Filtering*. Click on *Filtering Type* drop-down list and select a filtering type first. The page displayed depends on which filtering type you select.

Protocol Filtering

Protocol Filtering

1and Result: **Success.**

Filtering Type Protocol

Next No:[2] Interface From 4 To 4 Protocol UDP Create

No. From 1 To 1 Query Delete

No.	Interface	Protocol Filter
1	196	17:UDP

Table 0-27 Protocol Filtering Setup

Label	Description
Interface From....To.....	Type in the range of interface index you want to create filter rule for. The bridge interface must have been created.
Protocol	Click on this drop-down list and select a protocol: UDP, TCP, OSPF, IGMP, IGP, EIGRP, IP in IP, GRE, and ICMP. <i>Note:</i> the IGMP protocol filtering can only work when IGMP ACL mode is disabled (refer to 0).
Create	Click on this button to create new filter rules in the table.
Filtering Type	Click on this drop-down list and select the filtering type for listing. The types include: Protocol, Source MAC, Source IP, L4 Dest Port, and Destination IP.
No. From....To.....	Type in the range of serial number in the filter rule table for listing. Valid number range: 1 ~ 256.
Query	Once you have specified the serial number, click on this button to display the filter rules.
Delete	Once you have specified the serial number, click on this button to delete the filter rules in the table.

Source MAC Filtering

Source MAC Filtering

and Result: **Success.**

Filtering Type

Next No:[2] Interface From To

Source MAC Address : : : : :

No. From To

No.	Interface	Source MAC
1	196	11:00:aa:00:3f:00

Table 0-28 Source MAC Filtering Setup

Label	Description
Interface From....To.....	Type in the range of interface index you want to create filter rule for. The bridge interface must have been created.
Source MAC Address	Type in the MAC Address of the source.
No. From....To....	Type in the range of serial number in the filter rule table. Valid number value: 1 ~ 256.
Create	Click on this button to create new filter rules in the table.
Query	Once you have specified the serial number, click on this button to display the filter rules.
Delete	Once you have specified the serial number, click on this button to delete the filter rules in the table.

Source IP Address Filtering

Source IP Address Filtering

and Result: **Success.**

Filtering Type Source IP

Next No: [2] Interface From 4 To 4 Create

Source IP 0 . 0 . 0 . 0 Subnet Mask 0 . 0 . 0 . 0

No. From 1 To 1 Query Delete

No.	Interface	Source IP	Subnet Mask
1	5	172.16.7.26	255.255.0.0

Table 0-29 Source IP Address Filtering Setup

Label	Description
Interface From....To.....	Type in the range of interface index you want to create filter rule for. The bridge interface must have been created.
Source IP	Type in the IP Address of the source.
Subnet Mask	Type in the subnet mask.
No. From....To....	Type in the range of serial number in the filter rule table. Valid number value: 1 ~ 256.
Create	Click on this button to create new filter rules in the table.
Query	Once you have specified the serial number, click on this button to display the filter rules.
Delete	Once you have specified the serial number, click on this button to delete the filter rules in the table.

Layer 4 Destination Port Filtering

Layer 4 Destination Port Filtering

Command Result: **Success.**

Filtering Type: L4 Dest Port

Next No: [2] Interface From 4 To 4 Destination Port 65535 Create

No. From 1 To 1 Query Delete

No.	Interface	DEST PORT
1	196	65535

Table 0-30 Layer 4 Destination Port Filtering Setup

Label	Description
Interface From....To.....	Type in the range of interface index you want to create filter rule for. The bridge interface must have been created.
Destination Port	Type in the Layer 4 Destination Port number (1 ~ 65535). <i>Note:</i> The L4 destination port number represents the name of the application that is to receive the data contained within the IP packet.
No. From....To....	Type in the range of serial number in the filter rule table. Valid number value: 1 ~ 256.
Create	Click on this button to create new filter rules in the table.
Query	Once you have specified the serial number, click on this button to display the filter rules.
Delete	Once you have specified the serial number, click on this button to delete the filter rules in the table.

Destination IP Filtering

Destination IP Filtering

Command Result: Success.

Filtering Type Destination IP

Next No: [2] Interface From 4 To 4 Create

Destination IP 0 . 0 . 0 . 0 Subnet Mask 0 . 0 . 0 . 0

No. From 1 To 1 Query Delete

No.	Interface	Destination IP	Subnet Mask
1	196	192.168.6.25	255.255.255.0

Table 0-31 Destination IP Filtering Setup

Label	Description
Interface From....To.....	Type in the range of interface index you want to create filter rule for. The bridge interface must have been created.
Destination IP	Type in the Destination IP address.
Subnet Mask	Type in the subnet mask.
No. From....To....	Type in the range of serial number in the filter rule table. Valid number value: 1 ~ 256.
Create	Click on this button to create new filter rules in the table.
Query	Once you have specified the serial number, click on this button to display the filter rules.
Delete	Once you have specified the serial number, click on this button to delete the filter rules in the table.

Layer 4 Source Port Filtering

Layer 4 Source Port Filtering

Command Result: Success.

Filtering Type L4 Src Port

Next No: [2] Interface From 4 To 4 Source Port 65535 Create

No. From 1 To 1 Query Delete

No.	Interface	SRC PORT
1	196	155

Table 0-32 Layer 4 Source Port Filtering Setup

Label	Description
Interface From....To.....	Type in the range of interface index you want to create filter rule for. The bridge interface must have been created.
Source Port	Type in the Layer 4 Source Port number (1 ~ 65535). <i>Note:</i> The L4 source port number represents the name of the application that sent the data in the IP packet.
No. From....To....	Type in the range of serial number in the filter rule table. Valid number value: 1 ~ 256.
Create	Click on this button to create new filter rules in the table.
Query	Once you have specified the serial number, click on this button to display the filter rules.
Delete	Once you have specified the serial number, click on this button to delete the filter rules in the table.

Destination MAC Filtering

Destination MAC Filtering

nd Result: Success.

Filtering Type Destination MAC

Next No: [2] Interface From 4 To 4 Create

Destination MAC Address 00 : 00 : 00 : 00 : 00 : 00

No. From 1 To 1 Query Delete

No.	Interface	Destination MAC
1	5	1e:27:00:00:00:58

Table 0-33 Destination MAC Filtering Setup

Label	Description
Interface From....To.....	Type in the range of interface index you want to create filter rule for. The bridge interface must have been created.
Destination MAC Address	Type in the MAC Address of the destination.
No. From....To....	Type in the range of serial number in the filter rule table. Valid number value: 1 ~ 256.
Create	Click on this button to create new filter rules in the table.
Query	Once you have specified the serial number, click on this button to display the filter rules.
Delete	Once you have specified the serial number, click on this button to delete the filter rules in the table.

4.7.2 Denial Access Control List (ACL)

This option allows you to configure the Denial Access Control List (specify certain types of packets to be rejected). From the *Bridge* menu, click on *Filtering* and then *Denial ACL*. The following page is displayed.

Denial Access Control List

Standard Result: Normal

Interface From To

- ☐ NetBios
- ☐ ARP

Interface From To

Interface	Net Bios	ARP Broadcast
1	Discard	Pass
5	Pass	Discard

Table 0-34 Access Control List Setup

Label	Description
Interface From....To.....	Type in the range of interface index. The bridge interface must have been created.
NetBios	Click on this checkbox to specify NetBios packets to be rejected.
ARP	Click on this checkbox to specify ARP packets to be rejected.

4.8 Forwarding

4.8.1 TP Forwarding DB

This option allows you to retrieve the status of the transparent forwarding database. The forwarding table will reveal the information of MAC addresses that are learned or statically configured on a specific bridge port. From the *Bridge* menu, click on *Forwarding* and then *TP Forwarding DB*. The following page is displayed.

Transparent Forwarding DataBase

Previous Command Result: Normal

Aging Time(Sec):

Transparent: No. From To

No.	Source MAC	Interface#	Status	VID	Aging Bit	Process Mode
1	00:00:00:00:00:01	1	Dynamic	10	On	PASS

Table 0-35 TP Forwarding DB

Label	Description
Aging Time	Type in the aging time in seconds (10 ~ 600). An entry will be removed from the FDB (aged-out) if the device does not transmit for a specified period of time (the aging time).
Modify	Click on this button to apply the modification of Aging Time.
Transparent	Click on the drop-down list to select. Currently only one option: Forwarding DB.
No. From...To...	Select the range of entry number in the forwarding database to be displayed.
Query	Once you have selected the entry number, click on this button to get most recent status of MAC addresses forwarding.

4.8.2 Forwarding Static

This option allows you to configure the static MAC address forwarding entries on a specific bridge port. The setting of static MAC address takes effect on egress direction of bridge port. From the *Bridge* menu, click on *Forwarding* and then *Forwarding Static*. The following page is displayed.

Forwarding Static Configuration

Previous Command Result: **Success.**

Creation Area:

Create

Index	Physical Port	MAC	VID	Process
2	GigaBit-1	00:00:00:00:00:00	1	Deny

Query Table

Query FD Static Index: page-1

Delete

Index	Physical Port	MAC	VID	Process	Select to Delete
1	Port-2 -- PVC-1	12:34:00:00:00:ff	1	Deny	<input type="checkbox"/> Delete

Table 0-36 TP Forwarding DB

Label	Description
Creation Area	
Index	This field shows the index of the entry in the table.
Physical Port	Select the output bridge port (1 ~ 219).
MAC	Type in the MAC address for the static entry.
VID	Type in the VID for the static entry (1 ~ 4094).
Process	Click on the drop-down list and select "Deny" or "Pass". "Pass" means to forward the packets with destination MAC address matching one of the static forwarding MAC addresses to a specified output bridge port. "Deny" means to drop the packets.
Create	Click on this button to create a new entry.
Query Table	
Query FD Static Index	Select the page to be displayed.
Select to Delete	Click on the checkbox of the entry you want to delete.
Delete	Once you have selected which entries to be deleted, click on Delete button.

4.9 DHCP

4.9.1 DHCP(PPPoE) Configuration

This option allows you to configure the DHCP option 82 and PPPoE relay function. From the *Bridge* menu, click on *DHCP* and then *DHCP(PPPoE) Configuration*. The following page is displayed:

DHCP PPPoE Configuration

Previous Command Result: Normal.

DHCP Mode	Transparent ▾
Option	Agent Circuit ID ▾
Circuit Type	Default ▾
DSL Name	IPDSLAM

Table 0-37 DHCP (PPPoE) Configuration

Label	Description
DHCP Mode	Click on this drop-down list and select the DHCP mode you want the DSLAM to act. Options are DHCP Transparent, DHCP Relay, and DHCP Server.
Option	Click on this drop-down list and select the Relay Agent Information that is inserted to the forwarding packets. Options are: Agent Circuit ID, Agent Remote ID, or Both.
Circuit Type	Click on this drop-down list and select the type of Circuit ID. Options are: Default, SCBV, SCV, SC, and Customize. Default means our system-defined default type; Customize means the customer-defined type.
DSL Name	Type in the name of the DSLAM.

4.9.2 DHCP(PPPoE) Circuit

This option allows you to configure the circuit ID and remote ID for the relay function. From the *Bridge* menu, click on *DHCP* and then *DHCP(PPPoE) Circuit*. The following page is displayed:

DHCP PPPoE Circuit

Previous Command Result: Normal.

Query Table					
Query Page Number: page-1 Modify					
Physical Port	Agent Circuit ID	Agent Remote ID	Trusted	pppoeMode	Select to Modify
Port-3 -- PVC-1	IPDSLAM:1:003:006	IPDSLAM:1:003:006	FALSE	Transparent	<input type="checkbox"/> Modify
Port-1 -- PacketMode	IPDSLAM:1:001:196	IPDSLAM:1:001:196	FALSE	Transparent	<input type="checkbox"/> Modify

Table 0-38 DHCP (PPPoE) Circuit

Label	Description
Physical Port	This field shows the physical line port number (and ATM PVC number for ADSL mode).
Agent Circuit ID	Agent circuit ID information. Type in the Circuit ID when Customize is selected for the Circuit Type (refer to previous section).
Agent Remote ID	Agent remote ID information.
Trusted	Trusted configuration of the circuit. TRUE means the circuit is to be trusted; FALSE means to be untrusted (the relay agent will discard the DHCP packets from an untrusted circuit).
PPPoE Mode	PPPoE mode (Transparent or Relay).
Select to Modify	Select the checkbox before you click Modify button; otherwise the modify action won't take effect.

4.9.3 DHCP Server Profile Config

This option allows you to configure the DHCP server profile used when DSLAM is set to act as DHCP server. From the *Bridge* menu, click on *DHCP* and then *DHCP Server Profile Config*. The following page is displayed:

DHCP Server Profile config

Previous Command Result: Normal.

Query Profile Selection:

Current Configuration and Modification Area

Profile Contents

Index	Start IP	End Ip	Netmask	Gateway	DNS1	DNS2	Lease Time
2	192.168.5.2	192.168.5.13	255.255.255.0	255.255.255.0	0.0.0.0	0.0.0.0	300

Table 0-39 DHCP Server Profile Setup

Label	Description
Index	This field shows the DHCP server profile index.
Start IP	Type in the Start IP of the IP address range.
End IP	Type in the End IP of the IP address range.
Netmask	Type in the network mask.
Gateway	Type in the IP address of the default gateway.
DNS1	Type in the IP address of the DNS server 1.
DNS2	Type in the IP address of the DNS server 2.
Lease Time	Type in the DHCP lease time (sec). Valid value is 300 ~ 86400.

4.9.4 DHCP Server Profile Select

This option allows you to configure the DHCP server profile binding. From the *Bridge* menu, click on *DHCP* and then *DHCP Server Profile Select*. The following page is displayed:

DHCP Server Profile Select

Previous Command Result: Normal.

DHCP Server Profile Bind

Select Page Number: page-1 Modify

Physical Port	Profile Index	Profile Select	Select to modify
Port-3 -- PVC-1	<input style="width: 80%;" type="text" value="1"/>	DEFVAL ▼	<input type="checkbox"/> Modify
Port-1 -- PacketMode	<input style="width: 80%;" type="text" value="1"/>	DEFVAL ▼	<input type="checkbox"/> Modify

Click on *Select to modify* checkbox of the bridge interface you want to configure, and click on the *Profile Select* drop-down list to select the profile you want to bind for this interface. Then click on **Modify** button to apply.

4.9.5 DHCP Clients List

This option allows you to view current DHCP clients list including the information of assigned IP addresses and associated MAC addresses, expired time, and lease time. From the *Bridge* menu, click on *DHCP* and then *DHCP Clients List*. The following page is displayed:

DHCP Clients List

Query Table

Query Page Number: ▼

Physical Port	Index	IP	MAC	Expired Time	Lease Time
---------------	-------	----	-----	--------------	------------

4.9.6 DHCP Static IP Config

This option allows you to configure DHCP fixed IP and MAC for a bridge interface. From the *Bridge* menu, click on *DHCP* and then *DHCP Static IP Config*. The following page is displayed:

DHCP Fixed IP-MAC Configuration

Previous Command Result: **Success.**

Creation Area:

Create

Index	Physical Port	IP	MAC
2	Port-3 -- PVC-1	00.00.00.00	00:00:00:00:00:00

Query Table

Query DhcpStaticIP Index: page-1

Delete

Index	Physical Port	IP	MAC	Select to Delete
1	Port-3 -- PVC-1	192.168.5.10	EE:00:00:00:FF:02	<input type="checkbox"/> Delete

Table 0-40 DHCP Static IP Setup

Label	Description
Creation Area	
Index	This field shows the index for the next created DHCP static IP.
Physical Port	Select the bridge port you want to create the static IP for.
IP	Type in the static IP address. The address must be within the range configured in the DHCP Server Profile bound with the bridge interface.
MAC	Type in the MAC address.
Query Table	
Query DhcpStaticIP Index	Select the page to be displayed.
Select to Delete	Click on the checkbox of the entry you want to delete before you click on Delete button.

4.10 IGMP

4.10.1 IGMP Configuration

This option allows you to configure the IGMP. From the *Bridge* menu, click on *IGMP* and then *IGMP Configuration*. The *IGMP Configuration* page is displayed.

IGMP Configuration

Previous Command Result: Normal.

IGMP Version	IGMP V2
IGMP Mode	Normal Snooping
IGMP ACL Mode	Enable
IGMP Leave Mode	Normal Leave
Timeout Parameters	Value 1~500(s)
Query (Query Interval)	125
URI (Unsolicited Report Interval)	1
BC (Older host present interval)	400
MRT(Max Response Time)	10
LMQT(Last Member Query Time)	1
GMT (Group Membership Timeout)	260

The Query and MRT times are configured as follows : Query Interval > Max Response Time

Table 0-41 IGMP Configuration

Label	Description
IGMP Version	Select the IGMP version. Options are: IGMP OFF, IGMP V1, IGMP V2, and IGMP V3.
IGMP Mode	Select the IGMP mode. Options are: Normal Snooping and Proxy Snooping.
IGMP ACL Mode	Disable or enable ACL mode. ACL profile (refer to section 0) will be referred to only when ACL mode is enabled.
IGMP Leave Mode	Select the mode of leaving a multicast group. Options are: Normal Leave and Fast Leave.

Query 1~500(s)	The Query Interval is the interval between General Queries sent by the Querier. By varying this value, an administrator may tune the number of IGMP messages on the network; larger values cause IGMP Queries to be sent less often. Value range is 1 ~ 500. Default is 125 seconds.
URI 1~500(s)	The Unsolicited Report Interval is the time between repetitions of a host's initial report of membership in a group. Value range is 1 ~ 500. Default: 1 second.
BC 1~500(s)	The Older Host Present Interval. It represents how long a host must wait after hearing a Version 1 Query before it may send any IGMPv2 messages. Default is 400 (sec).
MRT 1~500(s)	The burstiness of IGMP traffic is inversely proportional to the Max Response Time. A longer Max Response Time will spread Report messages over a longer interval. However, a longer Max Response Time in Group-Specific and Source-and-Group-Specific Queries extends the leave latency. (The leave latency is the time between when the last member stops listening to a source or group and when the traffic stops flowing.). Value range is 1 ~ 500. Default is 10.
LMQT 1~500(s)	The Last Member Query Interval is the Max Response Time used to calculate the Max Resp Code inserted into Group-Specific Queries sent in response to Leave Group messages. It is also the Max Response Time used in calculating the Max Resp Code for Group-and-Source-Specific Query messages. Value range is 1 ~ 500. Default is 1.
GMT 1~500(s)	Read-only value. The Group Membership Interval is the amount of time that must pass before a multicast router decides there are no more members of a group or a particular source on a network. This value MUST be ((the Robustness Variable) times (the Query Interval)) plus (one Query Response Interval).
Modify	Click on this button to modify the IGMP configuration once you have typed in new values for the parameters.

4.10.2 IGMP ACL Profile Config.

This option allows you to configure the IGMP ACL (Access Control List) profile. This profile defines the IGMP multicast channels, which are allowed to join for each VDSL port. That is, a multicast stream will be copied to a VDSL port only if that multicast stream is registered in the ACL profile that is bound to this VDSL port. The maximum number of IGMP multicast channels in an ACL profile is 512 (64 x 8 banks). Note that the same multicast channel can be existed concurrently in two or more ACL profiles.

The ACL profile will be referred to only when ACL mode is enabled in the IGMP Configuration page (refer to section 0). From the *Bridge* menu, click on *IGMP* and then *IGMP ACL Profile Config*. The following page is displayed:

IGMP ACL Profile

Previous Command Result: Normal.

Query Profile Selection:

Current Configuration and Modification Area

Profile Contents

Profile Index:

Max Channel Count:

Max IGMP Message Count:

IP	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	IP	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	IP	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	IP	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
SVID	<input type="text" value="0"/>	<input checked="" type="checkbox"/> Tag			SVID	<input type="text" value="0"/>	<input checked="" type="checkbox"/> Tag			SVID	<input type="text" value="0"/>	<input checked="" type="checkbox"/> Tag			SVID	<input type="text" value="0"/>	<input checked="" type="checkbox"/> Tag		
UVID	<input type="text" value="0"/>				UVID	<input type="text" value="0"/>				UVID	<input type="text" value="0"/>				UVID	<input type="text" value="0"/>			
IP	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	IP	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	IP	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	IP	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
SVID	<input type="text" value="0"/>	<input checked="" type="checkbox"/> Tag			SVID	<input type="text" value="0"/>	<input checked="" type="checkbox"/> Tag			SVID	<input type="text" value="0"/>	<input checked="" type="checkbox"/> Tag			SVID	<input type="text" value="0"/>	<input checked="" type="checkbox"/> Tag		

Table 0-42 IGMP ACL Profile Configuration

Label	Description
Profile Index	This field shows the ACL profile index. Value range is 1 ~ 24.
Max Channel Count	Type in the maximum allowed number of concurrently active channels. Valid value is 0 ~ 20.
Max IGMP Message Count	Set the maximum number of IGMP messages per second that are allowed to pass through the port (0 ~ 65535, default 128).
IP	Type in the IGMP group address. Valid values: 224.0.0.0 ~ 239.255.255.255. The range of addresses from 224.0.0.0 to 224.0.0.255 is reserved for the use of routing protocols and other low-level topology discovery or maintenance protocols.

SVID	Type in the VLAN ID that the video server is within. Valid value is 1 ~ 4094. 0: leaving the field ignored.
UVID	Type in the VLAN ID that the video user (subscriber) is within. Valid value is 1 ~ 4094. 0: leaving the field ignored.
Tag	This checkbox is for selecting VLAN tagged/un-tagged option of the downstream-multicast packets.
Create	Click on this button to create new channels (IGMP group address).
Delete	Click on this button to delete channel(s) (IGMP group address).
Modify	Click on this button to apply the modification.

4.10.3 IGMP ACL Profile Select

This option allows you to bind IGMP ACL (Access Control List) profile to a bridge port. From the *Bridge* menu, click on *IGMP* and then *IGMP ACL Profile Select*. The following page is displayed:

IGMP ACL Profile Select

Previous Command Result: Normal.

ACL Profile Select

Select Page Number: page-1 ▾ Modify

Physical Port	ACL Index	Modify	Select to modify
Port-2 -- PVC-1	1	DEFAL ▾	<input type="checkbox"/> Modify
Port-1 -- PacketMode	1	DEFAL ▾	<input type="checkbox"/> Modify

Click on *Select Page Number* drop-down list to select the page to be listed. In the table, select the ACL profile you want to bind for the bridge port and remember to select the *Select to modify* checkbox. At last, click on **Modify** button to apply.

4.10.4 IGMP Group List

This option allows you to query the IGMP multicast status. From the *Bridge* menu, click on *IGMP* and then *IGMP Group List*. The *IGMP Group List* page is displayed. The VC-2402 supports up to 512 concurrent IGMP groups (multicast channels) per system.

IGMP Group List

Query Table						
Query Page Number:				page-1		
Index	Group IP	VID	Member Add Actions	Number Of Sources	IGMP Mode	Bridge Port List
1	224.010.010.011	1	8	0	EXCLUDE	196,
2	224.010.010.010	1	15	0	EXCLUDE	196,
3	224.010.010.012	1	8	0	EXCLUDE	196,

Table 0-43 IGMP Group List

Label	Description
Index	This field shows the index of the entry in the IGMP Group List.
Group IP	This field shows the IGMP group IP address.
VID	This field shows the IGMP group VLAN ID.
Member Add Actions	This field shows how many times the IGMP group is joined by the group members.
Number Of Sources	This field shows how many Source IPs are joining the IGMP group (for IGMP V3 only).
IGMP Mode	This field shows current IGMP mode: INCLUDE or EXCLUDE (for IGMP V3 only, refer to RFC 3376 for filter-mode).
Bridge Port List	This field shows the bridge ports that are joining the multicast group.

4.10.5 IGMP Route

This option allows you to specify the interface through which the IGMP packets are forwarded. From the *Bridge* menu, click on *IGMP* and then *IGMP Route*. The following page is displayed.

IGMP Route

Previous Command Result: Success.

Physical Port	VLAN ID	RouterIP	ReportIp
GigaBit-1 ▼	1 ▼	00.00.00.00	00.00.00.00

IGMP Router Port List

VID	Physical Port	RouterIP	ReportIp	Select to Delete
1	GigaBit-1	192.168.5.101	0.0.0.0	<input type="checkbox"/> Delete

Table 0-44 IGMP Route Creation

Label	Description
Physical Port	Select the physical port to be the IGMP router port. Options are: GigaBit-1, GigaBit-2, or LACP-3.
VLAN ID	Select the VLAN ID you want to add the IGMP route for.
RouterIP	When working in IGMP proxy mode, DSLAM will send IGMP general query whose source IP address is 0.0.0.0. But PCs with Windows OS do not receive this kind of packets. So user can assign an IP address here for proxy mode IGMP general query packet reference.
ReportIP	Type in source IP address in IGMP report packet when working in proxy mode.
Add	Once you have typed in all the parameter values, click on this button to create an IGMP route.

4.11 IP Filtering

When Allow IP service is enabled (to enable the service, refer to section 0), the packets received from user ports will be forwarded only if the source IP addresses of packets are in the allowed IP list. The allowed IP list is either created via snooping DHCP sequences (refer to 0) or manually configured by user (refer to 0).

4.11.1 System Allow IP Filter

From the *Bridge* menu, click on *IP Filtering* and then *System Allow IP Filter*. The following page is displayed.

System Allow IpFilter Configuration

Previous Command Result: **Success.**



Click on the drop-down list and select **Enable** to enable allowed IP to be created via snooping DHCP sequences.

4.11.2 Allow IP Filtering

This option allows you to manually configuring the system allowed IP list. From the *Bridge* menu, click on *IP Filtering* and then *Allow IP Filtering*. The following page is displayed.

Bridge Port Allow IP Filter Configuration

Previous Command Result: **Success.**

Manual Allow IP Filter Creation Area:

Index	Physical Port	IpFilterMode	Src IP
2	Port-3 -- PVC-1	Manual	00.00.00.00

Query (Manual and Auto-learn) Allow IP Filter Table:

Select Page Index : page-1

Delete Modify

Index	Physical Port	IpFilterMode	Src IP	Select to Modify/Delete
1	Port-3 -- PVC-1	Manual	172.16.7.22	<input type="checkbox"/> Modify/Delete

Table 0-45 Allow IP Filtering Setup

Label	Description
Creation Area	
Index	This field shows the index of the next created allowed IP.
Physical Port	Select the bridge port you want to create the allowed source IP for.
IpFilterMode	Only Manual mode is supported here in the creation area.
Src IP	Type the allowed source IP address here.
Query Table	
IpFilterMode	To modify the IP Filter mode, click on the drop-down list and select the new value. If you select "Auto-learn", the source IP will not be manually configurable.

4.12 Anti Spoofing

The VC-2402 supports MAC address anti-Spoofing to prevent a malicious user from trying to use another user's MAC address (i.e. spoofing) in order to deny or disturb the other user's service or to 'hijack' some frames (when both users are in the same VLAN).

The VC-2402 also supports ARP anti-Spoofing and IP anti-Spoofing to prevent a malicious user from trying to send ARP messages (both ARP requests and replies) indicating the binding of its MAC address to the spoofed IP address in order to deny/disturb the other user's or a network service, or to gain unauthorized access to the network.

4.12.1 System Anti Spoofing

This option allows you to enable/disable the anti-ARP Spoofing and anti-Mac spoofing function.

From the *Bridge* menu, click on *Anti Spoofing* and then *System Anti Spoofing*. The following page is displayed.

System Arp Spoofing Configuration

Previous Command Result: Normal.

<input type="button" value="Modify"/>	
Anti Arp Spoofing	Disable ▾
Anti Mac Spoofing	Enable ▾

Click on the drop-down lists and select Enable or Disable, and then click on **Modify** to apply.

4.12.2 Anti ARP Spoofing

This option allows you to configure static mapping between IP address and MAC address on a per port basis for the system to determine the validity of an ARP packet. Up to 8 entries (static IP/MAC mappings) can be supported per port. From the *Bridge* menu, click on *Anti Spoofing* and then *Anti ARP Spoofing*. The following page is displayed.

Bridge Port Anti Arp Spoofing Configuration

Previous Command Result: **Success.**

Creation Area:

Create

Index	Physical Port	IP	MAC
2	Port-3 -- PVC-1	00.00.00.00	FF:FF:FF:FF:FF:FF

Query Table

Query BridgePort Index: page-1

Delete

Modify

Index	Physical Port	IP	MAC	Select to Modify/Delete
1	Port-3 -- PVC-1	192.168.5.13	FF:FF:FF:FF:FF:FF	<input type="checkbox"/> Modify/Delete

Select the bridge port, and type in the IP address and the mapping MAC address. Then click on **Create** button to add the new entry.

5. VDSL(ADSL)

5.1 VDSL Configuration Profile

5.2 VDSL PSD Configuration

5.3 VDSL Alarm Profile

5.4 VDSL Inventory

5.5 VDSL Line Status

5.6 VDSL Channel Status

5.7 VDSL Failure State

5.8 VDSL Test

5.9 VDSL POST State

5.1 VDSL Configuration Profile

This option allows you to setup the VDSL configuration profile. From the *VDSL(ADSL)* menu, click on *VDSL Configuration Profile*. The following page is displayed.

VDSL Configuration Profile

Previous Command Result: Normal.

Query Profile Selection: DEFVAL(VDSL Specific) ▼

Current Configuration and Modification Area

Profile Contents

Profile Name: DEFVAL

Internal RowStatus: Active ▼

Create Delete Modify

Attribute	Value	Constraint
Band Plan	998_138_30000_4K_Tones_30A ▼	Plan997, Plan998, ...
Rate Mode	AdaptAtStart ▼	Manual, AdaptAtStart. Manual: rate is determined by "Maximun" data rate.
LineType	InterleavedOnly ▼	NoChannel, FastOnly, InterleavedOnly
Fast: Max. Data Rate - Downstream	200000 [kbps]	32~200000; unit: kbps; step:4
Fast: Min. Data Rate - Downstream	32 [kbps]	32~200000; unit: kbps; step:4
Fast: Max. Data Rate - Upstream	200000 [kbps]	32~200000; unit: kbps; step:4
Fast: Min. Data Rate - Upstream	32 [kbps]	32~200000; unit: kbps; step:4
Slow: Max. Data Rate - Downstream	200000 [kbps]	32~200000; unit: kbps; step:4
Slow: Min. Data Rate - Downstream	32 [kbps]	32~200000; unit: kbps; step:4
Slow: Max. Data Rate - Upstream	200000 [kbps]	32~200000; unit: kbps; step:4
Slow: Min. Data Rate - Upstream	32 [kbps]	32~200000; unit: kbps; step:4
Overhead: Data Rate - Downstream	4 [kbps]	4~64; unit: kbps
Overhead: Data Rate - Upstream	4 [kbps]	4~64; unit: kbps

DownMaximumPSD	<input type="text" value="-41.00"/> [dBm/Hz]	-13.5~140; unit: dBm/Hz; step:0.5 dBm/Hz
UpMaximumPSD	<input type="text" value="-38.00"/> [dBm/Hz]	-13.5~140; unit: dBm/Hz; step:0.5 dBm/Hz
DownMaxPwr	<input type="text" value="63.75"/> [dBm]	0~63.75; unit: dBm; step: 0.25 dBm
UpMaxPwr	<input type="text" value="63.75"/> [dBm]	0~63.75; unit dBm; step: 0.25 dBm
DownMaxSnrMgn	<input type="text" value="127.50"/> [dB]	0~127.5; unit: dB; step: 0.5 dB
DownMinSnrMgn	<input type="text" value="5.00"/> [dB]	0~31.0; unit: dB; step: 0.5 dB
DownTargetSnrMgn	<input type="text" value="6.00"/> [dB]	0~31.0; unit: dB; step: 0.5 dB
UpMaxSnrMgn	<input type="text" value="127.50"/> [dB]	0~127.5; unit: dB; step: 0.5 dB
UpMinSnrMgn	<input type="text" value="5.00"/> [dB]	0~31.0; unit: dB; step: 0.5 dB
UpTargetSnrMgn	<input type="text" value="6.00"/> [dB]	0~31.0; unit: dB; step: 0.5 dB
DownMaxInterDelay	<input type="text" value="2"/> [ms]	0~50
UpMaxInterDelay	<input type="text" value="2"/> [ms]	0~50
DsMinProtection	<input type="text" value="0"/> [us]	0~31875; unit: us; step 125 us
UsMinProtection	<input type="text" value="0"/> [us]	0~31875; unit: us; step 125 us
UpPboControl	<input type="text" value="Disable"/>	Disable,Enable
PBO K1	OPT: <input type="text" value="0"/> [0.001 dBm/Hz]	-1000000~100000; unit: 0.001 dBm/Hz; step: 0.001 dBm/Hz Change of K1 and K2 values use more flexibility using UBPO . K1 values for lower US bands
	US1: <input type="text" value="-60000"/> [0.001 dBm/Hz]	
	US2: <input type="text" value="-60000"/> [0.001 dBm/Hz]	
	US3: <input type="text" value="-60000"/> [0.001 dBm/Hz]	
	US4: <input type="text" value="0"/> [0.001 dBm/Hz]	
	US5: <input type="text" value="0"/> [0.001 dBm/Hz]	
PBO K2	OPT: <input type="text" value="0"/> [0.001 dBm/Hz]	-1000000~100000; unit: 0.001 dBm/Hz; step: 0.001 dBm/Hz Change of K1 and K2 values use more flexibility using UBPO . K2 values for higher US bands
	US1: <input type="text" value="-15780"/> [0.001 dBm/Hz]	
	US2: <input type="text" value="-10710"/> [0.001 dBm/Hz]	
	US3: <input type="text" value="-5400"/> [0.001 dBm/Hz]	
	US4: <input type="text" value="0"/> [0.001 dBm/Hz]	
	US5: <input type="text" value="0"/> [0.001 dBm/Hz]	
PSD Mask	<input type="text" value="ANSI_M2_EX"/>	Select the PSD Mask
Tx Band Config.	<input type="text" value="DISABLE_2200K_BELOW"/>	Select Tx Config.
Rx Band Config.	<input type="text" value="ALL_TONES_ON"/>	Select Rx Band Config.

Opt. Band Config.	DISABLE	Select OptBand Config.
G.HS Carrier Set	<input type="checkbox"/> I.43 <input checked="" type="checkbox"/> V.43 <input checked="" type="checkbox"/> A.43 <input type="checkbox"/> B.43	To configure G.Hs. For VDSL , select V.43 For AnnexA or Annex M modem, select A.43 For Annex B modem, select B.43 Notes: If A43 and B43 both are enabled. This is a invalid carrier set selection for G.hs
VDSL2 Frequency Plan.	VDSL2 Annex C TTC (Default)(Japan)	Select VDSL2 Frequency Plan. Notes: Only available in VDSL2
DeploymentScenario	FTTCAB	FTTCAB,FTTEX,OTHER
LineOpMode	<input type="checkbox"/> ADSL1_ANNEX_A <input type="checkbox"/> ADSL1_ANNEX_B <input type="checkbox"/> ADSL1_ANNEX_C <input type="checkbox"/> ADSL2_ANNEX_A <input type="checkbox"/> ADSL2_ANNEX_B <input type="checkbox"/> ADSL2_PLUS_ANNEX_A <input type="checkbox"/> ADSL2_PLUS_ANNEX_B <input type="checkbox"/> ADSL2_PLUS_ANNEX_M <input type="checkbox"/> ADSL2_PLUS_ANNEX_L <input type="checkbox"/> VDSL_ANSI <input type="checkbox"/> VDSL_ETSI <input type="checkbox"/> VDSL_ITU_993_1 <input type="checkbox"/> VDSL_IEEE_802_AH <input checked="" type="checkbox"/> ITU_G993_2_8A <input checked="" type="checkbox"/> ITU_G993_2_8B <input checked="" type="checkbox"/> ITU_G993_2_8C <input checked="" type="checkbox"/> ITU_G993_2_8D <input checked="" type="checkbox"/> ITU_G993_2_12A <input checked="" type="checkbox"/> ITU_G993_2_12B <input checked="" type="checkbox"/> ITU_G993_2_17A <input checked="" type="checkbox"/> ITU_G993_2_30A <input type="checkbox"/> ADSL_T1E1	Multiple selected BITS
Annex M US0 Mask	<input checked="" type="checkbox"/> ANNEX_M_EU36 <input checked="" type="checkbox"/> ANNEX_M_EU40 <input checked="" type="checkbox"/> ANNEX_M_EU44 <input checked="" type="checkbox"/> ANNEX_M_EU48 <input checked="" type="checkbox"/> ANNEX_M_EU52 <input checked="" type="checkbox"/> ANNEX_M_EU56 <input checked="" type="checkbox"/> ANNEX_M_EU60 <input checked="" type="checkbox"/> ANNEX_M_EU64	Multiple selected BITS
Annex A US0 Mask	<input checked="" type="checkbox"/> ANNEX_A_EU32 <input checked="" type="checkbox"/> ANNEX_A_EU36 <input checked="" type="checkbox"/> ANNEX_A_EU40 <input checked="" type="checkbox"/> ANNEX_A_EU44 <input checked="" type="checkbox"/> ANNEX_A_EU48 <input checked="" type="checkbox"/> ANNEX_A_EU52 <input checked="" type="checkbox"/> ANNEX_A_EU56 <input checked="" type="checkbox"/> ANNEX_A_EU60 <input checked="" type="checkbox"/> ANNEX_A_EU64 <input checked="" type="checkbox"/> ANNEX_A_DS1 <input checked="" type="checkbox"/> ANNEX_A_DS9	Multiple selected BITS
Annex B US0 Mask	<input checked="" type="checkbox"/> ANNEX_B_US_A <input checked="" type="checkbox"/> ANNEX_B_US_M <input checked="" type="checkbox"/> ANNEX_B_US_B	Multiple selected BITS
Standard RFI Notch	<input type="checkbox"/> RFI_1810_1825 <input type="checkbox"/> RFI_1810_2000 <input type="checkbox"/> RFI_19075_19125 <input type="checkbox"/> RFI_3500_3575 <input type="checkbox"/> RFI_3500_3800 <input type="checkbox"/> RFI_3500_4000 <input type="checkbox"/> RFI_3747_3754 <input type="checkbox"/> RFI_3791_3805 <input type="checkbox"/> RFI_7000_7100 <input type="checkbox"/> RFI_7000_7300 <input type="checkbox"/> RFI_10100_10150 <input type="checkbox"/> RFI_14000_14350 <input type="checkbox"/> RFI_18068_18168 <input type="checkbox"/> RFI_1800_1825 <input type="checkbox"/> RFI_3500_3550 <input type="checkbox"/> RFI_3790_3800 <input type="checkbox"/> RFI_1800_1810 <input type="checkbox"/> RFI_21000_21450 <input type="checkbox"/> RFI_24890_24990 <input type="checkbox"/> RFI_28000_29100 <input type="checkbox"/> RFI_28000_29700	Multiple selected BITS

Table 0-1 VDSL Configuration Profile Parameter List

Label	Description
Query Profile Selection	Click on the drop-down list and select the profile you want to view/modify/delete, or select [CREATE_NEW] to create a new profile (you can create up to 24 profiles). Note that the default VDSL profile 'DEFVAL', ADSLx Annex A profile 'ADSL_A_DEFVAL', and ADSLx Annex B profile 'ADSL_B_DEFVAL' cannot be modified or deleted.
Profile Name	This field shows the name of the profile. Type in profile name when you're creating a new profile. The allowed characters include: 0-9, A-Z, a-z, "_" and "-".
Internal RowStatus	Click on the drop-down list and select the service status of the profile (Active/NotInService). You cannot bind a line port to the configuration profile of which the row status is Not In Service. The row status of DEFVAL, ADSL_A_DEFVAL, and ADSL_B_DEFVAL profile is always active and not configurable.
Band Plan	Click on the drop-down list and select the VDSL band plan to be used. Options are: 998_138_8500 -- Plan 998-138KHz-8500KHz_Long_Reach 998_138_12000 -- Plan 998-138KHz-12000KHz High Data Rate 998_640_30000 -- Plan 998-640KHz-30000KHz 100/100 997_138_8500 -- Plan 997-138KHz-8500KHz Flex_138_4400 -- Plan Flex-138KHz-4400KHz 998_138_4400 -- Plan 998-138KHz-4400KHz 997_138_4400 -- Plan 997-138KHz-4400KHz 998_138_4400_optBand -- Plan 998-138KHz-4400KHz-optBand 997_138_4400_optBand -- Plan 997-138KHz-4400KHz-optBand 998_138_12000_4K_Tones -- Plan 998-138KHz-12000KHz 4K Tones 997_138_12000_4K_Tones -- Plan 997-138KHz-12000KHz 4K Tones 998_138_17000_4K_Tones -- Plan 998-138KHz-17000KHz 4K Tones 998_138_30000_4K_Tones_30A -- Plan 998-138KHz-30000KHz 4K Tones (30A) (<i>Note: if the system supports maximum 5 VDSL bands not 6 bands, 30a will not be available. You can check in System -> System Inventory -> VDSL band for how many bands the system supports</i>)
Rate Mode	Click on the drop-down list and select the Rate Adaptive Mode. Valid options are: Manual – Rate changed manually AdpatAtStart – Rate automatically selected at start up only and does not change after that
Line Type	Click on the drop-down list and select the Line Type (latency). Options are: NoChannel: No channels exist.

	FastOnly: Only fast channel exists. InterleavedOnly: Only interleaved (slow) channel exists.
Fast Max. Data Rate - Downstream	Type in the Maximum downstream data rate for fast channel.
Fast Min. Data Rate - Downstream	Type in Minimum downstream data rate for fast channel.
Fast Max. Data Rate - Upstream	Type in the Maximum upstream data rate for fast channel.
Fast Min. Data Rate - Upstream	Type in Minimum upstream data rate for fast channel.
Slow Max. Data Rate - Downstream	Type in the Maximum downstream data rate for slow channel.
Slow Min. Data Rate - Downstream	Type in Minimum downstream data rate for slow channel.
Slow Max. Data Rate - Upstream	Type in the Maximum upstream data rate for slow channel.
Slow Min. Data Rate - Upstream	Type in Minimum upstream data rate for slow channel.
Overhead Data Rate - Downstream	Type in the downstream overhead data rate.
Overhead Data Rate - Upstream	Type in upstream overhead data rate.
DownMaximumPSD	Type in the downstream maximum PSD.
UpMaximumPSD	Type in the upstream maximum PSD.
DownMaxPwr	Type in the downstream maximum power.
UpMaxPwr	Type in the upstream maximum power.
DownMaxSnrMgn	Type in the downstream maximum SNR margin.
DownMinSnrMgn	Type in the downstream minimum SNR margin.
DownTargetSnrMgn	Type in the downstream target SNR margin.
UpMaxSnrMgn	Type in the upstream maximum SNR margin.
UpMinSnrMgn	Type in the upstream minimum SNR margin.
UpTargetSnrMgn	Type in the upstream target SNR margin.
DownMaxInterDelay	Type in the downstream maximum interleaver delay.
UpMaxInterDelay	Type in the upstream maximum interleaver delay.
DsMinProtection	Type in the downstream minimum protection against impulse noise.
UpMinProtection	Type in the upstream minimum protection against impulse noise.
UpPboControl	Click on this drop-down list and select to enable or disable Power Back-Off.

PBO K1	<p>K1 and K2 parameters allow the user more flexibility in using Upstream Power Back-Off (UPBO) on CPE modem. Changing K1 and K2 values will affect the CPE Tx PSD. Please refer to VDSL standards for exact relation between K1, K2 parameters and Tx PSD. There is a set of K1/K2 parameters associated with each upstream band in the PSD: Upstream Band 0 or Optional band, Upstream band 1, Upstream band 2, Upstream band 3, Upstream band4, and Upstream Band 5. Setting all K2 parameters to 0 and all K1 to a high power level (ie low number) will essentially disable UPBO.</p> <div> <div>PBO K1</div> <div> <div>OPT: 0 [0.001 dBm/Hz]</div> <div>US1: -60000 [0.001 dBm/Hz]</div> <div>US2: -60000 [0.001 dBm/Hz]</div> <div>US3: -60000 [0.001 dBm/Hz]</div> <div>US4: 0 [0.001 dBm/Hz]</div> <div>US5: 0 [0.001 dBm/Hz]</div> </div> </div>
PBO K2	<div> <div>PBO K2</div> <div> <div>OPT: 0 [0.001 dBm/Hz]</div> <div>US1: -15780 [0.001 dBm/Hz]</div> <div>US2: -10710 [0.001 dBm/Hz]</div> <div>US3: -5400 [0.001 dBm/Hz]</div> <div>US4: 0 [0.001 dBm/Hz]</div> <div>US5: 0 [0.001 dBm/Hz]</div> </div> </div>
PSD Mask	<p>Click on the drop-down list and select the PSD Mask. Options are:</p> <p>VENDER_DEFAULT_PSD, ANSI_M1_CAB, ANSI_M2_CAB, ETSI_M1_CAB, ETSI_M2_CAB, ANNEX_F, ANSI_M1_EX, ANSI_M2_EX, ETSI_M1_EX_P2, ETSI_M2_EX_P2, PSD_K, PSD_CHINA, ETSI_M1_EX_P1, ETSI_M2_EX_P1</p>
Tx Band Config.	<p>Click on the drop-down list and select the configuration for transmit band. Options are:</p> <p>ALL_TONES_ON, DISABLE_640K_BELOW, DISABLE_1100K_BELOW, DISABLE_2200K_BELOW.</p>
Rx Band Config.	<p>Click on the drop-down list and select the configuration for receive band. Options are:</p> <p>ALL_TONES_ON, DISABLE_640K_BELOW, DISABLE_1100K_BELOW,</p>

	DISABLE_2200K_BELOW.
Opt Band Config.	Click on the drop-down list and select the configuration for optional band. Options are: DISABLE, ANNEX_A_26K_TO_138K, ANNEX_B_138K_TO_276K, ANNEX_B_26K_TO_276K.
G.HS Carrier Set	Click on the checkbox to select the carrier set for G.Handshake (ITU-T G.994.1) feature. For VDSL modem, select V43; for ADSL/2/2+ Annex A or Annex M modem, select A43; for ADSL/2/2+ Annex B, suggest selecting B43; for Ikanos VDSL 1 100/100 Mbps, select I43. Note that A43 and B43 cannot be set at the same time.
VDSL2 Frequency Plan	Click on the drop-down list and select the frequency plan for VDSL2.
Power Mode	Click on the drop-down list and select the power mode for optional band. Options are: POWER_MODE_85 = > 8.5 dBm, POWER_MODE_115 = > 11.5 dBm, POWER_MODE_145 = > 14.5 dBm, POWER_MODE_175 = > 17.5 dBm, POWER_MODE_205 = > 20.5 dBm.
DeploymentScenario	Click on the drop-down list and select the deployment scenario: Options are FTTCAB (Fibre-to-the-cabinet), FTTEX (Fibre-to-the-exchange), OTHER.
LineOpMode	Click on the checkboxes to select the allowed xDSL operation modes. Options are: ADSL Annex A, ADSL Annex B, ADSL Annex C, ADSL2 Annex A, ADSL2 Annex B, ADSL2+ Annex A, ADSL2+ Annex B, ADSL2+ Annex M, ADSL2+ Annex L, ADSL T1E1, VDSL ANSI, VDSL ETSI, VDSL ITU 993.1, VDSL IEEE 802ah, VDSL ITU G993.2 8a, VDSL ITU G993.2 8b, VDSL ITU G993.2 8c, VDSL ITU G993.2 8d, VDSL ITU G993.2 12a, VDSL ITU G993.2 12b, VDSL ITU G993.2 17a, VDSL ITU G993.2 30a. (<i>Note: if the system supports maximum 5 VDSL bands not 6 bands, 30a will not be available. You can check in System -> System Inventory -> VDSL band for how many bands the system supports</i>)
Annex M US0 Mask	Click on the checkboxes to select the US0 mask of Annex M. Options are: eu36, eu40, eu44, eu48, eu52, eu56, eu60, eu64.
Annex A US0 Mask	Click on the checkboxes to select the US0 mask of Annex A. Options are: eu32, eu36, eu40, eu44, eu48, eu52, eu56, eu60, eu64, ds1, ds9.

Annex B US0 Mask	Click on the checkboxes to select the US0 mask of Annex B. Options are: US_A, US_M, US_B.
Standard RFI Notch	Click on the checkboxes to select the RFI transmit bands to be notched. Options are: RFI_1810_1825 -- 1.810 - 1.825 MHz: ANNEX F RFI_1810_2000 -- 1.810 - 2.000 MHz: ETSI, T1E1 RFI_19075_19125 -- 1.9075 - 1.9125 MHz: ANNEX F RFI_3500_3575 -- 3.500 - 3.575 MHz: ANNEX F RFI_3500_3800 -- 3.500 - 3.800 MHz: ETSI RFI_3500_4000 -- 3.500 - 4.000 MHz: T1E1 RFI_3747_3754 -- 3.747 - 3.754 MHz: ANNEX F RFI_3791_3805 -- 3.791 - 3.805 MHz: ANNEX F RFI_7000_7100 -- 7.000 - 7.100 MHz: ANNEX F, ETSI RFI_7000_7300 -- 7.000 - 7.300 MHz: T1E1 RFI_10100_10150 -- 10.100 - 10.150 MHz: ANNEX F, ETSI, T1E1 RFI_14000_14350 -- 14.000 - 14.350 MHz: ANNEX F, ETSI, T1E1 RFI_18068_18168 -- 18.068 - 18.168 MHz: ANNEX F, ETSI, T1E1 RFI_1800_1825 -- 1.800 - 1.825 MHz: HAM Band 1 RFI_3500_3550 -- 3.500 - 3.550 MHz: HAM Band 2 RFI_3790_3800 -- 3.790 - 3.800 MHz: HAM Band 3 RFI_1800_1810 -- 1.800 - 1.810 MHz: RFI Notch RFI_21000_21450 -- 21.000 - 21.450 MHz: ANNEX F, ETSI, T1E1 RFI_24890_24990 -- 24.890 - 24.990 MHz: ANNEX F, ETSI, T1E1 RFI_28000_29100 -- 28.000 - 29.100 MHz: ANNEX F, ETSI, T1E1 RFI_28000_29700 -- 28.000 - 29.700 MHz: ANNEX F, ETSI, T1E1

Table 0-2 provides users a guideline of VDSL profile configuration. For a standard Annex B Band Plan, whose short name and long name are in the first two (leftmost) columns of the table, you can follow the suggested profile parameter values in the right columns of the same row to setup your VDSL configuration profile. When you create a new VDSL configuration profile, you can set the Bandplan, Tx Band Config., Rx Band Config., Opt Band Config., G.HS Carrier Set, Line OpMode, VDSL2 Frequency Plan, and PSD Mask to the suggested values in the Table 0-2 and just leave the other profile parameters as the default values.

Table 0-2 VDSL Configuration Profile Setup Guideline

Annex B			USO Type	Highest Used Freq.	VDSL configuration profile						
Short Name	Long Name	A/B/M	(KHz)	Bandplan**	Tx Band Config.	Rx Band Config.	Opt. Band Config.	G.H.S Carrier Set	Line OptMode	VDSL2 Frequency plan	PSD Mask
B8-1	998-M1x-A	A	12000	998_138_12000_4K_Tones	ALL_TONES_ON	ALL_TONES_ON	ANNEX_A_26K_TO_138K	V43, A43	12A	VDSL2 Annex B 998ADExx (EU: DT) or VDSL2 Annex B 998Exx(EU:Swisscom/FT)	ETSL_M1_EX_P2
B8-2	998-M1x-B	B	12000	998_138_12000_4K_Tones	ALL_TONES_ON	ALL_TONES_ON	ANNEX_B_138K_TO_276K	V43, B43	12A, 12B	VDSL2 Annex B 998ADExx (EU: DT) or VDSL2 Annex B 998Exx(EU:Swisscom/FT)	ETSL_M1_EX_P1
B8-3	998-M1x-NUS0	N/A	12000	998_138_12000_4K_Tones	ALL_TONES_ON	ALL_TONES_ON	DISABLE	V43	12A, 12B	VDSL2 Annex B 998ADExx (EU: DT) or VDSL2 Annex B 998Exx(EU:Swisscom/FT)	ETSL_M1_EX_P2
B8-4	998-M2x-A	A	12000	998_138_12000_4K_Tones	ALL_TONES_ON	ALL_TONES_ON	ANNEX_A_26K_TO_138K	V43, A43	12A	VDSL2 Annex B 998ADExx (EU: DT) or VDSL2 Annex B 998Exx(EU:Swisscom/FT)	ETSL_M2_EX_P2
B8-5	998-M2x-M	M	12000	998_138_12000_4K_Tones	ALL_TONES_ON	ALL_TONES_ON	ANNEX_M_26K_TO_276K	V43, A43 or V43, B43	12A	VDSL2 Annex B 998ADExx (EU: DT) or VDSL2 Annex B 998Exx(EU:Swisscom/FT)	ETSL_M2_EX_P1
B8-6	998-M2x-B	B	12000	998_138_12000_4K_Tones	ALL_TONES_ON	ALL_TONES_ON	ANNEX_B_138K_TO_276K	V43, B43	12A	VDSL2 Annex B 998ADExx (EU: DT) or VDSL2 Annex B 998Exx(EU:Swisscom/FT)	ETSL_M2_EX_P1
B8-7	998-M2x-NUS0	N/A	12000	998_138_12000_4K_Tones	ALL_TONES_ON	ALL_TONES_ON	DISABLE	V43	12A, 12B	VDSL2 Annex B 998ADExx (EU: DT) or VDSL2 Annex B 998Exx(EU:Swisscom/FT)	ETSL_M2_EX_P2
B8-8	998E17-M2x-NUS0	N/A	17664	998_138_17000_4K_Tones	ALL_TONES_ON	ALL_TONES_ON	DISABLE	V43	17A	VDSL2 Annex B 998Exx(EU:Swisscom/FT)	ETSL_M2_EX_P2
B8-9	998E17-M2x-NUS0-M	N/A	17664	998_138_17000_4K_Tones	ALL_TONES_ON	ALL_TONES_ON	DISABLE	V43	17A	VDSL2 Annex B 998Exx(EU:Swisscom/FT)	ETSL_M2_EX_P1
B8-10	998ADE17-M2x-NUS0-M	N/A	17664	998_138_17000_4K_Tones	ALL_TONES_ON	ALL_TONES_ON	DISABLE	V43	17A	VDSL2 Annex B 998ADExx (EU: DT)	ETSL_M2_EX_P1

Annex B			USO Used Type	Highest Used Freq.	VDSL configuration profile						
Short Name	Long Name	A/B/M	(kHz)	Bandplan**	Tx Band Config.	Rx Band Config.	Opt. Band Config.	G.H.S Carrier Set	Line OptMode	VDSL2 Frequency plan	PSD Mask
B8-11	998ADE17-M2x-A	A	17664	998_138_17000_4K_Tones	ALL_TONES_ON	ALL_TONES_ON	ANNEX_A_26K_TO_138K	V43, A43	17A	VDSL2 Annex B 998ADExx (EU: DT)	ETSL_M2_EX_P2
B8-12	998ADE17-M2x-B	B	17664	998_138_17000_4K_Tones	ALL_TONES_ON	ALL_TONES_ON	ANNEX_B_138K_TO_276K	V43, B43	17A	VDSL2 Annex B 998ADExx (EU: DT)	ETSL_M2_EX_P1
B8-13	998E30-M2x-NUS0	N/A	30000	998_138_30000_4K_Tones_(30A)	ALL_TONES_ON	ALL_TONES_ON	DISABLE	V43	30A	VDSL2 Annex B 998E30(EU:Swisscom/FT)	ETSL_M2_EX_P2
B8-14	998E30-M2x-NUS0-M	N/A	30000	998_138_30000_4K_Tones_(30A)	ALL_TONES_ON	ALL_TONES_ON	DISABLE	V43	30A	VDSL2 Annex B 998E30(EU:Swisscom/FT)	ETSL_M2_EX_P1
B8-15	998ADE30-M2x-NUS0-M	N/A	30000	998_138_30000_4K_Tones_(30A)	ALL_TONES_ON	ALL_TONES_ON	DISABLE	V43	30A	VDSL2 Annex B 998E30(EU:Swisscom/FT)	ETSL_M2_EX_P1
B8-16	998ADE30-M2x-NUS0-A	N/A	30000	998_138_30000_4K_Tones_(30A)	ALL_TONES_ON	ALL_TONES_ON	DISABLE	V43	30A	VDSL2 Annex B 998E30(EU:Swisscom/FT)	ETSL_M2_EX_P2
B7-1	997-M1c-A*	A	7000	-	-	-	-	-	-	-	-
B7-2	997-M1x-M-8	M	8832	997_138_8500	ALL_TONES_ON	ALL_TONES_ON	ANNEX_M_26K_TO_276K	V43, A43	8A, 8B, 8C, 8D	Annex B 997E30 (EU: Telecom Italia)	ETSL_M1_EX_P1
B7-3	997-M1x-M	M	12000	997_138_12000_4K_Tones	ALL_TONES_ON	ALL_TONES_ON	ANNEX_M_26K_TO_276K	V43, A43	12A	Annex B 997E30 (EU: Telecom Italia)	ETSL_M1_EX_P1
B7-4	997-M2x-M-8	M	8832	997_138_8500	ALL_TONES_ON	ALL_TONES_ON	ANNEX_M_26K_TO_276K	V43, A43 or V43, B43	8A, 8B, 8C, 8D	VDSL2 Annex B 997E30 (EU: Telecom Italia)	ETSL_M2_EX_P1
B7-5	997-M2x-A	A	12000	997_138_12000_4K_Tones	ALL_TONES_ON	ALL_TONES_ON	ANNEX_A_26K_TO_138K	V43, A43	12A	VDSL2 Annex B 997E30 (EU: Telecom Italia)	ETSL_M2_EX_P2
B7-6	997-M2x-M	M	12000	997_138_12000_4K_Tones	ALL_TONES_ON	ALL_TONES_ON	ANNEX_M_26K_TO_276K	V43, A43 or V43, B43	17A	VDSL2 Annex B 997E30 (EU: Telecom Italia)	ETSL_M2_EX_P1
B7-7	HPE17-M1-NUS0*	N/A	17664	-	-	-	-	-	-	-	-
B7-8	HPE30-M1-NUS0*	N/A	30000	-	-	-	-	-	-	-	-
B7-9	997E17-M2x-A	A	17664	998_138_17000_4K_Tones	ALL_TONES_ON	ALL_TONES_ON	ANNEX_A_26K_TO_138K	V43, A43	17A	VDSL2 Annex B 997E30 (EU: Telecom Italia)	ETSL_M2_EX_P2
B7-10	997E30-M2x-NUS0	N/A	30000	998_138_30000_4K_Tones_(30A)	ALL_TONES_ON	ALL_TONES_ON	DISABLE	V43	30A	VDSL2 Annex B 997E30 (EU: Telecom Italia)	ETSL_M2_EX_P2

* is not supported.

** Bandplan is only for reference. Provided bandplan is not the only choice.

5.2 VDSL PSD Configuration

5.2.1 Downstream PSD

This option allows you to set maximum downstream (Tx) PSD by tone basis. In VDSL configuration profile, we have PSD mask per standard basis. Here you can set PSD mask by tone basis. From the *VDSL(ADSL)* menu, click on *VDSL PSD Configuration* and then *Downstream PSD*. The following page is displayed.

VDSL Max Tx PSD Profile

Previous Command Result: Success.

Query Profile Selection: profile_test

Current Configuration and Modification Area

Create

Profile Name: profile_test

Next Sequential Number: 2

Tone Frequency: 1 KHz

PSD Level: -140 dBm/Hz

Profile Contents

Delete

Sequential Number	Tone Freq.[KHz]	PSD Level[dBm/Hz]	Select to delete
1	100	-140.0	<input type="checkbox"/>

Table 0-3 VDSL Downstream PSD setup

Label	Description
Query Profile Selection	Click on the drop-down list and select the profile you want to create PSD for (you must create the VDSL configuration profile first). Note that you cannot create PSD mask by tone basis for the default VDSL profile 'DEFVAL' and default ADSL profile 'ADSL_DEFVAL'.
Profile Name	This field shows the name of the profile.
Next Sequential Number	This field shows the next sequential number of the PSD mask. Total 32 points can be set for the Tx PSD mask.

Tone Frequency	Type in the tone frequency in KHz.
PSD Level	Type in the PSD Level (dBm/Hz). Value range is -140 ~ -12.5, step 0.5.

5.2.2 Upstream PSD

This option allows you to set maximum upstream (Rx) PSD by tone basis. In VDSL configuration profile, we have PSD mask per standard basis. Here you can set PSD mask by tone basis. From the *VDSL* menu, click on *VDSL PSD Configuration* and then *Upstream PSD*. The following page is displayed.

VDSL Max Rx PSD Profile

Previous Command Result: **Success.**

Query Profile Selection:

Current Configuration and Modification Area

Create

Profile Name:

Next Sequential Number:

Tone Frequency: KHz

PSD Level: dBm/Hz

Profile Contents

Delete

Sequential Number	Tone Freq.[KHz]	PSD Level[dBm/Hz]	Select to delete
1	500	-140.0	<input type="checkbox"/>

Table 0-4 VDSL Upstream PSD setup

Label	Description
Query Profile Selection	Click on the drop-down list and select the profile you want to create PSD for (you must create the VDSL configuration profile first). Note that you cannot create PSD mask by tone basis for the default VDSL profile 'DEFVAL' and default ADSL profile 'ADSL_DEFVAL'.

Profile Name	This field shows the name of the profile.
Next Sequential Number	This field shows the next sequential number of the PSD mask. Total 20 points can be set for the Rx PSD mask.
Tone Frequency	Type in the tone frequency in KHz.
PSD Level	Type in the PSD Level (dBm/Hz). Value range is -140 ~ -12.5, step 0.5.

5.3 VDSL Alarm Profile

This option allows you to setup the VDSL alarm profile including 15-min and 1-day PM thresholds. From the *VDSL(ADSL)* menu, click on *VDSL Alarm Profile*. The following page is displayed.

VDSL Alarm Profile

Previous Command Result: Normal.

Query Profile Selection:

Current Configuration and Modification Area

Profile Name:

Internal RowStatus:

Profile Contents

Attribute	Value	Constraint
VTUC ESSs	<input type="text" value="0"/> second(s)	0~900
VTUC SESSs	<input type="text" value="0"/> second(s)	0~900
VTUC UASSs	<input type="text" value="0"/> second(s)	0~900
VTUR ESSs	<input type="text" value="0"/> second(s)	0~900
VTUR SESSs	<input type="text" value="0"/> second(s)	0~900
VTUR UASSs	<input type="text" value="0"/> second(s)	0~900
DAY VTUC ESSs	<input type="text" value="0"/> second(s)	0~86400
DAY VTUC SESSs	<input type="text" value="0"/> second(s)	0~86400
DAY VTUC UASSs	<input type="text" value="0"/> second(s)	0~86400
DAY VTUR ESSs	<input type="text" value="0"/> second(s)	0~86400
DAY VTUR SESSs	<input type="text" value="0"/> second(s)	0~86400
DAY VTUR UASSs	<input type="text" value="0"/> second(s)	0~86400
Init Failures	<input type="checkbox"/> Enable	enable/disable

Table 0-5 VDSL Alarm Profile Setup

Label	Description
Query Profile Selection	Click on the drop-down list and select the profile you want to view/modify/delete, or select [CREATE_NEW] to create a new profile (you can create up to 24 profiles). Note that the default VDSL profile 'DEFVAL' cannot be modified or deleted; the default ADSL profile 'ADSL_DEFVAL' can only be
Profile Name	This field shows the name of the profile. Type in profile name when you're creating a new profile.
Internal RowStatus	Click on the drop-down list and select the service status of the profile (Active/NotInService).
VTUC ESs	VTUC 15-Min Errored Seconds
VTUC SESs	VTUC 15-Min Severely Errored Seconds
VTUC UASs	VTUC 15-Min Unavailable Seconds
VTUR ESs	VTUR 15-Min Errored Seconds
VTUR SESs	VTUR 15-Min Severely Errored Seconds
VTUR UASs	VTUR 15-Min Unavailable Seconds
DAY VTUC ESs	VTUC 1-Day Errored Seconds
DAY VTUC SESs	VTUC 1-Day Severely Errored Seconds
DAY VTUC UASs	VTUC 1-Day Unavailable Seconds
DAY VTUR ESs	VTUR 1-Day Errored Seconds
DAY VTUR SESs	VTUR 1-Day Severely Errored Seconds
DAY VTUR UASs	VTUR 1-Day Unavailable Seconds
Init Failures	Enable/Disable the initialization failure notification

5.4 VDSL Inventory

This option allows you to view the VTUC and VTUR inventory of each line port and you can also see the administrative/operational state of each port at the same time. From the *VDSL(ADSL)* menu, click on *VDSL Inventory*. The following page is displayed.

VDSL Inventory

Physical Site: VTUC ▼

Physical Port	AdminState	OpState	Serial Number	Vendor ID	Version Number
Port-1	On	Data	IKANOS Fx100100-5/Fx10050-5:b1p1	b500494b4e530000	1.0.7r33IK005010
Port-2	Off	Idle	NA	NA	NA
Port-3	Off	Idle	NA	NA	NA
Port-4	Off	Idle	NA	NA	NA
Port-5	Off	Idle	NA	NA	NA
Port-6	Off	Idle	NA	NA	NA
Port-7	Off	Idle	NA	NA	NA
Port-8	Off	Idle	NA	NA	NA
Port-9	Off	Idle	NA	NA	NA
Port-10	Off	Idle	NA	NA	NA
Port-11	Off	Idle	NA	NA	NA
Port-12	Off	Idle	NA	NA	NA
Port-13	Off	Idle	NA	NA	NA
Port-14	Off	Idle	NA	NA	NA
Port-15	Off	Idle	NA	NA	NA
Port-16	Off	Idle	NA	NA	NA
Port-17	Off	Idle	NA	NA	NA

Click on the *Physical Site* drop-down list to select VTUC or VTUR.

5.5 VDSL Line Status

This option allows you to view the VDSL line status. From the *VDSL(ADSL)* menu, click on *VDSL Line Status*. The following page is displayed:

VDSL Line Status

Physical Port: Port-01 Query

Physical Site: VTUC

Physical Port	Port-1
AdminState	On
OpState	Data
SnrMgn	7.30[dB]
Attenuation	0.20[dB]
Output power	10.60[dBm]
Attainable rate	119252[kbps]
Line Rate	119252[kbps]
OH Rate	4[kbps]
Actual OpMode	(ITU G993.2 17a)
Current Framing Mode	PTM
OpCapability	ADSL Annex A,ADSL2 Annex A,ADSL2+ Annex A,ADSL2+ Annex M,ADSL2+ Annex L,VDSL ANSI,VDSL ITU 993.1,VDSL IEEE

Physical Site: VTUR

Physical Port	Port-1
AdminState	On
OpState	Data
SnrMgn	12.40[dB]
Attenuation	88.30[dB]
Output power	6.40[dBm]
Attainable rate	62924[kbps]
Line Rate	57124[kbps]
OH Rate	4[kbps]
Actual OpMode	(ITU G993.2 17a)
Current Framing Mode	PTM
OpCapability	,VDSL ANSI,ITU G993.2 8a,ITU G993.2 8b,ITU G993.2 8c,ITU G993.2

Click on the drop-down list to select the circuit number and then click on **Query**. The line status of both VTUC and VTUR will be displayed.

Table 0-6 VDSL Line Status

Label	Description
Adminstate	Administrative state (On/Off)
OpState	Operational state (Data/Idle)
SnrMgn	Signal-to-Noise Ratio margin (dB)
Attenuation	Loop Attenuation (dB)
Output power	Actual output power (dBm)
Attainable rate	Attainable data rate (kbps)
Line Rate	Actual line rate (kbps)
OH Rate	Overhead data rate (kbps)

Actual OpMode	Actual XDSL operation mode
Current Framing Mode	Current framing mode
OpCapability	Shows the operation modes this physical site supports.

5.6 VDSL Channel Status

This option allows you to view the VDSL channel status. From the *VDSL(ADSL)* menu, click on *VDSL Channel Status*. The following page is displayed:

VDSL Channel Status

Physical Port: Channel ID:

Physical Site: VTUC

Physical Port	Port-1
AdminState	Off
OpState	Idle
Interleave Delay	0.00[ms]
CRC Block Length	0[bytes]
Tx Rate(Data Rate)	0[kbps]
Tx Protection	0.0[DMT Symbols]

Physical Site: VTUR

Physical Port	Port-1
AdminState	Off
OpState	Idle
Interleave Delay	0.00[ms]
CRC Block Length	0[bytes]
Tx Rate(Data Rate)	0[kbps]
Tx Protection	0.0[DMT Symbols]

Click on the drop-down lists to select the line port number and channel ID (Fast or Interleave). Then click on **Query**. The channel status of both VTUC and VTUR will be displayed.

Table 0-7 VDSL Channel Status

Label	Description
Adminstate	Administrative state (On/Off)
OpState	Operational state (Data/Idle)
Interleave Delay	Actual Interleaving Delay (ms)
CRC Block Length	CRC block length (bytes)
Tx Rate (Data Rate)	Actual transmit data rate (kbps)
TxProtection	Actual transmit impulse noise protection (DMT symbols)

5.7 VDSL Failure State

This option allows you to view the VDSL failure state. From the *VDSL(ADSL)* menu, click on *VDSL Failure State*. The following page is displayed.

VDSL Failure State

Physical Port	AdminState	OpState	NE	LOS	LOF	LOPWR	LOL	LSQ	IF	NP	ESE	NCDSW	LCDSW	NCDFT	LCDFD
Port-1	On	Handshake	FE												
			NE												
Port-2	Off	Idle	FE												
			NE												
Port-3	Off	Idle	FE												
			NE												
Port-4	Off	Idle	FE												
			NE												
Port-5	Off	Idle	FE												
			NE												

Table 0-8 VDSL Failure State

Label	Description
LOS	xDSL Loss Of Signal
LOF	xDSL Loss Of Framing
LOPWR	xDSL Loss Of Power Failure
LOL	xDSL Loss Of Link
LSQ	xDSL Loss Of Signal Quality
IF	xDSL Line Initialization Failure
NP	xDSL Far End No Peer xTUR Present
ESE	xDSL Excessive Severely Errored Seconds
NCDSW	xDSL No Cell Delineation on the slow channel
LCDSW	xDSL Loss of Cell Delineation on the slow channel
NCDFT	xDSL No Cell Delineation on the fast channel
LCDFD	xDSL Loss of Cell Delineation on the fast channel

5.8 VDSL Test

This option allows you to perform VDSL loopback test and DELT (Dual End Loop Test). You can also view the status of VDSL test and query the data of the test result in this page. For the VDSL loopback test, the system will send a specific data string to VDSL modem and if the data string comes back successfully, the loopback test succeeds. From the *VDSL(ADSL)* menu, click on *VDSL Test*. The following page is displayed.

VDSL Maintenance

Previous Command Result: Normal.

Refresh								
Physical Port	opState	Loopback State	Delt State	Activate loopback	Activate Delt	Carrier Data	Hlin	Delt & Band Parameter
Port-1	Data	Idle	Off	Loopback	Delt	Query	Query	Query
Port-2	Idle	Idle	Off	Loopback	Delt	Query	Query	Query
Port-3	Idle	Idle	Off	Loopback	Delt	Query	Query	Query
Port-4	Idle	Idle	Off	Loopback	Delt	Query	Query	Query
Port-5	Idle	Idle	Off	Loopback	Delt	Query	Query	Query

Table 0-9 VDSL Test

Label	Description
Physical Port	This field shows the line port number (1 ~ 24).
opState	This field shows the operational state of the circuit.
Loopback State	This field shows the status of loopbck test.
Delt State	This field shows the status of DELT.
Activate loopback	When this button appears to be "Loopback", click on this button to start a loopback test. The system will send a specific data string to the VDSL modem.
Activate Delt	Click on Delt to start a DELT.
Carrier Data	Click on Query to view the carrier data.
Hlin	Click on Query to view the HLin.
Delt & Band Parameter	Click on Query to view DELT & Band Parameter.

5.9 VDSL POST State

This option allows you to view the VDSL POST (power-on-self-test) state of the three DSP chips in the DSLAM. Note that this option is for super user only. From the *VDSL(ADSL)* menu, click on *VDSL POST State*. The following page is displayed.

VDSL POST State

Item	Chip 1	Chip 2	Chip 3
POST State	NO TEST(2)		
BME Status	Equiped	Equiped	Equiped
HIC Host-BME Connection Test	PASS	PASS	PASS
BME Core & Mem Clk, EMI Initialization	PASS	PASS	PASS
HIC PIO SDRAM Read/Write Tests	PASS	PASS	PASS
BSDRAM Address & Data Bus Connection Tests	PASS	PASS	PASS
Memory to Memory BME DMA Tests	PASS	PASS	PASS
External Memory Interface Test	PASS	PASS	PASS
BME-AFE DDR Bus Connection Tests	PASS	PASS	PASS
AFE Register Read/Write Tests	PASS	PASS	PASS
IFE Register Read/Write Tests	PASS	PASS	PASS

6. Traffic Profile

6.1 Traffic Descriptor

6.2 VPMT Profile

6.1 Traffic Descriptor

This option allows you to modify the traffic table. From the *Traffic Profile* menu, click on *Traffic Descriptor*. The following page is displayed:

Traffic Descriptor

Previous Command Result: **Success.**

Area for Creating a new descriptor

Next Traffic Index:

Ether Traffic Descriptor :

Weight:

Create

ATM Traffic Policer Type: (For ATM Bridge Port Only.)

• PCR: [cells/second]

Area for Deleting a Traffic Descriptor

Delete

Index	Packet Layer Profile								ATM Bridge Port Policer		Selection
	Type	Weight	PPR	CIR	EIR	CBS	EBS	Polling Speed	Policer(ATM only)	PCR(ATM only)	
1	WFQ	1	0	0	0	0	0	NA	CBR	65536	<input checked="" type="checkbox"/> Delete
2	PPR	0	1000000	0	0	0	0	PPR PS=Auto	CBR	20000	<input type="checkbox"/> Delete

Table 0-1 Traffic Descriptor Setup

Label	Description
Ether Traffic Descriptor	Click on this drop-down list and select a descriptor type. After you select a descriptor type, the configurable parameters will be displayed on the page. Available descriptor types are: WFQ (weighted fair queuing), PPR (peak packet rate), CIR (committed information rate), CIREIR.
Weight	This parameter is for descriptor type: WFQ. Type in the value of Weight (1 ~ 42).
PPR	This parameter is for descriptor type: PPR. Type in Peak Packet Rate (bits/sec).
Polling Speed	Polling speed determines the treatment of this channel when its data queue becomes empty.

PPR auto-polling speed mode	Select the checkbox to enable auto-polling speed mode.
CIR	This parameter is for descriptor type: CIR and CIREIR. Type in Committed Information Rate (bits/sec).
CBS	This parameter is for descriptor type: CIR and CIREIR. Type in Committed Burst Size (bits).
CIR Polling Speed	Polling speed determines the treatment of this channel when its data queue becomes empty.
CIR auto-polling speed mode	Select the checkbox to enable auto-polling speed mode (CIREIR traffic type doesn't support this mode).
EIR	This parameter is for descriptor type: CIREIR. Type in Excess Information Rate (bits/sec).
EBS	This parameter is for descriptor type: CIREIR. Type in Excess Burst Size (bits).
EIR Polling Speed	Currently not supported.
EIR auto-polling speed mode	Currently only auto-polling speed mode is supported.
ATM Traffic Policer Type	Available options are: CBR(CLP transparent, no Scr), UBR(No CLP, No Src)
PCR	Type in the Peak Cell Rate (this parameter is for ATM traffic policer type CBR only). Value range is 0 ~ 65536 (cells/second).

6.2 VPMT Profile

This option allows you to configure the VLAN Priority Mapping Table (VPMT) profile. The VPMT Profile is used only for the packet-mode bridge port. A Packet Bridge Port has 8 COS (priority); each of them has to be assigned Ethernet traffic profile (descriptor) and "Queue Type". The types of Ethernet traffic profile are WFQ, PPR, CIR, and CIREIR. WFQ is WFQ-type profile. PPR, CIR, and CIREIR are SPQ-type profile. Queue Types are SPQ(0), SPQ(1), SPQ(2), and WFQ(3). SPQ(0) is the fastest Queue; data which is saved in this queue can be output first.

When the COS (priority) is assigned a SPQ-type profile, only SPQ(0)/SPQ(1)/SPQ(2) queue can be selected. When the COS (priority) is assigned to a WFQ-type profile, only WFQ(3) queue can be selected.

From the *Traffic Profile* menu, click on *VPMT Profile*. The following page is displayed:

VPMT

previous Command Result: Normal.

Query Profile Selection: 2

Creation Area

Create Delete Modify

Items	COS-0	COS-1	COS-2	COS-3	COS-4	COS-5	COS-6	COS-7
Queue Select	WFQ(3)	WFQ(3)	WFQ(3)	WFQ(3)	WFQ(3)	WFQ(3)	WFQ(3)	WFQ(3)
Deny Mode	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Traffic Descriptor Configured	1(WFQ)	1(WFQ)	1(WFQ)	1(WFQ)	1(WFQ)	1(WFQ)	1(WFQ)	1(WFQ)
Select to Modify Traffic Descriptor	1(WFQ)	1(WFQ)	1(WFQ)	1(WFQ)	1(WFQ)	1(WFQ)	1(WFQ)	1(WFQ)

Table 0-2 VPMT Setup

Label	Description
Query Profile Selection	Click on the drop-down list and select the profile you want to view/modify/delete, or select [CREATE_NEW] to create a new profile. Note that the profile with profile index 1 is a default profile, which cannot be modified or deleted.
COS-0 ~ COS-7	IP Class of Service priority level 0 ~ 7.
Queue Select	Click on the drop-down list and select the internal queue for mapping. Options are: SPQ(0), SPQ(1), SPQ(2), WFQ(3).
Deny Mode	Select to Pass or Deny the packet.
Traffic Descriptor Configured	This field shows current traffic descriptor configured.
Select to Modify Traffic Descriptor	To modify the traffic descriptor, click on this drop-down list and select the new traffic descriptor (WFQ or SFQ).

Note: there is some restriction to make strict priority works. The CIR of bound CIR/CIREIR traffic descriptor for SPQ-type queues must be less than or equal to 50M bps. Under this limitation, the VDSL link downstream priority will work fine (won't be instable like sometimes WFQ queue has higher priority than SPQ queue or different SPQ queues do not have strict priority relation).

7. SNMP

7.1 SNMP Community

7.2 SNMP Target

7.3 SNMP Notify

7.1 SNMP Community

This option allows you to configure the SNMP community that is the group that VC-2402s and management stations running SNMP belong to. It helps define where information is sent. The community name is used to identify the group and serve as form of authentication. From the *SNMP* menu, click on *SNMP Community*. The following page is displayed.

SNMP Community Configuration

Previous Command Result: Normal.

Creation Area:

Index	Community Name	Access Mode
2	SnmpCommunityName2	read-only

Query Table

Query SNMP Community Index: page-1

Delete Modify

Index	Community Name	Access Mode	Select to Modify/Delete
1	public	read-write	<input type="checkbox"/> Modify/Delete

Table 0-1 SNMP Community Setup

Label	Description
Create	Once you have entered the community name, click on this button to create a new SNMP community.
Community Name	Type in the community name (1 ~ 31 characters).
Access Mode	Click on the drop-down list and select the access mode of this SNMP community. Options are: read-only, or read-write.
Select to Modify/Delete	Remember to click on the checkbox of the entry you want to modify or delete. Note that default community (index 1) cannot be deleted but can be modified.
Delete	Click on this button to delete a community.
Modify	Click on this button to apply the modification.

7.2 SNMP Target

This option allows you to configure the SNMP target to control where the SNMP traps (notifications) are sent. Traps are used to report an alarm or other asynchronous event about a managed VC-2402 system. From the *SNMP* menu, click on *SNMP Target*. The following page is displayed.

SNMP Target Configuration

Previous Command Result: **Success.**

Creation Area:

Index	IP	Target Name	Target Tag	Address Port	Trap Version
2	00.00.00.00	SnmpTargetName2	DDT	162	V1

Query Table
 Query SNMP Target Index: page-1

Index	IP	Target Name	Target Tag	Address Port	Trap Version	Select to Modify Target Tag	Select to Modify/Delete
1	192.168.1.1	TN1	DDT	162	V1	DDT	<input type="checkbox"/> Modify/Delete

Table 0-2 SNMP Target Creation

Label	Description
Index	This field shows the SNMP Target index in the table.
Create	Once you have entered all the parameter values, click on this button to create a new SNMP Target.
IP	Type in the IP address where the SNMP trap (notification) is sent.
Target Name	Type in the name of the SNMP target (1 ~ 31 characters).
Target Tag	Select the Target Tag, which is the same with one of the Notify Tags configured in the SNMP Notify page (refer to 0). When a Target Tag is the same with a Notify Tag, the SNMP notification with that Notify Tag is sent to the Target that has the same tag.
Address Port	Type in the Address Port (usually SNMP uses UDP port 161 for general SNMP messages and UDP port 162 for SNMP trap messages).
Trap Version	Select the SNMP Trap version. Currently V1 and V2c are supported.

7.3 SNMP Notify

This option allows you to setup the SNMP Notification (In SNMPv1, asynchronous event reports are called traps while they are called notifications in later versions of SNMP). From the *SNMP* menu, click on *SNMP Notify*. The following page is displayed.

SNMP Notify Configuration

Previous Command Result: Normal.

Creation Area:

Create

Index	Notify Name	Notify Tag
3	SnmpNotifyName3	SnmpNotifyTag3

Query Table

Query SNMP Notify Index: page-1 ▼

Delete

Modify

Index	Notify Name	Notify Tag	Select to Modify/Delete
1	SnmpNotifyName1	DDT	<input type="checkbox"/> Modify/Delete
2	SnmpNotifyName2	CS-1	<input type="checkbox"/> Modify/Delete

Table 0-3 SNMP Notify Creation

Label	Description
Index	This field shows the SNMP Notify index in the table.
Create	Once you have entered all the parameter values, click on this button to create a new SNMP Notify.
Notify Name	Type in the name of the SNMP Notify (1 ~ 31 characters). Once a Notify entry is created in the table, the Notify Name cannot be modified (you can only delete the entry).
Notify Tag	Type in the Notify Tag (1 ~ 31 characters). When a Target Tag (refer to 0) is the same with a Notify Tag, the SNMP notification with that Notify Tag is sent to the Target that has the same tag.

8. Maintenance

8.1 SYS Log Server

8.2 Database

8.3 Firmware Update

8.1 SYS Log Server

This option allows you to configure the IP address of the SYS Log server which listens for incoming Syslog messages. From the *Maintenance* menu, click on *SYS Log Server*. The following page is displayed.

System Log Server

Previous Command Result:Normal

<input type="button" value="Modify"/> <input type="button" value="Action"/> <input type="button" value="Stop"/>	
Current Server IP	192.168.1.1
Change Server Address	192 . 168 . 1 . 1
Log Size	16 KBytes

Table 0-1 SYS Log Server Setup

Label	Description
Current Server IP	This field shows the IP address of current Sys Log server.
Change Server Address	Type in the new IP address of Sys Log server. The server must be a remote host.
Log Size	Type in the maximum size of the log file for SysLog (16 ~ 1024 Kbytes).
Modify	To change SYS Log server setting, click on this button once you have typed in new parameter values.
Action	Click on this drop-down list and select Start to start sending the Syslog messages to the server or Stop to stop sending the Syslog messages to the server.

8.2 Database

This option allows you to import/export the configuration data. The configuration database of VC-2402 contains two kinds of database - inband database and general database. Inband database contains configuration for the inband channel and it is shared by two boot images (no matter which booting point you choose, the inband configuration keeps the same). General database contains other configuration. From the *Maintenance* menu, click on *Database*. The following page is displayed. Select the database configuration action you want to perform.

Database Configuration

Database Control Action:

[Select] ▼

FTP Server IP	<input type="text"/>
FTP Account	<input type="text"/>
FTP Password	<input type="password"/>
Filename	<input type="text"/>
Inband DB	<input type="text"/>
General DB	<input type="text"/>
Boot inband DB	2 2007/11/20 09:07:25 ▼
Boot general DB	15 2007/11/22 09:56:15 ▼
Set active inband DB	2 2007/11/20 09:07:25 ▼
Set active general DB	15 2007/11/22 09:56:15 ▼
Current Database Status	MEMORY WRITE SUCCESS

User Guide:

- (A) Save inband configuration and runtime configuration as the active restoration database for next power-on restoration.
- (B) Restore inband configuration and control plane configuration by setting another restoration database active.
- (C) Restore inband configuration and control plane configuration by setting another restoration database active and system restart.
- (D) Clear inband configuration and control plane configuration in the active restoration database. (Warn: runtime config. is also cleared and Inband config. is lost)
- (E) Clear inband configuration and control plane configuration in the active restoration database and system restart. (Warn: runtime config. is also cleared and Inband config. is lost)
- (F) Clear control plane configuration in the active restoration database. (runtime config. is also changed.)
- (g) Clear control plane configuration in the active restoration database and restart. (runtime config. is also changed.)
- (H) Export runtime configuration in cli command format to ftp server.

(A) Save runtime config. and set to new active DB:

This option allows you to save inband configuration and runtime configuration as the active restoration database for next power-on restoration. You can specify the configuration database name for saving or not. And you can specify the same or different name for inband DB and general DB.

Database Control Action:

(A) Save runtime config. and set to new active DB ▼

FTP Server IP	<input type="text"/>
FTP Account	<input type="text"/>
FTP Password	<input type="text"/>
Filename	<input type="text"/>
Inband DB	<input type="text" value="test1"/>
General DB	<input type="text" value="test2"/>
Boot inband DB	<input type="text" value="16 2008/01/15 03:13:56"/> ▼
Boot general DB	<input type="text" value="16 2008/01/14 05:12:46"/> ▼
Set active inband DB	<input type="text" value="16 2008/01/15 03:13:56"/> ▼
Set active general DB	<input type="text" value="16 2008/01/14 05:12:46"/> ▼
Current Database Status	MEMORY WRITE SUCCESS

After you click on Submit, the system starts to write runtime configuration to flash. The Current Database Status shows “Memory write in progress”. While configuration is saved successfully, Current Database Status will show “Memory write success”, and you will see the filename you save (if you have specified) appear in the *Set active inband DB/Set active general DB*.

Database Control Action:

[Select] ▼

FTP Server IP	<input type="text"/>
FTP Account	<input type="text"/>
FTP Password	<input type="text"/>
Filename	<input type="text"/>
Inband DB	test1 <input type="text"/>
General DB	test2 <input type="text"/>
Boot inband DB	1 2007/11/14 03:58:00 <input type="text"/>
Boot general DB	1 2007/08/16 05:45:59 <input type="text"/>
Set active inband DB	16 test1 <input type="text"/>
Set active general DB	16 test2 <input type="text"/>
Current Database Status	MEMORY WRITE SUCCESS

(B) Choose another DB/**(C) Choose another DB and restart**

These two options allow you to restore inband configuration and control plane configuration (other general configuration) by setting another restoration database active. Click on *Set active inband DB* and *Set active general DB* drop-down list to select the database you want to restore. There are up to 16 inband and general databases respectively for you to select. Click on **Submit** button. For action (C), a confirming dialog box will appear on screen; click Yes to continue. Current Database Status will show "Memory write in progress". For action (C), the system will restart once the memory write has finished.

Database Control Action:	
	(B)Choose another DB ▼
FTP Server IP	<input type="text"/>
FTP Account	<input type="text"/>
FTP Password	<input type="password"/>
Filename	<input type="text"/>
Inband DB	test1
General DB	test2
Boot inband DB	2 2007/11/20 09:07:25 ▼
Boot general DB	15 2007/11/22 09:56:15 ▼
Set active inband DB	2 2007/11/20 09:07:25 ▼
Set active general DB	15 2007/11/22 09:56:15 ▼
Current Database Status	MEMORY WRITE SUCCESS

(D) Clear active DB including inband/**(E) Clear active DB including inband and restart**

These two options allow you to clear inband configuration and control plane configuration (general configuration) in the active restoration database (Warn: runtime configuration is also cleared and inband configuration is lost). Click on Submit button. For action (E), confirming dialog box will appear on screen; click Yes to continue. For action (E), the system will restart and restore to factory default once the database has been cleared.

(F) Clear active DB excluding inband/**(G) Clear active DB excluding inband and restart**

These two options allow you to clear control plane configuration (general configuration) in the active restoration database (Warn: runtime configuration is also changed.). Click on Submit button. For action (G), a confirming dialog box will appear on screen; click Yes to continue. For action (G), the system will restart and restore to factory default once the database has been cleared.

(H) Export CLI command

This option allows you to export runtime configuration in CLI command format to ftp server. Type in the FTP server's IP address, FTP user name & password and specify the CLI command file name, then click on Submit button.

Database Configuration

Database Control Action:	
	(H)Export cli command
FTP Server IP	192.168.7.66
FTP Account	share
FTP Password	●●●●●●
Filename	config1
Inband DB	
General DB	
Boot inband DB	16 test1
Boot general DB	16 test2
Set active inband DB	16 test1
Set active general DB	16 test2
Current Database Status	MEMORY READ SUCCESS

Submit

Click on *Database* on the menu tree to refresh Current Database Status. While the CLI command file is exported successfully, the Current Database Status will show “**FTP Put Success**” (actually there will be two files config11 and config12 saved).

(I) Export binary DB

This option allows you to export runtime configuration in binary format to ftp server. Type in the FTP server's IP address, FTP user name & password and specify the binary DB file name, then click on Submit button.

Database Configuration

Database Control Action:

(I)Export binary DB ▼

FTP Server IP	192.168.7.66
FTP Account	share
FTP Password	●●●●●●
Filename	config2
Inband DB	
General DB	
Boot inband DB	16 CLI ▼
Boot general DB	16 CLI ▼
Set active inband DB	16 CLI ▼
Set active general DB	16 CLI ▼
Current Database Status	MEMORY WRITE SUCCESS

Submit

Click on *Database* on the menu tree to refresh Current Database Status. While the binary file is exported successfully, the Current Database Status will show “**FTP Put Success**” (actually there will be two files config21 and config22 saved).

(J) Import CLI command/**(K) Import CLI command and restart**

These two options allow you to import database in CLI command format from ftp server and set it to the active restoration database (Warning: system will restart for action (K)). Type in FTP server IP address, FTP user name & password, CLI command file name, and then click on Submit button. After the DB has been imported successfully, **you must wait several minutes for the system to restart** (for action (K)).

(L) Import binary DB/**(M) Import binary DB and restart**

These two options allow you to import database in binary format from ftp server and set it to the active restoration database (Warning: system will restart for action (M)). Type in FTP server IP address, FTP user name & password, binary DB file name, and then click on Submit button. After the DB has been imported successfully, **you must wait several minutes for the system to restart** (for action (M)).

Database Control Action:

(L) Import binary DB ▼

FTP Server IP	192.168.7.66
FTP Account	share
FTP Password	●●●●●●
Filename	config2
Inband DB	
General DB	
Boot inband DB	16 CLI ▼
Boot general DB	16 CLI ▼
Set active inband DB	16 CLI ▼
Set active general DB	16 CLI ▼
Current Database Status	FTP PUT SUCCESS

Submit

	Boot: "Yes" means the partition is used for current boot. Active: "Yes" means the partition is used for next boot. Description: This field shows current firmware version and updating date.
--	---

In the table, type in the FTP server IP address in the **Remote Server IP** field, FTP user name/ password in the **Server User Name/Server Password** field, and firmware file name in the **File Name** field. Then click on **FTP Get and Write Flash**. The following message will be displayed on screen:

Remote download starts.....

and then previous command result shows "Getting firmware image file...(in progress)!".

While FTP get firmware file successfully, the system start to write the firmware to flash. The previous command result shows "Writing firmware image...(in progress)!". The Flash Write process may take a few minutes; **you must not turn off or reset the system during the process.**

Once the Flash Write process completes successfully, the system will restart automatically (if you selected the **Reboot After RemoteDownload** checkbox). Wait for the system to restart, and login the web GUI again. Go to the *Firmware Update* page and check if the firmware update is successful. Now the booting firmware partition is the non-booting partition before the firmware update.

8.4 Boot Loader Update

This option allows you to ftp get the boot loader from a server and write to flash for updating the boot loader. From the *Maintenance* menu, click on *Boot Loader Update*. The following page is displayed.

Boot Loader Update

Previous Command Result: Normal.

FTP Get and Write Flash

☒ Reboot After RemoteDownload

Remote Server IP	<input style="width: 100%;" type="text" value=" . . . : 21"/>
Server User Name	<input style="width: 100%;" type="text"/>
Server Password	<input style="width: 100%;" type="text"/>
File Name	<input style="width: 100%;" type="text"/>

Warning:Upgrading boot loader may cause system crash

Table 0-3 Boot Loader Update

Label	Description
FTP Get and Write Flash	After you have entered the FTP server, user name & password, and boot loader file name, click on this button to start the boot loader update process.
Reboot After RemoteDownload	Select the checkbox to let system reboot automatically once the boot loader update is finished.
Remote Server IP	Type in the IP address of the FTP server.
Server User Name	Type in the FTP user name.
Server Password	Type in the FTP password.
File Name	Type in the boot loader filename (string length 1 ~ 64).

9. Fault Management

9.1 Alarm/Event

9.2 Alarm Profile

9.3 Hardware Temperature

9.1 Alarm/Event

This option allows you to query current alarm, history alarm, and event log. From the *Maintenance* menu, click on *Fault Management* and then *Alarm/Event*. The *Current Alarm* page is displayed. Click on the *Alarm/Event Select* drop-down list and select Current Alarm, History Alarm, or Event Log to view.

Current Alarm:

Type in the range of rows and then click on the **Query** button.

Current Alarm

Alarm/Event Select Current Alarm ▼ Row from To Query ACO

Row	ID	Description	Level	State	Sequential Number	Time
1	201	Gigabit Ethernet Loss of Signal:GBE 2	MN	Set	4	2007/08/21 07:17:09
2	105	FAN:Fan-Primary	MN	Set	1	2007/08/21 06:17:56

Table 0-1 Current Alarm Table

Label	Description
Row	This field shows the row number (1~65536).
ID	This field shows the alarm ID.
Description	This field shows the description for the alarm.
Level	This field shows the alarm level. Valid values are: MJ: major alarm. MN: minor alarm.
State	This field shows the alarm state: Set or Clear.
Sequential Number	The order number of the current alarm occurred.
Time	Alarm occurring date and time.
ACO	Click on this button to cut-off alarm.

History Alarm:

Type in the range of rows and then click on the **Query** button.

History Alarm

Alarm/Event Select History Alarm ▾ Row from To Query ACO Clear History

Row	ID	Description	Level	State	Sequential Number	Time
1	201	Gigabit Ethernet Loss of Signal:GBE 1	MN	Clear	16	2007/08/21 10:34:49
2	201	Gigabit Ethernet Loss of Signal:GBE 1	MN	Set	15	2007/08/21 10:34:45
3	604	XDSL Loss Of Link:XDSL-PHY:1	MN	Clear	14	2007/08/21 10:25:37
4	602	XDSL Loss Of Signal:XDSL-PHY:1	MN	Clear	13	2007/08/21 10:25:37
5	604	XDSL Loss Of Link:XDSL-PHY:1	MN	Set	12	2007/08/21 10:25:07
6	602	XDSL Loss Of Signal:XDSL-PHY:1	MN	Set	11	2007/08/21 10:25:07
7	201	Gigabit Ethernet Loss of Signal:GBE 1	MN	Clear	10	2007/08/21 07:42:36
8	201	Gigabit Ethernet Loss of Signal:GBE 1	MN	Set	9	2007/08/21 07:42:32
9	201	Gigabit Ethernet Loss of Signal:GBE 1	MN	Clear	8	2007/08/21 07:42:24
10	201	Gigabit Ethernet Loss of Signal:GBE 1	MN	Set	7	2007/08/21 07:33:49

Table 0-2 History Alarm Table

Label	Description
Query	Click on this button to query history alarms.
ACO	Click on this button to cut-off alarm.
Clear History	Click on this button to clear the alarm history table.
Row	This field shows the row number (1~256).
ID	This field shows the alarm ID.
Description	This field shows the description for the alarm.
Level	This field shows the alarm level. Valid values are: MJ: major alarm. MN: minor alarm.
State	This field shows the alarm state: Set or Clear.
Sequential Number	The order number of the history alarm occurred.
Time	Alarm occurring date and time.

Event Log:

Type in the range of rows and then click on the **Query** button.

Event Log

Alarm/Event Select Event Log Row from To Query ACO Clear Event

Row	Event Description	Sequential Number	Time
1	XDSL Loopback Set:XDSL-PHY:1	48	2007/08/22 06:54:27
2	vdsLineConfProfile Changed:profile_test	47	2007/08/22 03:18:58
3	vdsLineConfProfile Changed:profile_test	46	2007/08/22 03:16:11
4	vdsLineConfProfile Created:profile_test	45	2007/08/22 03:15:55
5	XDSL_DOWN_MIN_SNR_MGN:XDSL-PHY:1	44	2007/08/21 10:35:07
6	XDSL Port Link Up:XDSL-PHY:1	43	2007/08/21 10:30:12
7	XDSL Port Enabled:XDSL-PHY:1	42	2007/08/21 10:29:39
8	vdsLineConfProfile Deleted:VDSL_30a	41	2007/08/21 10:29:21
9	XDSL Port Binding Changed:XDSL-PHY:1	40	2007/08/21 10:29:21
10	XDSL Port Disabled:XDSL-PHY:1	39	2007/08/21 10:29:21

Table 0-3 Event Log

Label	Description
Row	This field shows the row number (1~256).
Event Description	This field shows the description for the event.
Sequential Number	The order number of the event occurred.
Time	Event occurring date and time.
ACO	Click on this button to cut-off alarm.
Clear Event	Click on this button to clear the event log.

9.2 Alarm Profile

This option allows you to view and update the alarm profiles. From the *Maintenance* menu, click on *Fault Management* and then *Alarm profile*. The *Alarm Profile* page is displayed. Click on the *Select Page* drop-down list and select a page to display.

To modify an alarm profile, click on the radio button next to the alarm ID, select the Level (Major/Minor), Mask/Unmask, and then click on the **Modify** button. You can also select the *ALL ID* checkbox to modify all alarm types at a time.

Alarm Profile

Previous Command Result: Normal

Select Page: ---Page 1 of 2---

Alarm ID: 101 SYS-HOUSEKEEP1 Level: MINOR Mask: ☐ ALL ID: ☐

ID	Type	Level	Mask	ID	Type	Level	Mask
<input type="radio"/> 101	Housekeep 1	MN	UnMask	<input type="radio"/> 102	Housekeep 2	MN	UnMask
<input type="radio"/> 103	Housekeep 3	MN	UnMask	<input type="radio"/> 104	Housekeep 4	MN	UnMask
<input type="radio"/> 105	Alarm not support	MN	UnMask	<input type="radio"/> 106	Self Test Fail	MN	UnMask
<input type="radio"/> 107	Above Temperature	MN	UnMask	<input type="radio"/> 108	Below Temperature	MN	UnMask
<input type="radio"/> 109	Product Identification Violation	MN	UnMask	<input type="radio"/> 201	Gigabit Ethernet Loss of Signal	MN	UnMask
<input type="radio"/> 301	Cluster Master Duplication	MN	UnMask	<input type="radio"/> 302	Cluster Master Out of Capacity	MN	UnMask
<input type="radio"/> 303	Cluster Host Unmanaged	MN	UnMask	<input type="radio"/> 601	XDSL Loss Of Framing	MN	UnMask
<input type="radio"/> 602	XDSL Loss Of Signal	MN	UnMask	<input type="radio"/> 603	XDSL Loss Of Margin	MN	UnMask
<input type="radio"/> 604	XDSL Loss Of Link	MN	UnMask	<input type="radio"/> 605	XDSL Init Failure	MN	UnMask
<input type="radio"/> 608	XDSL_ESE	MN	UnMask	<input type="radio"/> 609	XDSL_NCD_SLOW	MN	UnMask
<input type="radio"/> 610	XDSL_LCD_SLOW	MN	UnMask	<input type="radio"/> 611	XDSL_NCD_FAST	MN	UnMask
<input type="radio"/> 612	XDSL_LCD_FAST	MN	UnMask	<input type="radio"/> 613	XDSL FE Loss Of Framing	MN	UnMask

Select Page: ---Page 2 of 2---

Alarm ID: 101 SYS-HOUSEKEEP1 Level: MINOR Mask: ☐ ALL ID: ☐

ID	Type	Level	Mask	ID	Type	Level	Mask
<input type="radio"/> 614	XDSL FE Loss Of Signal	MN	UnMask	<input type="radio"/> 615	XDSL FE Loss Of Power Failure	MN	UnMask
<input type="radio"/> 616	XDSL FE Loss Of Margin	MN	UnMask	<input type="radio"/> 617	XDSL FE No Peer Vtu Present	MN	UnMask
<input type="radio"/> 618	XDSL_ESE_FE	MN	UnMask	<input type="radio"/> 619	XDSL_NCD_SLOW_FE	MN	UnMask
<input type="radio"/> 620	XDSL_LCD_SLOW_FE	MN	UnMask	<input type="radio"/> 621	XDSL_NCD_FAST_FE	MN	UnMask
<input type="radio"/> 622	XDSL_LCD_FAST_FE	MN	UnMask				

9.3 Hardware Temperature

This page allows you to:

- view current system temperature
- set several temperature and time thresholds (see description in the following table)

From the *Maintenance* menu, click on *Fault Management* and then *Hardware Temp*. The following page is displayed:

Hardware Temperature

Previous Command Result: Normal

<div> <div>Modify</div> <div>Query</div> <div>Default</div> </div>						
Current CPU °C	Current DSL °C	Up Shift TH °C	Up Shift Time (Sec)	Down Shift TH °C	Down Shift Time (Sec)	Fan ON TH °C
42	47	65	10	-40	10	-40

If current temperature **exceeds/descends** Up/Down Shift Threshold, Alarm Manager will declare that there is a **high/low**er temperature alarm after Up/Down ShiftTime seconds.

(If exceeded the Alarm Manager also turn Fan module on after "Fan shift Time")

Table 0-4 Temperature Configuration

Label	Description
Modify	Click on this button to apply the modification once you have entered all the new threshold values.
Query	Click on this button to query most recent status.
Default	Click on this button to set the parameters to default value.
Current CPU °C	This field shows the current CPU temperature.
Current DSL °C	This field shows the current DSL temperature.
Up Shift TH °C	The system will produce notification (alarm) when the monitored system temperature is higher than Up Shift TH (-55~85 °C) for over Up Shift Time (1~255 sec).
Up Shift Time (Sec)	Refer to the description for Up Shift TH.
Down Shift TH °C	The system will produce notification (alarm) when the monitored system temperature is lower than Down Shift TH (-55~85 °C) for over Down Shift Time (1~255 sec).
Down Shift Time (Sec)	Refer to the description for Down Shift TH.
Fan ON TH °C	FAN Enable temperature threshold (-40~15 °C). When the system temperature is higher than the threshold, the

	fan will be turned on automatically.
--	--------------------------------------

10. Performance Monitoring

10.1 Interface Counter

10.2 RMON

10.3 xDSL Day/Interval

10.1 Interface Counter

This option allows you to view the Ethernet performance statistics of the trunk or line bridge interface. From the *Performance Monitoring* menu, click on *Interface Counter*. Click on the leftmost drop-down list to select interface (GigaBit-1/GigaBit-2/LACP-3/Line); if Line interface is selected, you must further click on the middle and rightmost drop-down list to select the physical port number and PVC number (or select Packet Mode if the port is configured in packet mode). At last, click on **Query** to get data of that interface.

Interface Counter

GigaBit-1 Physical Port: Port-01 PVC-1 Query

Items	Value
Data Valid	Valid
User Port	1
MTU Size	1536bytes
Description	Giga Ethernet

Counter	Value	Output Counter	Value
Input Bytes	1080342	Output Bytes	0
Unicast PKTs	0	Unicast PKTs	0
Not Unicast PKTs	9837	Not Unicast PKTs	0
Discard PKTs	0	Discard PKTs	0
Error PKTs	0	Error PKTs	0
Multicast PKTs	4919	Multicast PKTs	0
Broadcast PKTs	4918	Broadcast PKTs	0
Unknown Protocols	0	Unknown Protocols	NA

Interface Counter

Trunk-1 Circuit-1 PVC-1

Items	Value
Data Valid	Valid
ifIndex	1
MTU Size	1536bytes
Description	Giga Ethernet

Counter	Value	Output Counter	Value
Input Bytes	1080342	Output Bytes	0
Unicast PKTs	0	Unicast PKTs	0
Not Unicast PKTs	9837	Not Unicast PKTs	0
Discard PKTs	0	Discard PKTs	0
Error PKTs	0	Error PKTs	0
Multicast PKTs	4919	Multicast PKTs	0
Broadcast PKTs	4918	Broadcast PKTs	0
Unknown Protocols	0	Unknown Protocols	NA

10.2 RMON

This option allows you to configure and query the RMON Statistics. The VC-2402 supports performance statistics defined in RMON MIB groups 1 (Ethernet statistics), 2 (history control), 3 (alarm), and 9 (event) per RFC 2819 for all network uplink ports. From the *Performance Monitoring* menu, click on *RMON*. The following page is displayed. Select type of RMON table in the drop-down list.

Remote Monitoring

Select Type

RMON Table	
(1)	RMON ETH Statistics
(2)	RMON History Control
(3)	RMON ETH History
(4)	RMON Alarm
(5)	RMON Event
(6)	RMON LOG

✧ ETH Statistics

This option is for displaying the Ethernet interface RMON data. Click on the *Data Source* drop-down list and select GBE1 or GBE2. Type in an owner name and then click on **New** button to create a new ETH statistics entry. An owner is the entity that configured this entry and is therefore using the resources assigned to it.

Remote Monitoring-ETH Statistics

Previous Command Result: **Success.**

Select Type

ETH Statistics ▼

Next:[3]

Data Source

GBE1 ▼

Owner

RMON3

NEW

Query

Modify

Delete

Index	1 <input type="checkbox"/>	2 <input type="checkbox"/>
Data Source	GBE1 ▼	GBE1 ▼
Owner	RMON1	RMON2
DropEvents	00000000	00000000
Octets	00152ad6	00152ad6
Pkts	000031bd	000031bd
BroadcastPkts	000018d7	000018d7
MulticastPkts	000018e6	000018e6
CRCAlignErrors	00000000	00000000
UndersizePkts	00000000	00000000
OversizePkts	00000000	00000000
Fragments	00000000	00000000
Jabbers	00000000	00000000
Collisions	00000000	00000000
Pkts64Octets	000018e6	000018e6
Pkts65to127Octets	00000000	00000000
Pkts128to255Octets	000018d7	000018d7
Pkts256to511Octets	00000000	00000000
Pkts512to1023Octets	00000000	00000000
Pkts1024to1518Octets	00000000	00000000

To modify an entry in this table, click on the index to select the entry, type in new value, and then click on **Modify**. To delete an entry, click on the index to select the entry and then click on **Delete**.

The following parameters are monitored in this table:

Table 0-1 RMON ETH Statistics variables

Variable	Description
DropEvents	Monitoring Rx dropped packets
Octets	Monitoring Rx bytes packets
Pkts	Monitoring Rx packets
BroadcastPkts	Monitoring Rx broadcast packets
MulticastPkts	Monitoring Rx multicast packets
CRCAlignErrors	Monitoring Rx error alignment packets
UndersizePkts	Monitoring Rx undersize packets
OversizePkts	Monitoring Rx oversize packets
Fragments	Monitoring Rx fragments packets
Jabbers	Monitoring Rx jabber packets
Collisions	Monitoring Tx single collision packets
Pkts64Octets	Monitoring Tx 64 octets
Pkts65to127Octets	Monitoring Tx 65 to 127 octets
Pkts128to255Octets	Monitoring Tx 128 to 255 octets
Pkts256to511Octets	Monitoring Tx 256 to 511 octets
Pkts512to1023Octets	Monitoring Tx 512 to 1023 octets
Pkts1024to1518Octets	Monitoring Tx 1024 to 1518 octets

✧ History Control

This table is for controlling the ETH History table (see next section). History Control 1 is for controlling ETH History table 1; History Control 2 is for controlling ETH History table 2; etc. Type in the Requested value and Interval (sec) and then click on **New** to create a History Control entry. Up to 10 History Control entries can be created. To modify an entry, click on the index to select the entry, type in new value, and then click on **Modify**. To delete an entry, click on the index to select the entry and then click on **Delete**.

Remote Monitoring-History Control

Previous Command Result: **Success.**

Select Type History Control

Next:[3] Data Source GBE1 Owner RMON3 Requested 96 Interval 1800 **NEW**

Modify **Delete** **Query**

Index	1 <input type="checkbox"/>	2 <input type="checkbox"/>
Data Source	GBE1	GBE1
Owner	RMON1	RMON2
Requested	10	3
Granted	10	3
Interval	1	1

Table 0-2 RMON History Control Table

Label	Description
Data Source	Data source identifies the source of the data for which historical data was collected and placed in a table on behalf of this HistoryControl entry. Here the source is GBE1 interface or GBE2 interface.
Owner	An owner is the entity that configured this entry and is therefore using the resources assigned to it.
Requested	Requested value is the requested number of intervals over which data is to be saved in the part of the media-specific table associated with this HistoryControl entry.
Interval	The interval in seconds over which the data is sampled for each bucket in the part of the media-specific table associated with this HistoryControl entry. The value range is 1 to 3600 (sec).

✧ ETH History

This option is for displaying Ethernet interface RMON history data. Before a history table is available, you have to create a History Control entry in advance (see previous section). To query the History table, click on the *History Index* drop-down list and select a history table and then click on **Query**.

Remote Monitoring-ETH History

Previous Command Result: **Success.**

Select Type ETH History
 History Index History1 Query

HistIndex	1	1	1	1	1	1	1
SampleIndex	31	32	33	37	38	39	30
IntervalStart	2345469	2345471	2345473	2345481	2345483	2345485	2345467
DropEvents	00000000	00000000	00000000	00000000	00000000	00000000	00000000
Octets	00168090	00168090	00168090	00168090	00168090	00168090	00168090
Pkts	000034e0	000034e0	000034e0	000034e0	000034e0	000034e0	000034e0
BroadcastPkts	00001a68	00001a68	00001a68	00001a68	00001a68	00001a68	00001a68
MulticastPkts	00001a78	00001a78	00001a78	00001a78	00001a78	00001a78	00001a78
CRCAlignErrors	00000000	00000000	00000000	00000000	00000000	00000000	00000000
UndersizePkts	00000000	00000000	00000000	00000000	00000000	00000000	00000000
OversizePkts	00000000	00000000	00000000	00000000	00000000	00000000	00000000
Fragments	00000000	00000000	00000000	00000000	00000000	00000000	00000000
Jabbers	00000000	00000000	00000000	00000000	00000000	00000000	00000000
Collisions	00000000	00000000	00000000	00000000	00000000	00000000	00000000
TxBytes	00000000	00000000	00000000	00000000	00000000	00000000	00000000
TxPackets	00000000	00000000	00000000	00000000	00000000	00000000	00000000
TxMulticast	00000000	00000000	00000000	00000000	00000000	00000000	00000000
TxBroadcast	00000000	00000000	00000000	00000000	00000000	00000000	00000000
Utilization	00000000	00000000	00000000	00000000	00000000	00000000	00000000

Table 0-3 RMON ETH History Table

Label	Description
HistIndex	This field shows the History Table index. The history identified by this index is the same history as identified by the same value of History Control index.
SampleIndex	The Sample index uniquely identifies the particular Sample among all samples associated with the same History Control entry.

IntervalStart	The value of System Up Time* at the start of the interval over which this sample was measured.
---------------	--

*System Up Time is the time since the network management portion of the system was last re-initialized.

Table 0-4 RMON ETH History variables

Variable	Description
DropEvents	Monitoring Rx dropped packets
Octets	Monitoring Rx bytes packets
Pkts	Monitoring Rx packets
BroadcastPkts	Monitoring Rx broadcast packets
MulticastPkts	Monitoring Rx multicast packets
CRCAlignErrors	Monitoring Rx error alignment packets
UndersizePkts	Monitoring Rx undersize packets
OversizePkts	Monitoring Rx oversize packets
Fragments	Monitoring Rx fragments packets
Jabbers	Monitoring Rx jabber packets
Collisions	Monitoring Tx single collision packets
TxBytes	Monitoring Tx bytes
TxPackets	Monitoring Tx packets
TxMulticast	Monitoring Tx multicast
TxBroadcast	Monitoring Tx broadcast
Utilization	Monitoring Tx Utilization

✧ Alarm

This option allows you to configure the RMON alarm setting. This table controls the conditions on which alarms occur. Click on **New** to create an entry. To modify an entry, click on the index to select the entry, type in new value, and then click on **Modify**. To delete an entry, click on the index to select the entry and then click on **Delete**.

Remote Monitoring-Alarm

Previous Command Result: **Success.**

Select Type Alarm

Next:[3] Interval 1800 Owner RMON3

OID DropEvents .1 SampleType ABSOLUTE StartupAlarm RISING

Rise Threshold 0 Rise Event Index 0 Fall Threshold 0 Fall Event Index 0 NEW

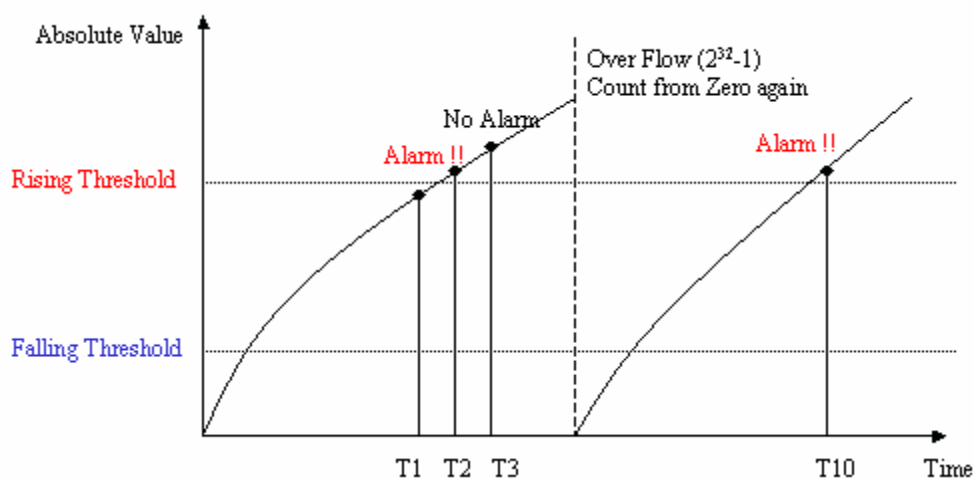
	Modify	Delete	Query
Index	1 <input type="checkbox"/>	2 <input type="checkbox"/>	
Interval	1800	1800	
Owner	RMON1	RMON2	
OID Variable	DropEvents 1	DropEvents 1	
SampleType	Sampling ABSOLUTE	Sampling ABSOLUTE	
StartupAlarm	Startup By RISING	Startup By FALLING	
Value	0	0	
RisingThreshold	0	0	
FallingThreshold	0	0	
RisingEventIndex	0	0	
FallingEventIndex	0	0	

Table 0-5 RMON Alarm setup

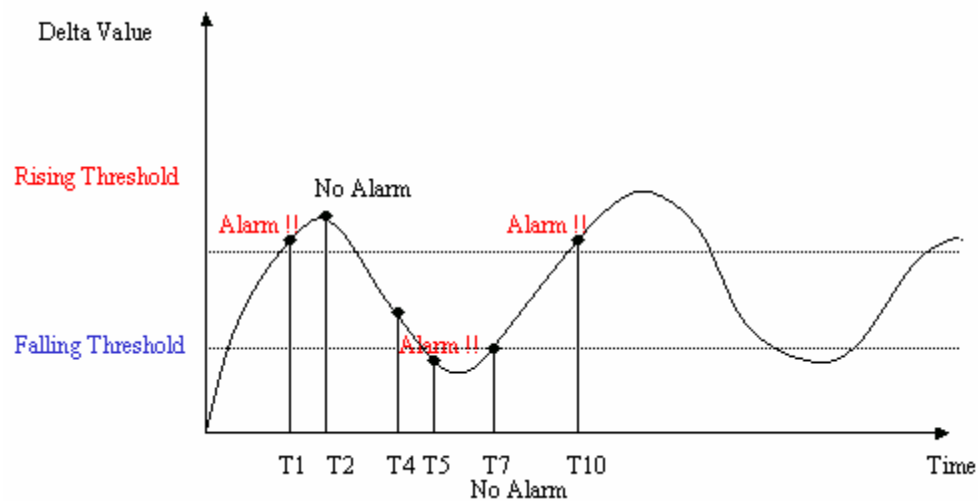
Label	Description
Interval	The interval in seconds over which the data is sampled and compared with the rising and falling thresholds. Value range: 0~2147483647 (0: disable).
Owner	RMON alarm owner (max 31 characters).
OID	Click on the drop-down list to select ETH statistics variable and index of ETH Statistics table entries.

SampleType	<p>RMON alarm sample type includes:</p> <p>ABSOLUTE: the value of the selected variable will be compared directly with the thresholds at the end of the sampling interval.</p> <p>DELTA: the value of the selected variable at the last sample will be subtracted from the current value, and the difference compared with the thresholds.</p>
StartupAlarm	<p>Set the alarm type that may be sent. Options are Startup by Rising, Startup by Falling, and Start up by Both.</p> <p>Rising or Both: If the first sample after this entry becomes valid is greater than or equal to the Rising Threshold, then a single rising alarm will be generated.</p> <p>Falling or Both: If the first sample after this entry becomes valid is less than or equal to the Falling Threshold, then a single falling alarm will be generated.</p>
Value	This field shows the value of the monitored data.
Rise Threshold	RMON alarm rising threshold (0~4294967295).
Rise Event Index	This index is used when a rising threshold is crossed. You must refer to the index of RMON Event table. If there is no corresponding entry in the Event table, then no association exists.
Fall Threshold	RMON alarm falling threshold (0~4294967295).
Fall Event Index	This index is used when a falling threshold is crossed. You must refer to the index of RMON Event table. If there is no corresponding entry in the Event table, then no association exists.

Following figure shows an example of RMON alarm for ABSOLUTE sample type. As shown in the figure, the counting value keeps increasing. But when the value overflows, the system will count from zero again. The sample in T2 is the first one crossing the Rising Threshold, so an alarm occurs. While no alarms will be generated afterwards unless the counting value overflows and count from zero again (the sample in T10 causes an alarm again).



Another figure shows the example of RMON alarm for DELTA sample type. As shown in the following figure, the delta value varies high and low. The sample in T1 is the first one crossing the Rising Threshold, so an alarm occurs. While no alarms will be generated afterwards until T5 sample which is crossing the Falling Threshold (note that the value of the previous sample, T4 sample, is greater than the Falling Threshold and the value of T5 sample). Alarm is not generated for T7 sample since an alarm is already generated for T5 sample and the curve is not in a downward trend around T7. A Rising Threshold crossing alarm is generated again for T10 sample, because a Falling Threshold crossing alarm (T5) has occurred after the previous Rising Threshold crossing alarm (T1).



✧ Event

This option allows you to configure the RMON event setting. Click on **New** to create an entry.

To modify an entry, click on the index to select the entry, type in new value, and then click on **Modify**. To delete an entry, click on the index to select the entry and then click on **Delete**.

Remote Monitoring-Event

Previous Command Result: **Success.**

Select Type

Event

Next:[4] Description

Description4

Community

Community4

Owner

RMON4

Event Type

NONE

NEW

Modify

Delete

Query

Index	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
Description	Description1	Description2	Description3
eventType	LOG	SNMPTRAP	LOGANDTRAP
Community	Community1	Community2	Community3
LastTimeSent	0	0	0
Owner	RMON1	RMON2	RMON3

Table 0-6 RMON Event setup

Label	Description
Description	Type in comment describing the event.
Community	If an SNMP trap is to be sent, it will be sent to the SNMP community specified in this column.
Owner	Type in the RMON event owner.
Event Type	Click on the drop-down list and select event type. Options are NONE, LOG (an entry is made in the log table for each event), SNMPTRAP (an SNMP trap is sent to one or more management stations), LOGANDTRAP (log and send trap).
LastTimeSent	The value of System Up Time at the time this event entry last generated an event.

✧ LOG

This option allows you to query the RMON LOG. Click on **Query** button to display the log. Only the event indices with LOG or LOGANDTRAP event type (see previous section) are possible to appear in the log.

Remote Monitoring-LOG

Select Type

LOG

Query

Index	EventIndex	Time Tick	Description
252	3	1220592	Description3
253	3	1220603	Description3
254	3	1220603	Description3
255	3	1220614	Description3
256	3	1220614	Description3
257	3	1220625	Description3
258	3	1220625	Description3

10.3 xDSL Day/Interval

10.3.1 Summary of Performance Statistics

This option allows you to query the Summary of VDSL Performance Statistics (accumulated value since power-on). From the *Performance Monitoring* menu, click on *xDSL Day/Interval* and then *Summary of performance Statistics*. The following page is displayed.

VDSL Performance Statistics

Physical Site: VTUC Refresh

Physical Port	Validity	Lof	Los	Loss	Lprs	ESs	SESS	UASs	Inits	CellPkts	RxHec	Fixed Octets (Fast)	Bad blks (Fast)	Fixed Octets (Slow)	Bad blks (Slow)
Port-1	Valid	0	0	0	NA	0	0	3905	0	0	0	0	0	0	0
Port-2	Invalid	0	0	0	NA	0	0	0	0	0	0	0	0	0	0
Port-3	Invalid	0	0	0	NA	0	0	0	0	0	0	0	0	0	0
Port-4	Invalid	0	0	0	NA	0	0	0	0	0	0	0	0	0	0
Port-5	Invalid	0	0	0	NA	0	0	0	0	0	0	0	0	0	0
Port-6	Invalid	0	0	0	NA	0	0	0	0	0	0	0	0	0	0
Port-7	Invalid	0	0	0	NA	0	0	0	0	0	0	0	0	0	0
Port-8	Invalid	0	0	0	NA	0	0	0	0	0	0	0	0	0	0
Port-9	Invalid	0	0	0	NA	0	0	0	0	0	0	0	0	0	0
Port-10	Invalid	0	0	0	NA	0	0	0	0	0	0	0	0	0	0

Table 0-7 VDSL Performance Statistics

Label	Description
Physical Port	This field shows the physical port number (1 ~ 24).
Validity	This field shows the validity of the PM data (Valid/Invalid).
LOF	Loss of Frame Count
LOS	Loss of Signal Failure Count
LOSS	Loss Of Signal seconds
LOPRS	Loss Of Power seconds (only for VTUR)
ESS	Errored Seconds
SESS	Severely Errored Seconds
UAS	Unavailable Seconds
Inits	Modem Failed Initialization events (only for VTUC)
CellPkts	Total Cell Count.
RxHec	ATM HEC violation count.
Fixed Octets(Fast)	Count of corrected octets for fast channel.
Bad blks(Fast)	Count of uncorrectable blocks for fast channel.
Fixed Octes(Slow)	Count of corrected octets for slow channel.
Bad blks(Slow)	Count of uncorrectable blocks for slow channel.

10.3.2 Interval Statistics

This option allows you to query the VDSL 15-Min PM Statistics. From the *Performance Monitoring* menu, click on *xDSL Day/Interval* and then *Interval Statistics*. The *VDSL Interval Statistics* page is displayed.

Click on the Physical Site drop-down lists to select the interval (current or previous 1 ~ 96) and physical site (VTUC or VTUR), then click on **Refresh** to get data.

VDSL Interval Statistics

Physical Site: <input type="text" value="Current"/> <input type="text" value="VTUC"/> <input type="button" value="Refresh"/>														
Physical Port	Validity	Lof	Los	Loss	Lprs	ESS	SESS	UASS	Inits	Fixed Octets (Fast)	Bad blks (Fast)	Fixed Octets (Slow)	Bad blks (Slow)	MonSecs
Port-1	Valid	0	0	0	NA	0	0	397	0	0	0	0	0	796
Port-2	Invalid	0	0	0	NA	0	0	0	0	0	0	0	0	0
Port-3	Invalid	0	0	0	NA	0	0	0	0	0	0	0	0	0
Port-4	Invalid	0	0	0	NA	0	0	0	0	0	0	0	0	0
Port-5	Invalid	0	0	0	NA	0	0	0	0	0	0	0	0	0
Port-6	Invalid	0	0	0	NA	0	0	0	0	0	0	0	0	0
Port-7	Invalid	0	0	0	NA	0	0	0	0	0	0	0	0	0
Port-8	Invalid	0	0	0	NA	0	0	0	0	0	0	0	0	0
Port-9	Invalid	0	0	0	NA	0	0	0	0	0	0	0	0	0
Port-10	Invalid	0	0	0	NA	0	0	0	0	0	0	0	0	0

Table 0-8 VDSL Interval PM Statistics

Label	Description
Physical Port	This field shows the physical port number (1 ~ 24).
Validity	This field shows the validity of the PM data (Valid/Invalid).
LOF	Loss of Frame Count
LOS	Loss of Signal Failure Count
LOSS	Loss Of Signal seconds
LOPRS	Loss Of Power seconds (only for VTUR)
ESS	Errored Seconds
SESS	Severely Errored Seconds
UAS	Unavailable Seconds
Inits	Modem Failed Initialization events (only for VTUC)
Fixed Octets(Fast)	Count of corrected octets for fast channel.
Bad blks(Fast)	Count of uncorrectable blocks for fast channel.
Fixed Octes(Slow)	Count of corrected octets for slow channel.
Bad blks(Slow)	Count of uncorrectable blocks for slow channel.
MonSecs	This field shows the time (in seconds) that has elapsed since the PM statistics calculation started.

10.3.3 Day Statistics

This option allows you to query the VDSL 1-Day PM Statistics. From the *Performance Monitoring* menu, click on *xDSL Day/Interval* and then *Day Statistics*. The *VDSL Day Statistics* page is displayed.

Click on the Physical Site drop-down lists to select the day (Today or previous 1 ~ 7) and physical site (VTUC or VTUR), then click on **Refresh** to get data.

VDSL Day Statistics

Physical Site: Today VTUC Refresh														
Physical Port	Validity	Lof	Los	Loss	Lprs	ESS	SESS	UASs	Inits	Fixed Octets (Fast)	Bad blks (Fast)	Fixed Octets (Slow)	Bad blks (Slow)	MonSecs
Port-1	Valid	0	0	0	NA	0	0	4056	0	0	0	0	0	7351
Port-2	Invalid	0	0	0	NA	0	0	0	0	0	0	0	0	0
Port-3	Invalid	0	0	0	NA	0	0	0	0	0	0	0	0	0
Port-4	Invalid	0	0	0	NA	0	0	0	0	0	0	0	0	0
Port-5	Invalid	0	0	0	NA	0	0	0	0	0	0	0	0	0
Port-6	Invalid	0	0	0	NA	0	0	0	0	0	0	0	0	0
Port-7	Invalid	0	0	0	NA	0	0	0	0	0	0	0	0	0
Port-8	Invalid	0	0	0	NA	0	0	0	0	0	0	0	0	0
Port-9	Invalid	0	0	0	NA	0	0	0	0	0	0	0	0	0
Port-10	Invalid	0	0	0	NA	0	0	0	0	0	0	0	0	0

Table 0-9 VDSL Day PM Statistics

Label	Description
Physical Port	This field shows the physical port number (1 ~ 24).
Validity	This field shows the validity of the PM data (Valid/Invalid).
LOFS	Loss Of Framing seconds
LOSS	Loss Of Signal seconds
LOPRS	Loss Of Power seconds (only for far end)
ESS	Errored Seconds
SESS	Severely Errored Seconds
UAS	Unavailable Seconds
Inits	Modem Failed Initialization events (only for Near End)
Fixed Octets(Fast)	Count of corrected octets for fast channel.
Bad blks(Fast)	Count of uncorrectable blocks for fast channel.
Fixed Octes(Slow)	Count of corrected octets for slow channel.
Bad blks(Slow)	Count of uncorrectable blocks for slow channel.
MonSecs	This field shows the time (in seconds) that has elapsed since the PM statistics calculation started.

11. Cluster

11.1 Cluster Config.

11.2 Cluster State

11.1 RMON

This option allows you to setup Cluster function, which can make a group of NEs (network elements) work together as a single NE from the management point of view. From the *Cluster*, click on *Cluster Config*. The following page is displayed:

Cluster Configuration

Previous Command Result: **Success.**

Cluster Configuration:

Items	Configuration	Modify
Management IP address	0.0.0.0	<input type="text" value="0"/> . <input type="text" value="0"/> . <input type="text" value="0"/> . <input type="text" value="0"/>
Management Netmask	0.0.0.0	<input type="text" value="0"/> . <input type="text" value="0"/> . <input type="text" value="0"/> . <input type="text" value="0"/>
Management Gateway	0.0.0.0	<input type="text" value="0"/> . <input type="text" value="0"/> . <input type="text" value="0"/> . <input type="text" value="0"/>
Cluster Interface Selection	GBE (In Band)	<input type="text" value="GBE (In Band)"/> ▼
Priority	0x0	0x <input type="text" value="0"/>
Name	dummy	<input type="text" value="dummy"/>
Domain	nodomain	<input type="text" value="nodomain"/>
Cluster Version	2.0.0.3	
Cluster Protocol	<input type="text" value="Disabled"/>	<input type="text" value="Disable"/> ▼
Configured Roles	<input type="text" value="Master/Slave"/>	<input type="text" value="Master or Slave"/> ▼

***Operators can only modify the local configuration.**

By default, the DSLAM is not in a cluster. The field Cluster Protocol shows "Disabled". Before you group a Master and a Slave IPDSLAM, some parameters need to be well configured:

1. Cluster domain name: The group name for a cluster. Must be the same on Master and Slave.
2. Cluster IP address: IP address to be used for remote management when Master and Slave are grouped together.
3. NE cluster name: A name to identify Master or Slave.
4. Set private IP address on in-band port for both Master and Slave IPDSLAM. The private IP is used for communication between Master and Slave. The management center actually uses Cluster IP address for remote management.

5. Master and Slave need to be configured with same management VLAN.
6. The default gateway should be configured to the router that is aware how to route management traffic to Management Center of the management network. The setting of Cluster default gateway should be the same between Master and Slave.

Table 0-1 Cluster Setup

Label	Description
Management IP address	Type in the cluster IP address. Users can connect to and manage the cluster via the cluster IP address through in-band connection.
Management Netmask	Type in the cluster's subnet mask.
Management Gateway	Type in the cluster's gateway IP address.
Cluster Interface Selection	Click on the drop-down list and select the connecting interface through which the DSLAMs are connected with each other in a cluster. Two kinds of interfaces are provided: GBE (in-band connection) and MGMT (out-band connection). This selection is available only when in Cluster Idle state (the DSLAM is not in a cluster).
Priority	Type in 0 or a positive integer as the priority to be Master. 0 means to let system decides Master and Slaves. If positive integer is typed in, the smaller the number is, the higher priority for the DSLAM to be a master in a cluster. But if there's already a Master in a cluster, a new added DSLAM cannot try to be the Master by entering a smaller voting key number; the Master cannot be changed in this way.
Name	Type in the NE name in the cluster (1 ~ 255 characters). Note that the name here is identical to the System Name set in the System Information page. If you modify the Name here, the System Name will also be changed accordingly.
Domain	Type in the name of the cluster domain.
Cluster Version	This field shows the Cluster protocol version. DSLAMs with different Cluster Version may fail to group as a cluster.
Cluster Protocol	Select to enable or disable cluster protocol.
Configured Roles	Valid options are: Master or Slave (Master or Slave is decided by the system), Slave Only (role for the DLSAM is always Slave).
Modify	Click on this button to apply the modification.

Currently a VC-2402 cluster can support up to 16 cluster members (NEs). The NEs in a cluster must all be in-band connected through the GBE port or out-band connected through the MGMT port. There are two possible network topologies for conducting a Clustering Management group: *Daisy chain* and *Star*.

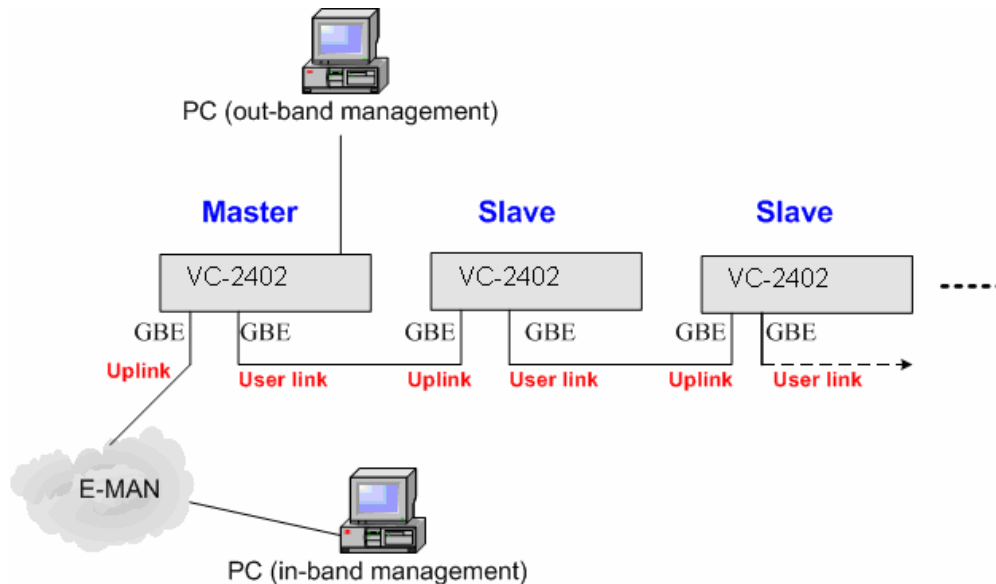


Figure 0-1 Cluster network topology – Daisy Chain

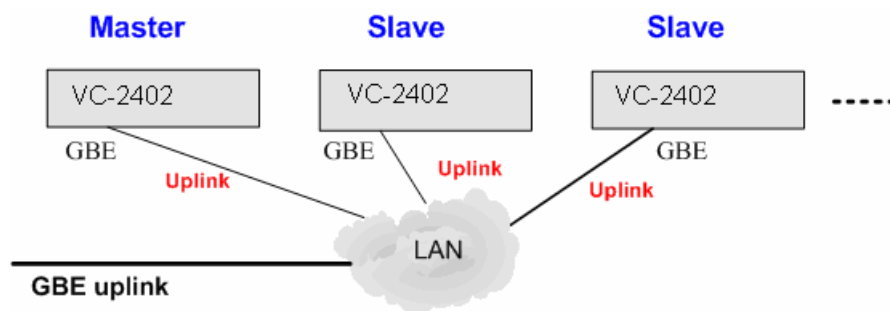


Figure 0-2 Cluster network topology – Star

For a cluster in Daisy Chain topology, each IP DSLAM must have one GBE port configured as Uplink and the other one configured as User link.

You can control all the IPDSLAMs in a cluster by connecting to the Cluster IP address, or by directly connecting to the Master IPDSLAM via its in-band or out-band IP address that is configured in the Board Setup page.

11.2 Cluster State

This option allows you to view the Cluster state. From the *Cluster*, click on *Cluster State*. The following page is displayed:

Cluster State

Cluster Status:

Cluster ID	1
Cluster State	CLUSTER_STATE_MASTER(7)
Cluster Failure State	CLUSTER_FAILURE_STATUS_NONE(0)
Member Count	1

Member Information:

ID	IP	Name
1	192.168.5.3	dummy

Table 0-2 Cluster State

Label	Description
Cluster ID	The ID of the NE in the Cluster
Cluster State	This field shows current state of the cluster. Possible states include: IDLE, REINIT, DISCOVERING, REQUESTING, VOTING, UNMANAGED, SLAVE, and MASTER.
Cluster Failure State	This field shows the failure condition when a failure occurs in the cluster. Possible failure states include: NONE, Master Duplication, Out of Capacity, and Name Duplication. Refer to Appendix A. Alarm Table for description of these failure conditions.
Member Count	This field shows the count of cluster members.

Appendix

<i>A. Alarm Table</i>	<i>179</i>
<i>B. Event Table</i>	<i>180</i>

A. Alarm Table

Table A-1 Alarm Table

Alarm ID	Alarm Name	Description
101	SYS_HOUSEKEEP1	House Keeping 1
102	SYS_HOUSEKEEP2	House Keeping 2
103	SYS_HOUSEKEEP3	House Keeping 3
104	SYS_HOUSEKEEP4	House Keeping 4
105	SYS_FAN	Fan Error
106	SYS_SELFTESTFAILED	Self Test Failed
107	SYS_ABOVETEMP	Temperature Above Threshold
108	SYS_BELOWTEMP	Temperature Below Threshold
109	SYS_PIV	Product Identification Violation
201	GBE_LOS	Gigabit Ethernet Loss of Signal
301	Cluster_MasterDuplication	Cluster has duplicate Master (two Masters exist)
302	Cluster_MasterOutOfCapacity	Cluster is out of capacity
303	Cluster_HostUnmanaged	Cluster node enter unmanaged state
601	XDSL_LOF	XDSL Loss Of Framing
602	XDSL_LOS	XDSL Loss Of Signal
603	XDSL_LOSQ	XDSL Loss Of Signal Quality
604	XDSL_LOL	XDSL Loss Of Link
605	XDSL_DATA_INIT_FAILURE	XDSL Data Init Failure
606	XDSL_CONFIG_INIT_FAILURE	XDSL Configuration Init Failure
607	XDSL_PROTOCOL_INIT_FAILURE	XDSL Protocol Init Failure
608	XDSL_ESE	XDSL Excessive Severely Errored Seconds
609	XDSL_NCD_SLOW	XDSL No Cell Delineation on the slow channel
610	XDSL_LCD_SLOW	XDSL Loss of Cell Delineation on the slow channel
611	XDSL_NCD_FAST	XDSL No Cell Delineation on the fast channel
612	XDSL_LCD_FAST	XDSL Loss of Cell Delineation on the fast channel
613	XDSL_LOF_FE	XDSL FE Loss Of Framing
614	XDSL_LOS_FE	XDSL FE Loss Of Signal
615	XDSL_LPR_FE	XDSL FE Loss Of Power Failure
616	XDSL_LOSQ_FE	XDSL FE Loss Of Signal Quality
617	XDSL_NO_PEER_VTU_PRESENT_F E	XDSL FE No Peer VTU Present
618	XDSL_ESE_FE	XDSL FE Excessive Severely Errored Seconds
621	XDSL_NCD_FAST_FE	XDSL FE No Cell Delineation on the fast channel
622	XDSL_LCD_FAST_FE	XDSL FE Loss of Cell Delineation on the fast channel

B. Event Table

Table B-1 Event Table

Event ID	Event Name	Description
1	SYSTEMRESTART	System Restart
2	SYSTEMDOWNLOADBEGIN	Download Begin
3	SYSTEMDOWNLOADSUCCESS	Download Success
4	SYSTEMDOWNLOADFAIL	Download Failed
5	SYSTEMPROVISIONDATAEXPORT	Provision Data Exported
6	SYSTEMPROVISIONDATAIMPORT	Provision Data Imported
7	SYSTEMPROVISIONDATASETDEFAULT	Provision Data Set To Default
9	SYSTEMALARMLOGCLEAR	Alarm Log Cleared
10	SYSTEMEVENTLOGCLEAR	Event Log Cleared
11	SYSTEMRTCDATETIMECHANGE	RTC date/time changed
12	SYSTEMSOFTWAREACOBUTTONSET	Software ACO Set
13	SYSTEMSOFTWAREACOBUTTONCLEAR	Software ACO Cleared
14	SYSTEMALARMLEVELMASKFLAGCHANGE	Alarm Profile changed
15	SYSTEMSNMPAUTHFAIL	SNMP Auth Failed
17	SYSTEMFTPRECEPTIONSTART	FTP Reception Started
18	SYSTEMFTPRECEPTIONCOMPLETE	FTP Reception Completed
19	SYSTEMFTPRECEPTIONINCOMPLETE	FTP Reception Incomplete
21	SYSTEMSNTPTIMEZONECHANGE	SNTP Time zone Changed
23	SYSTEMSNTPPROVISIONCHANGED	SNTP Provision Changed
25	SYSTEMDATABASESAVINGFAILED	Database Saving Failed
102	ATMCREATEVCL	ATM VCL Created
103	ATMMODIFYVCL	ATM VCL Modified
104	ATMDELETEVCL	ATM VCL Deleted
301	CLUSTER_INFO_CHANGED	Cluster Info Changed
501	XDSL_PORT_INFO_CHANGED	XDSL Port Info Changed
601	XDSL_PORT_BINDING_CHANGED	XDSL Port Binding Changed
602	XDSL_PORT_ENABLED	XDSL Port Enabled
603	XDSL_PORT_DISABLED	XDSL Port Disabled
604	XDSL_PORT_REENABLED	XDSL Port Re-enabled
605	XDSL_PORT_LINKUP	XDSL Port Link Up
606	XDSL_PORT_LINKDOWN	XDSL Port Link Down
607	XDSL_LINE_CONF_PROFILE_CREATE	XDSL Line Configuration Profile Created
608	XDSL_LINE_CONF_PROFILE_DELETE	XDSL Line Configuration Profile Deleted
609	XDSL_LINE_CONF_PROFILE_CHANGE	XDSL Line Configuration Profile Changed
610	XDSL_LINE_ALARM_CONF_PROFILE_	XDSL Line Alarm Configuration Profile Created

	CREATED	
611	XDSL_LINE_ALARM_CONF_PROFILE_DELETED	XDSL Line Alarm Configuration Profile Deleted
612	XDSL_LINE_ALARM_CONF_PROFILE_CHANGED	XDSL Line Alarm Configuration Profile Changed
613	XDSL_PORT_PROFILE_TRANSFER_FAILED	XDSL Port Profile Transfer Failed
614	ALMEVENT_XDSL_LOOPBACK_SET	XDSL Loopback Set
615	ALMEVENT_XDSL_DELT_SET	XDSL DELT Set
616	XDSL_DELT_DONE	XDSL DELT Done
651	XDSL_PERF_NE_ES	XDSL_PERF_NE_ES
652	XDSL_PERF_NE_SES	XDSL_PERF_NE_SES
653	XDSL_PERF_NE_UAS	XDSL_PERF_NE_UAS
654	XDSL_PERF_FE_ES	XDSL_PERF_FE_ES
655	XDSL_PERF_FE_SES	XDSL_PERF_FE_SES
656	XDSL_PERF_FE_UAS	XDSL_PERF_FE_UAS
657	XDSL_PERF_NE_DAY_ES	XDSL_PERF_NE_DAY_ES
658	XDSL_PERF_NE_DAY_SES	XDSL_PERF_NE_DAY_SES
659	XDSL_PERF_NE_DAY_UAS	XDSL_PERF_NE_DAY_UAS
660	XDSL_PERF_FE_DAY_ES	XDSL_PERF_FE_DAY_ES
661	XDSL_PERF_FE_DAY_SES	XDSL_PERF_FE_DAY_SES
662	XDSL_PERF_FE_DAY_UAS	XDSL_PERF_FE_DAY_UAS
663	XDSL_DOWN_MAX_SNR_MGN	XDSL_DOWN_MAX_SNR_MGN
664	XDSL_DOWN_MIN_SNR_MGN	XDSL_DOWN_MIN_SNR_MGN
665	XDSL_UP_MAX_SNR_MGN	XDSL_UP_MAX_SNR_MGN
666	XDSL_UP_MIN_SNR_MGN	XDSL_UP_MIN_SNR_MGN
667	XDSL_INIT_FAILURE_TRAP	XDSL_INIT_FAILURE_TRAP

CLI Command Reference

12. Operator Interface

12.1 Introduction

12.2 Connect Interface

12.3 Authorization Level

12.4 Screen Description

12.5 Execution Modes

12.6 Getting Help

12.7 Terminal Key Function

12.8 Notation Conventions

12.1 Introduction

Access to the Operations System (OS) /Network Element (NE) system is protected by a logon security system. You can log on to the NE with the user name and password. After three failed logon attempts, the system refuses further attempts.

After you log on, the system monitors the interface for periods of inactivity. If the interface is inactive for too long, you are automatically logged off.

All the NEs have the same initial user name (**admin**) and password (**admin**). You should change the password as soon as possible, because the initial password is known to anyone who reads this manual. You can also change the user name or add additional user names. Use the “account add” command to enter a new user identification, password and authorization level. The system can handle one local logon session and at least four remote/OS sessions.

12.2 Connect Interface

Interface	Parameter
Console	Baud rate: 9600, Data bit:8, Parity: None, Stop bit :1
Telnet	Port 23
SSH	Port 22 (In Windows, you can run terminal emulator such as PuTTY)

12.3 Authorization Level

Level	Description
Superuser	Superuser can access all management features.
Engineer	Engineer can access all management features except user account management.
Guest (default)	Read-only mode (Guest can only change his own password). Users of this level can query pages like PM and FM.

12.4 Screen Description

```
WDS login: admin
Password:
VC-2402 IPDSLAM v0.05 (2008/05/09 16:29:59)
Hardware Version      : D
CPLD Version         : B3
CLI Module Version    : 3.0.1.76
FWAPI Module Version  : 1.0.4.9
SNMP Module Version   : v4.6
SNTP Module Version   : 1.0
OAMP Module Version   : 3.0.1.76
VDSL MGR Module Version : 2.25
VDSL MGR EMU Module Version : 2.1.0.18
WEB Module Version    : 2.2-x
WDDI Module Version   : 2.4.3.10
WLS Module Version    : 3.2.3.10
localhost:>
bye          Quit CLI
!           Execution the specific number of command in history
exit        Exit current mode
list        List command
show        Show information
sleep       Sleep for the specified number of milli-seconds
enable      Enter enable mode
localhost:>
```

System Name and
Firmware Version

Commands and
Descriptions

Prompt Symbol

Figure 0-1 Screen Description

12.5 Execution Modes

The CLI contains several execution modes. Users will see different set of commands under different execution modes. Table 0-1 lists all the execution modes and their purposes. When users enter a certain execution mode, the corresponding mode prompt will be displayed automatically on the screen. The mode prompts of all the execution modes are also listed in Table 0-1.

Table 0-1 List of Execution Modes

Execute mode	Description	Prompt symbol
Initialize	Default execution mode	>
Enable	Management capable	%
Configure	Configuration capable	(conf)#
XDSL Interface Config	XDSL interface configuration capable	(xdsl-intf-conf)#
VDSL Interface Config	VDSL interface configuration capable	(vdsl-intf-conf)#
XDSL ATM Bridge Config	XDSL ATM-mode bridge port configuration capable	(xdsl-atm-bridge-conf)#
XDSL Packet Bridge Config	XDSL Packet-mode bridge port configuration capable	(xdsl-pos-bridge-conf)#
Gigabit Interface Config	Gigabit interface configuration capable	(gb-intf-conf)#
Gigabit Bridge Config	Gigabit bridge configuration capable	(gb-bridge-conf)#
Gigabit LA Interface Config	Gigabit LA interface configuration capable	(gb-la-intf-conf)#
Gigabit LA Bridge Config	Gigabit LA bridge configuration capable	(gb-la-bridge-conf)#
Access Control List	ACL configuration capable	(acl-conf)#
Traffic Descriptor Config	Traffic descriptor configuration capable	(traf-desc-conf)#
Priority List Config	Priority List configuration capable	(prio-conf)#
Alarm Profile Config	Alarm profile configuration capable	(alarm-profile-conf)#

12.6 Getting help

The user can get help by entering a question mark ‘?’ at each position in the command. The displayed result depends on the execution mode and previous input.

12.7 Terminal Key Function

Following is the list of all the terminal keys and their function.

Table 0-2 List of Terminal Keys

ENTER	Run a CLI config script
CTRL-M	
TAB	Tab completion.
CTRL-I	If tab is pressed after a non-whitespace character, complete the word before the Tab. If tab is pressed after a whitespace character, complete the next word.
?	Display available commands If ? is pressed after a non-whitespace character, show possible choices for this word. If ? is pressed after a whitespace character, show possible choices for the next word.
<Up Arrow>	Up history
CTRL-P	
<Down Arrow>	Down history
CTRL-N	
Home	Move the cursor to the beginning of the input line
CTRL-A	
End	Move the cursor to the end of the input line
CTRL-E	
<Left Arrow>	Move the cursor backward
CTRL-B	
<Right Arrow>	Move the cursor forward
CTRL-F	
<UP Arrow>	Display this help and exit
BACKSPACE	Erase the character before the cursor
CTRL-H	

12.8 Notation Conventions

The notation conventions for the parameter syntax of each CLI command are as follows:

- Parameters enclosed in [] are optional.
- Parameter values are separated by a vertical bar “|” only when one of the specified values can be used.
- Parameter values are enclosed in { } when you must use one of the values specified.

13. Commands Descriptions

13.1 Initialize Mode Commands

13.2 Enable Mode Commands

13.3 Configure Mode Commands

13.4 XDSL Interface Config Mode Commands

13.5 VDSL Interface Config Mode Commands

13.6 XDSL ATM Bridge Config Mode Commands

13.7 XDSL Packet Bridge Config Mode Commands

13.8 GBE Interface Config Mode Commands

13.9 GBE Bridge Config Mode Commands

13.10 GBE-LA Interface Config Mode Commands

13.11 GBE-LA Bridge Config Mode Commands

13.12 Access Control List Mode Commands

13.13 Traffic Descriptor Mode Commands

13.14 Priority List Mode Commands

13.15 Alarm Profile Config Mode Commands

13.1 Initialize Mode Commands

The commands in this section can be executed under all command modes. These commands are global commands.

13.1.1 bye

Description	Quit CLI
Syntax	bye
Parameter	None

13.1.2 enable

Description	Enter enable mode
Syntax	enable
Parameter	None

13.1.3 exit

Description	Exit current mode
Syntax	exit
Parameter	None

13.1.4 list alarm table

Description	List the alarm table
Syntax	list alarm table
Parameter	None

13.1.5 list command-tree

Description	List tree of all available CLI commands
Syntax	list command-tree
Parameter	None

13.1.6 list command-tree full

Description	List complete command tree
Syntax	list command-tree full
Parameter	None

13.1.7 list event table

Description	list event table
Syntax	list event table
Parameter	None

13.1.8 list execution-modes

Description	List all available execution modes
Syntax	list execution-modes
Parameter	None

13.1.9 list opmode

Description	List operation mode table
Syntax	list opmode
Parameter	None

13.1.10 list timezone

Description	List time zones
Syntax	list timezone
Parameter	None

13.1.11 show env

Description	Show CLI environment variables
Syntax	show env
Parameter	None

13.1.12 show history

Description	Show command history (<i>Note:</i> commands issued in one execution mode only appear in history of that execution mode)
Syntax	show history
Parameter	None

13.1.13 show time

Description	Show current time
Syntax	show time

Parameter	None
------------------	------

13.1.14 show uptime

Description	Show uptime
Syntax	show uptime
Parameter	None

13.1.15 show version

Description	Show version information
Syntax	show version
Parameter	None

13.1.16 sleep

Description	Sleep for the specified number of milli-seconds	
Syntax	sleep <time>	
Parameter		
	Name	Description
	<time>	Time to sleep Valid values: 1 ~ 0xFFFFFFFF ms Type: Mandatory

13.1.17 !

Description	Execute the specific number of command in history	
Syntax	! <number>	
	Name	Description
	<number>	History Number Valid values: 1 ~ 32 Type: Mandatory

13.2 Enable Mode Commands

All the “show - -” commands in this section can also be executed under any other command mode except Initialize Mode.

13.2.1 cluster target-id

Description	Configure target cluster member ID	
Syntax	cluster target-id <id>	
Parameter		
	Name	Description
	<id>	Cluster ID Valid Values: 1 ~ 20, 0: local Type: Mandatory

13.2.2 configure

Description	Enter configuration mode
Syntax	configure
Parameter	None

13.2.3 disable

Description	Enter init mode
Syntax	disable
Parameter	None

13.2.4 kick

Description	Kick off a logged-in user (only superuser can execute this command)	
Syntax	kick <index> {cli web}	
Parameter		
	Name	Description
	<index>	Login user index Valid values: 1 ~ 10 Type: Mandatory

13.2.5 ping

Description	send ICMP ECHO_REQUEST to network hosts
Syntax	ping <ip> ping <ip> count <count> ping <ip> count <count> size <size>

	ping <ip> size <size>	
Parameter		
	Name	Description
	<ip>	Destination IP address Valid values: - Type: Mandatory
	<count>	Stop after sending count ECHO_REQUEST packets Valid values: 1 ~ 0xFFFFFFFF, 0: default count Default value: 5 Type: Mandatory
	<size>	Specifies the number of data bytes to be sent Valid values: 1 ~ 65500 Type: Mandatory

13.2.6 show access-list arpbcst

Description	Show ARP broadcast list
Syntax	show access-list arpbcst
Parameter	None

13.2.7 show access-list bcrate

Description	Show broadcast rate-limiting list	
Syntax	show access-list bcrate show access-list bcrate <vlanid>	
Parameter		
	Name	Description
	<vlanid>	VLAN ID Valid values: 1 ~ 4094 Type: Mandatory

13.2.8 show access-list dstip

Description	Show Destination IP address list	
Syntax	show access-list dstip show access-list dstip <index>	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 200 Type: Mandatory

13.2.9 show access-list ipprotocol

Description	Show IP protocol list	
Syntax	show access-list ipprotocol show access-list ipprotocol <index>	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 200 Type: Mandatory

13.2.10 show access-list iwpolicer

Description	Show Rate Limit Profiles
Syntax	show access-list iwpolicer
Parameter	None

13.2.11 show access-list l4dstport

Description	Show L4 destination port list	
Syntax	show access-list l4dstport show access-list l4dstport <index>	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 200 Type: Mandatory

13.2.12 show access-list mcflrate

Description	Show Multicast rate-limiting list	
Syntax	show access-list mcflrate show access-list mcflrate <vlanid>	
Parameter		
	Name	Description
	<vlanid>	VLAN ID Valid values: 1 ~ 4094 Type: Mandatory

13.2.13 show access-list netbios

Description	Show NetBIOS list	
Syntax	show access-list netbios	
Parameter	None	

13.2.14 show access-list srcip

Description	Show Source IP address list	
Syntax	show access-list srcip show access-list srcip <index>	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 200 Type: Mandatory

13.2.15 show access-list srcmac

Description	Show Source MAC address list	
Syntax	show access-list srcmac show access-list srcmac <index>	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 200 Type: Mandatory

13.2.16 show account

Description	Show account list
Syntax	show account
Parameter	None

13.2.17 show aging

Description	Show bridge aging time
Syntax	show aging
Parameter	None

13.2.18 show alarm aco

Description	Show alarm cut-off status
Syntax	show alarm aco
Parameter	None

13.2.19 show alarm current

Description	Show current alarm list	
Syntax	show alarm current [<begin> [<end>]]	
Parameter		
	Name	Description
	<begin>	Begin Index Valid values: 1 ~ 65536 Type: Mandatory
	<end>	End Index Valid values: 1 ~ 65536 Type: Mandatory

13.2.20 show alarm event

Description	Show alarm event list	
Syntax	show alarm event [<begin> [<end>]]	
Parameter		
	Name	Description
	<begin>	Begin Index Valid values: 1 ~ 256 Type: Mandatory
	<end>	End Index Valid values: 1 ~ 256 Type: Mandatory

13.2.21 show alarm history

Description	Show alarm history	
Syntax	show alarm history [<begin> [<end>]]	
Parameter		
	Name	Description
	<begin>	Begin Index Valid values: 1 ~ 256 Type: Mandatory
	<end>	End Index Valid values: 1 ~ 256 Type: Mandatory

13.2.22 show bootloader

Description	Show bootloader information	
Syntax	show bootloader	
Parameter	None	

13.2.23 show clisettings

Description	Show CLI settings
Syntax	show clisettings
Parameter	None

13.2.24 show cluster

Description	Show cluster information
Syntax	show cluster
Parameter	None

13.2.25 show cpu

Description	Show CPU information
Syntax	show cpu
Parameter	None

13.2.26 show dhcp-clients

Description	Show DHCP Clients
Syntax	show dhcp-clients
Parameter	None

13.2.27 show dhcp-pppoe-global

Description	Show DHCP/PPPOE global parameters
Syntax	show dhcp-pppoe-global
Parameter	None

13.2.28 show dhcp-server-profile

Description	Show DHCP Server Profiles
Syntax	show dhcp-server-profile
Parameter	None

13.2.29 show dhcp-static-ip

Description	Show Static DHCP IP Mapping Table
Syntax	show dhcp-static-ip
Parameter	None

13.2.30 show trafdesc

Description	Show Ethernet Traffic Descriptor
Syntax	show trafdesc
Parameter	None

13.2.31 show fdb

Description	Show MAC learning table	
Syntax	show fdb show fdb vlan <vlanid>	
Parameter		
	Name	Description
	<vlanid>	VLAN ID Valid values: 1 ~ 4094 Type: Mandatory

13.2.32 show fdbstatic

Description	Show static MAC forwarding table	
Syntax	show fdbstatic show fdbstatic <index>	
Parameter		
	Name	Description
	<vlanid>	Index Valid values: 1 ~ 512 Type: Mandatory

13.2.33 show firmware partition

Description	Show firmware partition information
Syntax	show firmware partition
Parameter	None

13.2.34 show firmware status

Description	Show firmware update status
Syntax	show firmware status
Parameter	None

13.2.35 show http

Description	Show HTTP configuration
Syntax	show http
Parameter	None

13.2.36 show igmp

Description	Show IGMP information
Syntax	show igmp
Parameter	None

13.2.37 show igmp acl

Description	Show IGMP ACL profile	
Syntax	show igmp acl show igmp acl <index>	
Parameter		
	Name	Description
	<vlanid>	Index Valid values: 1 ~ 24 Type: Mandatory

13.2.38 show igmp group

Description	Show IGMP VLAN groups list	
Syntax	show igmp group show igmp group <ip> <vlanid>	
Parameter		
	Name	Description
	<ip>	IGMP group IP address Valid values: - Type: Mandatory
	<vlanid>	VLAN ID Valid values: 1 ~ 4094 Type: Mandatory

13.2.39 show igmp group_src

Description	Show IGMP source information	
Syntax	show igmp group <ip> <vlanid> src show igmp group <ip> <vlanid> src <srcip>	
Parameter		

	Name	Description
	<ip>	IGMP group IP address Valid values: - Type: Mandatory
	<vlanid>	VLAN ID Valid values: 1 ~ 4094 Type: Mandatory
	<srcip>	Source IP address Valid values: - Type: Mandatory

13.2.40 show igmp rtport

Description	Show IGMP router port setting	
Syntax	show igmp rtport show igmp rtport <vlanid>	
Parameter		
	Name	Description
	<vlanid>	VLAN ID Valid values: 1 ~ 4094 Type: Mandatory

13.2.41 show interface bridge

Description	Show bridge information
Syntax	show interface bridge
Parameter	None

13.2.42 show interface counter

Description	Show Ethernet packet counter
Syntax	show interface counter
Parameter	None

13.2.43 show interface gigabit <portNo> bridge

Description	Show bridge information	
Syntax	show interface gigabit <portNo> bridge	
Parameter		
	Name	Description
	<portNo>	Port number Valid values: 1 ~ 2 Type: Mandatory

13.2.44 show interface gigabit <portNo> counter

Description	Show Gigabit Ethernet counter	
Syntax	show interface gigabit <portNo> counter	
Parameter		
	Name	Description
	<portNo>	Port number Valid values: 1 ~ 2 Type: Mandatory

13.2.45 show interface gigabit <portNo> stp

Description	Show STP information	
Syntax	show interface gigabit <portNo> stp	
Parameter		
	Name	Description
	<portNo>	Port number Valid values: 1 ~ 2 Type: Mandatory

13.2.46 show interface gigabit <portNo> vlan

Description	Show VLAN information	
Syntax	show interface gigabit <portNo> vlan	
Parameter		
	Name	Description
	<portNo>	Port number Valid values: 1 ~ 2 Type: Mandatory

13.2.47 show interface gigabit bridge

Description	Show bridge information	
Syntax	show interface gigabit bridge	
Parameter	None	

13.2.48 show interface gigabit counter

Description	Show Gigabit Ethernet counter	
Syntax	show interface gigabit counter	
Parameter	None	

13.2.49 show interface gigabit la bridge

Description	Show bridge information
Syntax	show interface gigabit la bridge
Parameter	None

13.2.50 show interface gigabit la counter

Description	Show Gigabit LA Ethernet counter
Syntax	show interface gigabit la counter
Parameter	None

13.2.51 show interface gigabit la lacp

Description	Show aggregator port information (this command is available when LACP mode is enabled)
Syntax	show interface gigabit la lacp
Parameter	None

13.2.52 show interface gigabit la vlan

Description	Show VLAN information
Syntax	show interface gigabit la vlan
Parameter	None

13.2.53 show interface gigabit stp

Description	Show STP information
Syntax	show interface gigabit stp
Parameter	None

13.2.54 show interface gigabit vlan

Description	Show VLAN information
Syntax	show interface gigabit vlan
Parameter	None

13.2.55 show interface vc

Description	Show virtual circuits
Syntax	show interface vc

Parameter	None
------------------	------

13.2.56 show interface xdsl <portNo> bridge

Description	Display Bridge information	
Syntax	show interface xdsl <portNo> bridge	
Parameter		
	Name	Description
	<portNo>	XDSL Port number Valid values: 1 ~ 24 Type: Mandatory

13.2.57 show interface xdsl <portNo> counter

Description	Display Ethernet packet counter	
Syntax	show interface xdsl <portNo> counter	
Parameter		
	Name	Description
	<portNo>	XDSL Port number Valid values: 1 ~ 24 Type: Mandatory

13.2.58 show interface xdsl <portNo> vc

Description	Display virtual circuits	
Syntax	show interface xdsl <portNo> vc	
Parameter		
	Name	Description
	<portNo>	XDSL Port number Valid values: 1 ~ 24 Type: Mandatory

13.2.59 show interface xdsl <portNo> vlan

Description	Display VLAN information	
Syntax	show interface xdsl <portNo> vlan	
Parameter		
	Name	Description
	<portNo>	XDSL Port number Valid values: 1 ~ 24 Type: Mandatory

13.2.60 show interface xdsl bridge

Description	Show bridge information
Syntax	show interface xdsl bridge
Parameter	None

13.2.61 show interface xdsl counter

Description	Show XDSL Ethernet counter
Syntax	show interface xdsl counter
Parameter	None

13.2.62 show interface xdsl line information

Description	Show XDSL line information	
Syntax	show interface xdsl line information <portNo>	
Parameter		
	Name	Description
	<portNo>	XDSL Port number Valid values: 1 ~ 24, 0:all xdsl ports Type: Mandatory

13.2.63 show interface xdsl vc

Description	Show virtual circuits
Syntax	show interface xdsl vc
Parameter	None

13.2.64 show interface xdsl vdsl chan

Description	Show VDSL Channel Table	
Syntax	show interface xdsl vdsl chan <portNo> <vdslPhysSide> <vdslChannelType>	
Parameter		
	Name	Description
	<portNo>	vdsl Port number Valid values: 1 ~ 24, 0:all xdsl ports Type: Mandatory
	<vdslPhysSide>	vdslPhysSide Valid values: 1 : VTU-C, 2 : VTU-R, 0: display all

	<vdslChannelType>	vdslChannelType Valid values: 124: interleave, 125: fast, 0: display all

13.2.65 show interface xdsl vdsl chanperf

Description	Show VDSL Channel Performance Table	
Syntax	show interface xdsl vdsl chanperf <portNo> <vdslPhysSide> <vdslChannelType>	
Parameter		
	Name	Description
	<portNo>	VDSL Port number Valid values: 1 ~ 24, 0:all xdsl ports Type: Mandatory
	<vdslPhysSide>	VDSL physical side Valid values: 1 : VTU-C, 2 : VTU-R, 0: display all Type: Mandatory
	<vdslChannelType>	VDSL Channel Type Valid values: 124: interleave, 125: fast, 0: display all Type: Mandatory

13.2.66 show interface xdsl vdsl chanperf15min

Description	Show VDSL Channel Performance 15-min Interval Table	
Syntax	show interface xdsl vdsl chanperf15min <portNo> <vdslPhysSide> <vdslChannelType> <interval>	
Parameter		
	Name	Description
	<portNo>	VDSL Port number Valid values: 1 ~ 24, 0:all xdsl ports Type: Mandatory
	<vdslPhysSide>	VDSL Physical Side Valid values: 1 : VTU-C, 2 : VTU-R, 0: display all Type: Mandatory
	<vdslChannelType>	VDSL Channel Type Valid values: 124: interleave, 125: fast, 0: display all Type: Mandatory
	<interval>	Interval number Valid values: 1 ~ 96 Type: Mandatory

13.2.67 show interface xdsl vdsl chanperf1day

Description	Show VDSL Channel Performance 1-Day Interval Table	
Syntax	show interface xdsl vdsl chanperf1day <portNo> <vdslPhysSide> <vdslChannelType> <interval>	
Parameter		
	Name	Description
	<portNo>	VDSL Port number Valid values: 1 ~ 24, 0:all xdsl ports Type: Mandatory
	<vdslPhysSide>	VDSL Physical Side Valid values: 1 : VTU-C, 2 : VTU-R, 0: display all Type: Mandatory
	<vdslChannelType>	VDSL Channel Type Valid values: 124: interleave, 125: fast, 0: display all Type: Mandatory
	<interval>	Interval number Valid values: 1 ~ 7 Type: Mandatory

13.2.68 show interface xdsl vdsl config

Description	Show VDSL port configuration	
Syntax	show interface xdsl vdsl config <portNo>	
Parameter		
	Name	Description
	<portNo>	VDSL Port number Valid values: 1 ~ 24, 0:all xdsl ports Type: Mandatory

13.2.69 show interface xdsl vdsl currentStatus

Description	Show VDSL current status	
Syntax	show interface xdsl vdsl currentStatus <portNo> <vdslPhysSide>	
Parameter		
	Name	Description
	<portNo>	VDSL Port number Valid values: 1 ~ 24, 0: display all Type: Mandatory
	<vdslPhysSide>	VDSL Physical Side Valid values: 1 : VTU-C, 2 : VTU-R, 0: display all Type: Mandatory

13.2.70 show interface xdsl vdsl delt bandparams

Description	Show DELT parameters of VDSL ports	
Syntax	show interface xdsl vdsl delt bandparams <portNo>	

Parameter		
	Name	Description
	<portNo>	VDSL Port number Valid values: 1 ~ 24, 0: display all Type: Mandatory

13.2.71 show interface xdsl vdsl delt hlin

Description	Show DELT data (Hlin) of VDSL ports	
Syntax	show interface xdsl vdsl delt hlin <portNo> <index>	
Parameter		
	Name	Description
	<portNo>	VDSL Port number Valid values: 1 ~ 24, 0: display all Type: Mandatory
	<index>	Carrier Group Index Valid values: 0 ~ 7 Type: Mandatory

13.2.72 show interface xdsl vdsl delt hlinscale

Description	Show DELT data (HlinScale) of VDSL ports	
Syntax	show interface xdsl vdsl delt hlinscale <portNo> <index>	
Parameter		
	Name	Description
	<portNo>	VDSL Port number Valid values: 1 ~ 24, 0: display all Type: Mandatory
	<index>	Carrier Group Index Valid values: 0 ~ 7 Type: Mandatory

13.2.73 show interface xdsl vdsl delt hlog

Description	Show DELT data (Hlog) of VDSL ports	
Syntax	show interface xdsl vdsl delt hlog <portNo> <index>	
Parameter		
	Name	Description
	<portNo>	VDSL Port number Valid values: 1 ~ 24, 0: display all Type: Mandatory
	<index>	Carrier Group Index Valid values: 0 ~ 7 Type: Mandatory

13.2.74 show interface xdsl vdsl delt params

Description	Show DELT parameters of VDSL ports	
Syntax	show interface xdsl vdsl delt params <portNo>	
Parameter		
	Name	Description
	<portNo>	VDSL Port number Valid values: 1 ~ 24, 0: display all Type: Mandatory

13.2.75 show interface xdsl vdsl delt qln

Description	Show DELT data (Qln) of VDSL ports	
Syntax	show interface xdsl vdsl delt qln <portNo> <index>	
Parameter		
	Name	Description
	<portNo>	VDSL Port number Valid values: 1 ~ 24, 0: display all Type: Mandatory
	<index>	Carrier Group Index Valid values: 0 ~ 7 Type: Mandatory

13.2.76 show interface xdsl vdsl delt snr

Description	Show DELT data (Snr) of VDSL ports	
Syntax	show interface xdsl vdsl delt snr <portNo> <index>	
Parameter		
	Name	Description
	<portNo>	VDSL Port number Valid values: 1 ~ 24, 0: display all Type: Mandatory
	<index>	Carrier Group Index Valid values: 0 ~ 7 Type: Mandatory

13.2.77 show interface xdsl vdsl delt state

Description	Show DELT state of VDSL ports	
Syntax	show interface xdsl vdsl delt state <portNo>	
Parameter		
	Name	Description
	<portNo>	VDSL Port number Valid values: 1 ~ 24, 0: display all Type: Mandatory

13.2.78 show interface xdsl vdsl inv

Description	Show VDSL inventory	
Syntax	show interface xdsl vdsl inv <portNo> <vdslPhysSide>	
Parameter		
	Name	Description
	<portNo>	VDSL Port number Valid values: 1 ~ 24, 0: display all Type: Mandatory
	<vdslPhysSide>	VDSL Physical Side Valid values: 1 : VTU-C, 2 : VTU-R, 0: display all Type: Mandatory

13.2.79 show interface xdsl vdsl line

Description	Show VDSL line table	
Syntax	show interface xdsl vdsl line <portNo>	
Parameter		
	Name	Description
	<portNo>	VDSL Port number Valid values: 1 ~ 24, 0: display all Type: Mandatory

13.2.80 show interface xdsl vdsl linealarmconfprofile

Description	Show VDSL line alarm configuration profile table	
Syntax	show interface xdsl vdsl linealarmconfprofile [<vdslLineAlarmConfProfileName>]	
Parameter		
	Name	Description
	<vdslLineAlarmConfProfileName>	Profile Name Valid values: 1 ~ 32 characters Type: Optional

13.2.81 show interface xdsl vdsl lineconfprofile

Description	Show VDSL line configuration profile table	
Syntax	show interface xdsl vdsl lineconfprofile [<vdslLineConfProfileName>]	
Parameter		
	Name	Description
	<vdslLineConfProfileName>	Profile Name Valid values: 1 ~ 32 characters Type: Optional

13.2.82 show interface xdsl vdsl loopback

Description	Show loopback state of VDSL ports	
Syntax	show interface xdsl vdsl loopback <portNo>	
Parameter		
	Name	Description
	<portNo>	VDSL Port number Valid values: 1 ~ 24, 0: display all Type: Mandatory

13.2.83 show interface xdsl vdsl perf

Description	Show VDSL performance data table	
Syntax	show interface xdsl vdsl perf <portNo> <vdslPhysSide>	
Parameter		
	Name	Description
	<portNo>	VDSL Port number Valid values: 1 ~ 24, 0: display all Type: Mandatory
	<vdslPhysSide>	VDSL Physical Side Valid values: 1 : VTU-C, 2 : VTU-R, 0: display all Type: Mandatory

13.2.84 show interface xdsl vdsl perf15min

Description	Show VDSL performance interval table	
Syntax	show interface xdsl vdsl perf15min <portNo> <vdslPhysSide> <interval>	
Parameter		
	Name	Description
	<portNo>	VDSL Port number Valid values: 1 ~ 24, 0: display all Type: Mandatory
	<vdslPhysSide>	VDSL Physical Side Valid values: 1 : VTU-C, 2 : VTU-R, 0: display all Type: Mandatory
	<interval>	Interval number Valid values: 1 ~ 96 Type: Mandatory

13.2.85 show interface xdsl vdsl perf1day

Description	Show VDSL performance 1-day interval table	
Syntax	show interface xdsl vdsl perf1day <portNo> <vdslPhysSide> <interval>	
Parameter		
	Name	Description

	<portNo>	VDSL Port number Valid values: 1 ~ 24, 0: display all Type: Mandatory
	<vdslPhysSide>	VDSL Physical Side Valid values: 1 : VTU-C, 2 : VTU-R, 0: display all Type: Mandatory
	<interval>	Interval number Valid values: 1 ~ 7 Type: Mandatory

13.2.86 show interface xdsl vdsl phys

Description	Show VDSL physical table	
Syntax	show interface xdsl vdsl phys <portNo> <vdslPhysSide>	
Parameter		
	Name	Description
	<portNo>	VDSL Port number Valid values: 1 ~ 24, 0: display all Type: Mandatory
	<vdslPhysSide>	VDSL Physical Side Valid values: 1 : VTU-C, 2 : VTU-R, 0: display all Type: Mandatory

13.2.87 show interface xdsl vlan

Description	Show VLAN information
Syntax	show interface xdsl vlan
Parameter	None

13.2.88 show lacp

Description	Show LACP information (this command is available when LACP mode is enabled)
Syntax	show lacp
Parameter	None

13.2.89 show login-users

Description	Show logged-in users
Syntax	show login-users
Parameter	None

13.2.90 show management

Description	Show management channel settings
Syntax	show management
Parameter	None

13.2.91 show outband-route

Description	Show routing table for the outband channel
Syntax	show outband-route
Parameter	None

13.2.92 show priority-list ds

Description	Show Differentiate Service list	
Syntax	show priority-list ds [<index>]	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 256 Type: Optional

13.2.93 show priority-list dstip

Description	Display Destination IP address list	
Syntax	show priority-list dstip [<index>]	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 256 Type: Optional

13.2.94 show priority-list dstmac

Description	Display Destination MAC address list	
Syntax	show priority-list dstmac [<index>]	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 256 Type: Optional

13.2.95 show priority-list srcip

Description	Display Source IP address list
--------------------	--------------------------------

Syntax	show priority-list srcip [<index>]	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 256 Type: Optional

13.2.96 show priority-list srcmac

Description	Display Source MAC address list	
Syntax	show priority-list srcmac [<index>]	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 256 Type: Optional

13.2.97 show priority-list tos

Description	Display TOS (IP Precedence) list	
Syntax	show priority-list tos [<index>]	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 256 Type: Optional

13.2.98 show priority-list vlanid

Description	Display VLAN ID list	
Syntax	show priority-list vlanid [<index>]	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 256 Type: Optional

13.2.99 show profile alarm

Description	Display alarm profile list	
Syntax	show profile alarm [<alarmid>]	
Parameter		
	Name	Description
	<alarmid>	Alarm ID

		Valid values: enter command “13.1.4 list alarm table” to look up alarm ID Type: Optional
--	--	---

13.2.100 show protocol-vlan

Description	Show protocol-based VLAN
Syntax	show protocol-vlan
Parameter	None

13.2.101 show rmon alarm

Description	Show RMON alarm information	
Syntax	show rmon alarm <index> show rmon alarm all	
Parameter		
	Name	Description
	<index>	Rmon alarm entry index Valid values: 1 ~ 64 Type: Mandatory

13.2.102 show rmon ether_history

Description	Show RMON ether history information	
Syntax	show rmon ether_history <index>	
Parameter		
	Name	Description
	<index>	Rmon index Valid values: 1 ~ 10 Type: Mandatory

13.2.103 show rmon event

Description	Show RMON event information	
Syntax	show rmon event <index> show rmon event all	
Parameter		
	Name	Description
	<index>	Rmon event entry index Valid values: 1 ~ 128 Type: Mandatory

13.2.104 show rmon history

Description	Show RMON history control information	
Syntax	show rmon history <index> show rmon history all	
Parameter		
	Name	Description
	<index>	Rmon history control entry index Valid values: 1 ~ 10 Type: Mandatory

13.2.105 show rmon log

Description	Show RMON log
Syntax	show rmon log
Parameter	None

13.2.106 show rmon statistic

Description	Show RMON statistic information	
Syntax	show rmon statistic <index> show rmon statistic all	
Parameter		
	Name	Description
	<index>	Rmon statistic entry index Valid values: 1 ~ 10 Type: Mandatory

13.2.107 show route

Description	Show route table for in-band channel
Syntax	show route
Parameter	None

13.2.108 show runningcfg

Description	Show running configuration (only superuser can execute this command)
Syntax	show runningcfg
Parameter	None

13.2.109 show runningcfg backup

Description	Show running configuration backup
Syntax	show runningcfg backup
Parameter	None

13.2.110 show snmp community

Description	Show SNMP community
Syntax	show snmp community
Parameter	None

13.2.111 show snmp notify

Description	Show SNMP notify
Syntax	show snmp notify
Parameter	None

13.2.112 show snmp target

Description	Show SNMP target
Syntax	show snmp target
Parameter	None

13.2.113 show snmp

Description	Show SNMP information
Syntax	show snmp
Parameter	None

13.2.114 show stp

Description	Show STP information
Syntax	show stp
Parameter	None

13.2.115 show syslog

Description	Show syslog configuration
Syntax	show syslog
Parameter	None

13.2.116 show system-config

Description	Show system configuration
Syntax	show system-config
Parameter	None

13.2.117 show system information

Description	Show system information
Syntax	show system information
Parameter	None

13.2.118 show system inventory

Description	Show system inventory
Syntax	show system inventory
Parameter	None

13.2.119 show temperature

Description	Show temperature information
Syntax	show temperature
Parameter	None

13.2.120 show uplink-mode-conf

Description	Show uplink mode
Syntax	show uplink-mode-conf
Parameter	None

13.2.121 show version detail

Description	Show detail version information
Syntax	show version detail
Parameter	None

13.2.122 show vlan

Description	Show VLAN information	
Syntax	show vlan show vlan <vlanid>	
Parameter		
	Name	Description
	<vlanid>	VLAN ID Valid values: 1 ~ 4094 Type: Optional

13.2.123 show vlan-regen

Description	Display VLAN priority tag filter
Syntax	show vlan-regen
Parameter	None

13.2.124 show vlan-translation

Description	Show VLAN Translation Table
Syntax	show vlan-translation
Parameter	None

13.2.125 ssh

Description	Login to a remote host via SSH	
Syntax	ssh <ip> <username>	
Parameter		
	Name	Description
	<ip>	Destination IP address Valid values: - Type: Mandatory
	<username>	Username Valid values: 1 ~ 32 characters Type: Mandatory

13.2.126 system restart

Description	Restart System
Syntax	system restart
Parameter	None

13.2.127 telnet

Description	Telnet to a remote host	
Syntax	telnet <ip>	
Parameter		
	Name	Description
	<ip>	Destination IP address Valid values: - Type: Mandatory

13.2.128 traceroute

Description	Print the route packets take to network host	
Syntax	traceroute	
Parameter		
	Name	Description
	<ip>	Destination IP address Valid values: - Type: Mandatory

13.3 Configure Mode Commands

Commands that can be executed under Configure Mode include the commands in section 0, section 0 (except “configure” command), and the commands in this section.

13.3.1 access-list

Description	Enter Access Control List Mode
Syntax	access-list
Parameter	None

13.3.2 account add

Description	Add an account (only superuser can execute this command)	
Syntax	account add <username> account add <username> password <password> account add <username> password <password> comment <comment> account add <username> password <password> level <account_level> account add <username> password <password> level <account_level> comment <comment>	
Parameter		
	Name	Description
	<username>	Username Valid values: 1 ~ 31 characters Type: Mandatory
	<password>	Password Valid values: 1 ~ 31 characters Type: Mandatory
	<account_level>	Account Level Valid values: superuser/engineer/guest Type: Mandatory
	<comment>	Comment Valid values: 0 ~ 31 characters Type: Mandatory

13.3.3 account delete

Description	Delete an account (only superuser can execute this command)	
Syntax	account delete <username>	
Parameter		
	Name	Description
	<username>	Username Valid values: 1 ~ 31 characters Type: Mandatory

13.3.4 account modify

Description	Modify an account (only superuser can execute this command)	
Syntax	account modify <username> account modify <username> comment <comment> account modify <username> level <account_level> account modify <username> level <account_level> comment <comment> account modify <username> password <password> account modify <username> password <password> comment <comment> account modify <username> password <password> level <account_level> account modify <username> password <password> level <account_level> comment <comment>	
Parameter		
	Name	Description
	<username>	Username Valid values: 1 ~ 31 characters Type: Mandatory
	<password>	Password Valid values: 1 ~ 31 characters Type: Mandatory
	<account_level>	Account Level Valid values: superuser/engineer/guest Type: Mandatory
	<comment>	Comment Valid values: 0 ~ 31 characters Type: Mandatory

13.3.5 aging

Description	Set Bridge aging time	
Syntax	aging <time>	
Parameter		
	Name	Description
	<time>	Aging time Valid values: 10 ~ 600 seconds Default value: 300 (sec) Type: Mandatory

13.3.6 alarm aco active

Description	Set alarm ACO active	
Syntax	alarm aco active	
Parameter	None	

13.3.7 alarm event clear

Description	Clear alarm event
Syntax	alarm event clear
Parameter	None

13.3.8 alarm history clear

Description	Clear alarm history
Syntax	alarm history clear
Parameter	None

13.3.9 clisettings

Description	Configure CLI settings	
Syntax	clisettings <timeout> [<flag>] [<maxSessions>]	
Parameter		
	Name	Description
	<timeout>	Timeout Valid values: 60 ~ 65535 seconds, 0: no timeout Default value: 600 (sec) Type: Mandatory
	<flag>	Flag Valid values: bitmap <ul style="list-style-type: none"> showAlarm(0) showEvent(1) Type: Optional
	<maxSessions>	Maximum CLI sessions Valid values: 1 ~ 10 sessions Default value: 4 Type: Optional

13.3.10 cluster conf

Description	Configure cluster configuration	
Syntax	cluster conf <ip> <netmask> <gateway> <priority> <name> <domain> <clustered> <slaveOnly>	
Parameter		
	Name	Description
	<ip>	IP Address for Cluster Mangement Default value: 0.0.0.0 Type: Mandatory
	<netmask>	Netmask for Cluster Mangement Default value: 0.0.0.0 Type: Mandatory

<gateway>	Gateway for Cluster Mangement Default value: 0.0.0.0 Type: Mandatory
<priority>	Priority Valid Values: 0x0 ~ 0xFFFFFFFF Default value: 0x0 Type: Mandatory
<name>	Name Valid Values: 1 ~ 32 characters Default value: localhost Type: Mandatory
<domain>	Domain Name Valid Values: 1 ~ 32 characters Default value: localdomain Type: Mandatory
<clustered>	Cluster Protocol Enabled Valid Values: <ul style="list-style-type: none"> • 0 - disabled • 1 - enabled Default value: 0 Type: Mandatory
<slaveOnly>	Configured Roles Valid Values: <ul style="list-style-type: none"> • 0 - Master/Slave • 1 - Slave Only Default value: 1 Type: Mandatory

13.3.11 cluster interface

Description	Configure cluster interface (cluster NEs are connected through inband or outband interfaces; default setting is through inband)	
Syntax	cluster interface { inband otband }	
Parameter		
	Name	Description
	inband	Use the inband channel for cluster Type: Mandatory
	outband	Use the outband channel for cluster Type: Mandatory

13.3.12 default access-list all

Description	Delete all entries of all types of Access Control List
Syntax	default access-list all
Parameter	None

13.3.13 default access-list arpbcst

Description	Delete all ARP broadcast deny ACL entries
Syntax	default access-list arpbcst
Parameter	None

13.3.14 default access-list bcrate

Description	Delete all broadcast rate limiting entries
Syntax	default access-list bcrate
Parameter	None

13.3.15 default access-list dstip

Description	Delete all destination IP address deny ACL entries
Syntax	default access-list dstip
Parameter	None

13.3.16 default access-list ipprotocol

Description	Delete all destination IIP protocol deny ACL entries
Syntax	default access-list ipprotocol
Parameter	None

13.3.17 default access-list iwpolicer

Description	Delete all rate limit profiles
Syntax	default access-list iwpolicer
Parameter	None

13.3.18 default access-list l4srcport

Description	Delete all L4 source port deny ACL entries
Syntax	default access-list l4srcport
Parameter	None

13.3.19 default access-list l4dstport

Description	Delete all L4 destination port deny ACL entries
Syntax	default access-list l4dstport
Parameter	None

13.3.20 default access-list mcflrate

Description	Delete all flooding rate limiting entries
Syntax	default access-list mcflrate
Parameter	None

13.3.21 default access-list netbios

Description	Delete all NetBIOS broadcast deny ACL entries
Syntax	default access-list netbios
Parameter	None

13.3.22 default access-list srcip

Description	Delete all source IP address deny ACL entries
Syntax	default access-list srcip
Parameter	None

13.3.23 default access-list srcmac

Description	Delete all source MAC address deny ACL entries
Syntax	default access-list srcmac
Parameter	None

13.3.24 default access-list dstmac

Description	Delete all destination MAC address deny ACL entries
Syntax	default access-list dstmac
Parameter	None

13.3.25 default access-list vlan-ratelimit

Description	Delete all VLAN rate limiting entries
Syntax	default access-list vlan-ratelimit
Parameter	None

13.3.26 default account

Description	Delete all accounts except admin and set admin to default
Syntax	default account
Parameter	None

13.3.27 default aging

Description	Set bridge aging time to default
Syntax	default aging
Parameter	None

13.3.28 default all

Description	Set all configuration to default
Syntax	default all
Parameter	None

13.3.29 default bridge-port

Description	Set trunk bport to default and delete all line bports
Syntax	default bridge-port
Parameter	None

13.3.30 default clisettings

Description	Set CLI settings to default
Syntax	default clisettings
Parameter	None

13.3.31 default cluster interface

Description	Set cluster interface to default
Syntax	default cluster interface
Parameter	None

13.3.32 default cluster conf

Description	Set cluster configuration to default
Syntax	default cluster conf
Parameter	None

13.3.33 default dhcp-pppoe-global

Description	Set DHCP/PPPOE global parameters to default
Syntax	default dhcp-pppoe-global
Parameter	None

13.3.34 default fdbstatic

Description	Set static MAC forwarding table to default
Syntax	default fdbstatic
Parameter	None

13.3.35 default gbe

Description	Set gigabit ethernet medium/speed and inband settings to default
Syntax	default gbe
Parameter	None

13.3.36 default gigabit lacp

Description	Set LACP configuration to default
Syntax	default gigabit lacp
Parameter	None

13.3.37 default gigabit stpport

Description	Set STP port configuration to default
Syntax	default gigabit stpport
Parameter	None

13.3.38 default http

Description	Set HTTP configuration to default
Syntax	default http
Parameter	None

13.3.39 default igmp acl

Description	Delete all configured IGMP ACL profiles
Syntax	default igmp acl
Parameter	None

13.3.40 default igmp all

Description	Set all IGMP configuration (acl, conf and rtport) to default
Syntax	default igmp all
Parameter	None

13.3.41 default igmp conf

Description	Set IGMP configuration to default
Syntax	default igmp conf
Parameter	None

13.3.42 default igmp rtport

Description	Delete all IGMP router port entries
Syntax	default igmp rtport
Parameter	None

13.3.43 default linevpmtprofile

Description	Delete all configured Line VPMT profiles
Syntax	default linevpmtprofile
Parameter	None

13.3.44 default priority-list all

Description	Delete all entries of all types of Priority Remark List
Syntax	default priority-list all
Parameter	None

13.3.45 default priority-list ds

Description	Delete all DiffServ Priority Remark List entries
Syntax	default priority-list ds
Parameter	None

13.3.46 default priority-list dstip

Description	Delete all destination IP address Priority Remark List entries
Syntax	default priority-list dstip
Parameter	None

13.3.47 default priority-list dstmac

Description	Delete all destination MAC address Priority Remark List entries
Syntax	default priority-list dstmac
Parameter	None

13.3.48 default priority-list srcip

Description	Delete all source IP address Priority Remark List entries
Syntax	default priority-list srcip
Parameter	None

13.3.49 default priority-list srcmac

Description	Delete all source MAC address Priority Remark List entries
Syntax	default priority-list srcmac
Parameter	None

13.3.50 default priority-list tos

Description	Delete all ToS (IP Precedence) Priority Remark List entries
Syntax	default priority-list tos
Parameter	None

13.3.51 default priority-list vlanid

Description	Delete all VLAN ID Priority Remark List entries
Syntax	default priority-list vlanid
Parameter	None

13.3.52 default profile alarm

Description	Set all alarm profiles to default
Syntax	default profile alarm
Parameter	None

13.3.53 default protocol-vlan

Description	Delete all configured Protocol VLAN
Syntax	default protocol-vlan
Parameter	None

13.3.54 default rmon alarm

Description	Set RMON alarm configuration to default
Syntax	default rmon alarm
Parameter	None

13.3.55 default rmon all

Description	Set all RMON configuration to default
Syntax	default rmon all
Parameter	None

13.3.56 default rmon event

Description	Set RMON event configuration to default
Syntax	default rmon event
Parameter	None

13.3.57 default rmon history

Description	Set RMON history control configuration to default
Syntax	default rmon history
Parameter	None

13.3.58 default rmon statistic

Description	Set RMON statistic configuration to default
Syntax	default rmon statistic
Parameter	None

13.3.59 default snmp all

Description	Set all SNMP configuration to default
Syntax	default snmp all
Parameter	None

13.3.60 default snmp community

Description	Set SNMP community configuration to default
Syntax	default snmp community
Parameter	None

13.3.61 default snmp notify

Description	Set SNMP notify configuration to default
Syntax	default snmp notify
Parameter	None

13.3.62 default snmp target

Description	Set SNMP target configuration to default
Syntax	default snmp target
Parameter	None

13.3.63 default sntp

Description	Set Sntp configuration to default
Syntax	default sntp
Parameter	None

13.3.64 default stp

Description	Set STP configuration to default
Syntax	default stp
Parameter	None

13.3.65 default syslog

Description	Set Syslog configuration to default
Syntax	default syslog
Parameter	None

13.3.66 default system-config

Description	Set System Config to default
Syntax	default system-config
Parameter	None

13.3.67 default system-info

Description	Set System Information to default
Syntax	default system-info
Parameter	None

13.3.68 default temperature

Description	Set temperature configuration to default
Syntax	default temperature
Parameter	None

13.3.69 default trafdesc

Description	Delete all configured traffic descriptors
Syntax	default trafdesc
Parameter	None

13.3.70 default vpmt

Description	Set trunk bridge port VLAN priority mapping to default
Syntax	default vpmt
Parameter	None

13.3.71 default xdsl line info

Description	Set XDSL line information to default
Syntax	default xdsl line info
Parameter	None

13.3.72 default xdsl vdsl config

Description	Bind all xdsl port to DEFVAL and disable all port
Syntax	default xdsl vdsl config
Parameter	None

13.3.73 default xdsl vdsl linealarmconfprofile

Description	Delete all configured VDSL line alarm configuration profile
Syntax	default xdsl vdsl linealarmconfprofile
Parameter	None

13.3.74 default xdsl vdsl lineconfprofile

Description	Delete all configured VDSL line configuration profile
Syntax	default xdsl vdsl lineconfprofile
Parameter	None

13.3.75 default access-list ipallow

Description	Delete all IP Allow ACL entries
Syntax	default access-list ipallow
Parameter	None

13.3.76 default dhcp-server-profile

Description	Delete all configured DHCP server profiles
Syntax	default dhcp-server-profile
Parameter	None

13.3.77 default outband-route

Description	Set outband routes to default
Syntax	default outband-route
Parameter	None

13.3.78 dhcp-pppoe-global

Description	Configure DHCP/PPPOE global parameters	
Syntax	dhcp-pppoe-global <mode> <submode> <type> <name>	
Parameter		
	Name	Description
	<mode>	DHCP mode Valid values: 0: transparent 1: relay 3: DHCP server Default value: 0 Type: Mandatory
	<submode>	DHCP sub option Valid values: 0: circuit ID only 1: agent ID only 2: both Default value: 0 Type: Mandatory
	<type>	Circuit ID type Valid values: 0: default 1: SCBV 2: SCV 3: SC 4: customer Default value: 0 Type: Mandatory
	<name>	dhcpPppoeDslName Valid values: 1 ~ 15 characters Default value: IPDSLAM Type: Mandatory

13.3.79 dhcp-server-profile <index> create

Description	Create a DHCP Server Profile	
Syntax	dhcp-server-profile <index> create <startIP> <endIP> <netmask> <gateway> <dns1> <dns2> <leaseTime>	
Parameter		
	Name	Description
	<index>	Index Valid values: 2 ~ 24 Type: Mandatory
	<startIP>	Starting IP Address Type: Mandatory
	<endIP>	Ending IP Address Type: Mandatory
	<netmask>	Netmask Type: Mandatory
	<gateway>	Default Gateway IP Address Type: Mandatory
	<dns1>	1st DNS Server IP address ("" for none) Type: Mandatory
	<dns2>	2nd DNS Server IP address ("" for none) Type: Mandatory
	<leaseTime>	Leased Time Valid values: 300 ~ 86400 seconds Type: Mandatory

13.3.80 dhcp-server-profile <index> delete

Description	Delete a DHCP Server Profile	
Syntax	dhcp-server-profile <index> delete	
Parameter		
	Name	Description
	<index>	Index Valid values: 2 ~ 24 Type: Mandatory

13.3.81 disable

Description	Enter init mode
Syntax	disable
Parameter	None

13.3.82 trafdesc

Description	Enter Ethernet Traffic Descriptor mode
Syntax	trafdesc
Parameter	None

13.3.83 fdbstatic <number> <bport> <vlanid> <mac> deny | pass

Description	Create a static forwarding entry	
Syntax	fdbstatic <number> <bport> <vlanid> <mac> deny fdbstatic <number> <bport> <vlanid> <mac> pass	
Parameter		
	Name	Description
	<number>	Static MAC forwarding table number Valid values: 1 ~ 512 Type: Mandatory
	<bport>	Bridge Port Valid values: G1 - gigabit bridge port 1, G2 - gigabit bridge port 2, LA - gigabit bridge LA, XDSL/<port>/<bport> - XDSL/port 1 ~ 24/ bridge port 1 ~ 9 Input is not case sensitive Type: Mandatory
	<vlanid>	VLAN ID Valid values: 1 ~ 4094 Type: Mandatory
	<mac>	Mac address Type: Mandatory
	<deny>	Deny the MAC address Type: Mandatory
	<pass>	Allow the MAC address Type: Mandatory

13.3.84 fdbstatic <number> disable

Description	Disable specify static MAC forwarding entry	
Syntax	fdbstatic <number> disable	
Parameter		
	Name	Description
	<number>	Static MAC forwarding table number Valid values: 1 ~ 512 Type: Mandatory

13.3.85 firmware write

Description	Perform software image or bootloader remote download.	
Syntax	firmware write <ip> <username> <password> <string> { image bootloader } [noreboot]	
Parameter		
	Name	Description
	<ip>	FTP server IP address Type: Mandatory
	<username>	Username Valid values: 1 ~ 31 characters Type: Mandatory
	<password>	Password Valid values: 0 ~ 31 characters Type: Mandatory
	<string>	Image path and filename Valid values: 1 ~ 64 characters Type: Mandatory
	image	Perform remote download for the software image Type: Mandatory
	bootloader	Perform remote download for the bootloader Type: Mandatory
	noreboot	No Reboot after command complete. Must reboot system manually for the changes to take effect! Type: Optional

13.3.86 firmware partition

Description	Set boot partition	
Syntax	firmware partition <partition>	
Parameter		
	Name	Description
	<partition>	Partition number Valid values: 0 ~ 1 Type: Mandatory

13.3.87 http port

Description	Set http server port	
Syntax	http port <portNo> http port default	
Parameter		
	Name	Description

	<portNo>	Port Number Valid values: 1 ~ 65535 Type: Mandatory
	default	Set http server port to default (80)

13.3.88 igmp acl

Description	Enable/disable IGMP ACL mode (default setting is enable)
Syntax	IGMP {enable disable}
Parameter	None

13.3.89 igmp acl <index> channel <channel_index> <ip> <uvid> <svid> <tag>

Description	Add a channel to an IGMP ACL profile	
Syntax	igmp acl <index> channel <channel_index> <ip> <uvid> <svid> <tag>	
Parameter		
	Name	Description
	<index>	Index Valid values: 2 ~ 24 Type: Mandatory
	<channel_index>	Channel Index Valid values: 1 ~ 512 Type: Mandatory
	<ip>	IGMP group address Type: Mandatory
	<uvid>	User VLAN ID (the video user is within) Valid values: 1 ~ 4094 Type: Mandatory
	<svid>	Server VLAN ID (the video server is within) Valid values: 1 ~ 4094 Type: Mandatory
	<tag>	VLAN tagged/un-tagged option of the downstream-multicast packets Valid values: 1:tagged, 2:untagged Type: Mandatory

13.3.90 igmp acl <index> channel <channel_index> delete

Description	Delete a channel from an IGMP ACL profile	
Syntax	igmp acl <index> channel <channel_index> delete	
Parameter		
	Name	Description
	<index>	Index Valid values: 2 ~ 24 Type: Mandatory

	<channel_index>	Channel Index Valid values: 1 ~ 512, 0: deleting all channels Type: Mandatory
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13.3.91 igmp acl <index> create | delete

Description	Create or delete an IGMP ACL profile	
Syntax	igmp acl <index> create igmp acl <index> delete	
Parameter		
	Name	Description
	<index>	Index Valid values: 2 ~ 24 Type: Mandatory

13.3.92 igmp acl <index> max-channel <number>

Description	Configure the maximum allowed active channel number of an IGMP ACL profile	
Syntax	igmp acl <index> max-channel <number>	
Parameter		
	Name	Description
	<index>	Index Valid values: 2 ~ 24 Type: Mandatory
	<number>	Maximum allowed concurrently active channels Valid values: 0 ~ 20 Default value: 10 Type: Mandatory

13.3.93 igmp acl <index> max-msgs <number>

Description	Configure the maximum IGMP control packets of an IGMP ACL profile	
Syntax	igmp acl <index> max-msgs <number>	
Parameter		
	Name	Description
	<index>	Index Valid values: 2 ~ 24 Type: Mandatory
	<number>	Maximum IGMP control packets per seconds Valid values: 0 ~ 65535 Default value: 128 Type: Mandatory

13.3.94 igmp default

Description	Set IGMP parameters to default
Syntax	igmp default
Parameter	None

13.3.95 igmp leave

Description	Configure IGMP leave mode (default setting is normal)	
Syntax	igmp leave {fast normal}	
Parameter		
	Name	Description
	fast	Set to fast leave mode
	normal	Set to normal leave mode

13.3.96 igmp proxy

Description	Enable IGMP proxy snooping mode (default setting is disabled)
Syntax	igmp proxy
Parameter	None

13.3.97 igmp rtport

Description	Create or delete an IGMP router port	
Syntax	igmp rtport <rtport> <vlanid> <queryIP> <reportIP> igmp rtport <rtport> <vlanid> delete	
Parameter		
	Name	Description
	<rtport>	IGMP router port Valid values: 1 ~ 3 Type: Mandatory
	<vlanid>	VLAN ID Valid values: 1 ~ 4094 Type: Mandatory
	<queryIP>	Source IP address in IGMP memberset query packets in IGMP proxy snooping mode Type: Mandatory
	<reportIP>	Source IP address in IGMP report packets in IGMP proxy snooping mode Type: Mandatory
	<disable>	Delete an IGMP router port for the specific vlan ID Type: Mandatory

13.3.98 igmp snooping

Description	Enable IGMP normal snooping mode (default setting is enabled)
Syntax	igmp snooping
Parameter	None

13.3.99 igmp timeout bc <number>

Description	Set IGMP Timeout BC (Older host present interval)	
Syntax	igmp timeout bc <number>	
Parameter		
	Name	Description
	<number>	Timeout BC (Older host present interval) Valid values: 1 ~ 500 seconds Default value: 400 (sec) Type: Mandatory

13.3.100 igmp timeout lmqt <number>

Description	Set IGMP Timeout LMQT (Last member query interval)	
Syntax	igmp timeout lmqt <number>	
Parameter		
	Name	Description
	<number>	Timeout LMQT (Last member query interval) Valid values: 1 ~ 500 seconds Default value: 1 (sec) Type: Mandatory

13.3.101 igmp timeout mrt <number>

Description	Set IGMP Timeout MRT (Max response time)	
Syntax	igmp timeout mrt <number>	
Parameter		
	Name	Description
	<number>	Timeout MRT (Max response time) Valid values: 1 ~ 500 seconds Default value: 10 (sec) Type: Mandatory

13.3.102 igmp timeout query <number>

Description	Set IGMP Timeout query (Query interval)	
Syntax	igmp timeout query <number>	
Parameter		

	Name	Description
	<number>	Timeout query (Query interval) Valid values: 1 ~ 500 seconds Default value: 125 (sec) Type: Mandatory

13.3.103 igmp timeout uri <number>

Description	Set IGMP Timeout URI (Unsolicited report interval)	
Syntax	igmp timeout uri <number>	
Parameter		
	Name	Description
	<number>	Timeout URI (Unsolicited report interval) Valid values: 1 ~ 500 seconds Default value: 1 (sec) Type: Mandatory

13.3.104 igmp version

Description	Set IGMP version (default setting is IGMP V2)
Syntax	igmp version v1 igmp version v2 igmp version v3
Parameter	None

13.3.105 interface gigabit <portNo>

Description	Enter Gigabit Interface Configuration Mode	
Syntax	interface gigabit <portNo>	
Parameter		
	Name	Description
	<portNo>	Gigabit port number Valid values: 1 ~ 2 Type: Mandatory

13.3.106 interface gigabit la

Description	Enter Gigabit LA Interface Configuration Mode	
Syntax	interface gigabit la	
Parameter	None	

13.3.107 interface vdsl

Description	Enter VDSL Interface Configuration Mode	
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Syntax	interface vdsl
Parameter	None

13.3.108 interface xdsl <portNo>

Description	Enter XDSL Interface Config Mode	
Syntax	interface xdsl <portNo>	
Parameter		
	Name	Description
	<portNo>	XDSL port number Valid values: 1 ~ 24 Type: Mandatory

13.3.109 linevpmtprofile <index> delete

Description	Delete an existing line bridge port VPMT (vlan priority mapping table) profile	
Syntax	linevpmtprofile <index> delete	
Parameter		
	Name	Description
	<index>	Profile Index Valid values: 2 ~ 24 Type: Mandatory

13.3.110 linevpmtprofile <index> priority

Description	Configure a specific priority settings of a line bridge port VPMT profile Default setting is:			
	Priority:	TrafDesc	QueuePriority	DenyMode
	0	1	3	0
	1	1	3	0
	2	1	3	0
	3	1	3	0
	4	1	3	0
	5	1	3	0
	6	1	3	0
	7	1	3	0
Syntax	linevpmtprofile <index> priority <priority> <trafdesc> <queue_priority> <deny>			
Parameter				
	Name	Description		
	<index>	Profile Index Valid values: 2 ~ 24 Type: Mandatory		
	<priority>	VLAN Priority Valid values: 0 ~ 7		

		Type: Mandatory
	<trafdesc>	Traffic Profile Index Valid values: 1 ~ 16 Type: Mandatory
	<queue_priority>	Queue Priority Valid values: 0 ~ 2:for non-WFQ, 3:for WFQ Type: Mandatory
	<deny>	Deny Mode Valid values: 0:pass, 1:deny Type: Mandatory

13.3.111 management gbe

Description	Configure inband management channel settings	
Syntax	management gbe <ip> [<netmask>]	
Parameter		
	Name	Description
	<ip>	IP address for inband management channel Default value: 192.168.5.3 Type: Mandatory
	<netmask>	Netmask Default value: 255.255.255.0 Type: Optional

13.3.112 management gbe vlan

Description	Configure inband VLAN ID and priority	
Syntax	management gbe vlan <vlanid> <priority>	
Parameter		
	Name	Description
	<vlanid>	VLAN ID Valid values: 1 ~ 4094, 0: no limit Default value: 0 Type: Mandatory
	<priority>	Priority Valid values: 0 ~ 7 Default value: 0 Type: Mandatory

13.3.113 management mgmt

Description	Configure out-band management channel settings	
Syntax	management mgmt <ip> [<netmask>] [<default_gateway>] management mgmt default-gateway <default_gateway>	
Parameter		
	Name	Description

	<ip>	IP address for outband management channel Default value: 192.168.1.1 Type: Mandatory
	<netmask>	Netmask Default value: 255.255.255.0 Type: Optional
	<default_gateway>	Default gateway IP address Default value: 192.168.1.254 Type: Optional/Mandatory

13.3.114 outband-route add <network> netmask <netmask> gateway <gateway>

Description	Add an out-band route	
Syntax	outband-route add <network> netmask <netmask> gateway <gateway>	
Parameter		
	Name	Description
	<network>	Destination network address Type: Mandatory
	<netmask>	Netmask value Type: Mandatory
	<gateway>	Gateway Type: Mandatory

13.3.115 outband-route delete <network> netmask <netmask>

Description	Delete an out-band route	
Syntax	outband-route delete <network> netmask <netmask>	
Parameter		
	Name	Description
	<network>	Destination network address Type: Mandatory
	<netmask>	Netmask value Type: Mandatory

13.3.116 priority-list

Description	Enter Priority List Mode
Syntax	priority-list
Parameter	None

13.3.117 profile alarm

Description	Enter Alarm Profile Configuration Mode
Syntax	profile alarm
Parameter	None

13.3.118 prompt

Description	Set prompt	
Syntax	prompt <prompt> prompt default	
Parameter		
	Name	Description
	<prompt>	Prompt Valid values: 1 ~ 31 characters Type: Mandatory
	default	Set prompt to default Type: Mandatory

13.3.119 protocol-vlan <index> create

Description	Create a Protocol VLAN	
Syntax	protocol-vlan <index> create <type> <vlanid>	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 32 Type: Mandatory
	<type>	Ether Type Valid values: 0 ~ 0xFFFF 0x8863:PPPoE Discovery Stage 0x8864:PPPoE Session Stage 0x0800:Internet Protocol 0x0806:Address Resolution Protocol Type: Mandatory
	<vlanid>	VLAN ID Valid values: 1 ~ 4094 Type: Mandatory

13.3.120 protocol-vlan <index> delete

Description	Delete a Protocol VLAN	
Syntax	protocol-vlan <index> delete	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 32 Type: Mandatory

13.3.121 rmon alarm <index> alarm_interval <number>

Description	Set RMON alarm interval	
Syntax	rmon alarm <index> alarm_interval <number>	
Parameter		
	Name	Description
	<index>	RMON alarm entry index Valid values: 1 ~ 64 Type: Mandatory
	<number>	RMON alarm interval Valid values: 0 ~ 0x7FFFFFFF seconds, 0:disabled Type: Mandatory

13.3.122 rmon alarm <index> delete

Description	Delete a RMON alarm entry	
Syntax	rmon alarm <index> delete	
Parameter		
	Name	Description
	<index>	RMON alarm entry index Valid values: 1 ~ 64 Type: Mandatory

13.3.123 rmon alarm <index> falling_eventindex <number>

Description	Set RMON alarm falling event index	
Syntax	rmon alarm <index> falling_eventindex <number>	
Parameter		
	Name	Description
	<index>	RMON alarm entry index Valid values: 1 ~ 64 Type: Mandatory
	<number>	RMON alarm falling eventindex Valid values: 1 ~ 128 Type: Mandatory

13.3.124 rmon alarm <index> falling_threshold <number>

Description	Set RMON alarm falling threshold	
Syntax	rmon alarm <index> falling_threshold <number>	
Parameter		
	Name	Description
	<index>	RMON alarm entry index Valid values: 1 ~ 64 Type: Mandatory

	<number>	RMON alarm falling threshold Valid values: 0 ~ 0xFFFFFFFF Type: Mandatory
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13.3.125 rmon alarm <index> owner <owner>

Description	Set RMON alarm owner	
Syntax	rmon alarm <index> owner <owner>	
Parameter		
	Name	Description
	<index>	RMON alarm entry index Valid values: 1 ~ 64 Type: Mandatory
	<owner>	RMON alarm owner Valid values: 0 ~ 127 characters Type: Mandatory

13.3.126 rmon alarm <index> rising_eventindex <number>

Description	Set RMON alarm rising event index	
Syntax	rmon alarm <index> rising_eventindex <number>	
Parameter		
	Name	Description
	<index>	RMON alarm entry index Valid values: 1 ~ 64 Type: Mandatory
	<number>	RMON alarm rising eventindex Valid values: 1 ~ 128 Type: Mandatory

13.3.127 rmon alarm <index> rising_threshold <number>

Description	Set RMON alarm rising threshold	
Syntax	rmon alarm <index> rising_threshold <number>	
Parameter		
	Name	Description
	<index>	RMON alarm entry index Valid values: 1 ~ 64 Type: Mandatory
	<number>	RMON alarm rising threshold Valid values: 0 ~ 0xFFFFFFFF Type: Mandatory

13.3.128 rmon alarm sample_type

Description	Set RMON alarm sample type	
Syntax	rmon alarm <index> sample_type absolute rmon alarm <index> sample_type delta	
Parameter		
	Name	Description
	<index>	RMON alarm entry index Valid values: 1 ~ 64 Type: Mandatory
	absolute	Compared directly with the thresholds Type: Mandatory
	delta	Difference compared with the thresholds Type: Mandatory

13.3.129 rmon alarm startup_alarm

Description	Set RMON startup alarm	
Syntax	rmon alarm <index> startup_alarm both rmon alarm <index> startup_alarm falling rmon alarm <index> startup_alarm rising	
Parameter		
	Name	Description
	<index>	RMON alarm entry index Valid values: 1 ~ 64 Type: Mandatory
	both	Both rising and falling threshold alarm Type: Mandatory
	falling	RMON falling threshold alarm Type: Mandatory
	rising	RMON rising threshold alarm Type: Mandatory

13.3.130 rmon alarm <index> variable <type> index <number>

Description	Set source sample in statistic table	
Syntax	rmon alarm <index> variable <type> index <number>	
Parameter		
	Name	Description
	<index>	RMON alarm entry index Valid values: 1 ~ 64 Type: Mandatory
	<type>	Monitoring type Valid values: <ul style="list-style-type: none"> • 3: rx_dropped : monitoring rx dropped packets • 4: rx_bytes: monitoring rx bytes packets • 5: rx_packets: monitoring rx packets • 6: rx_broadcast: monitoring rx broadcast packets • 7: rx_multicast: monitoring rx multicast packets

		<ul style="list-style-type: none"> • 8: rx_err_alignent: monitoring rx error alignment packets • 9: rx_undersize: monitoring rx undersize packets • 10: rx_oversize: monitoring rx oversize packets • 11: rx_fragments: monitoring rx fragments packets • 12: rx_jabber: monitoring rx jabber packets • 13: tx_single_collision: monitoring tx single collision packets • 14: txrx_frames_64: monitoring tx 64 Octets • 15: txrx_frames_127: monitoring tx 65 to 127 octets • 16: txrx_frames_255: monitoring tx 128 to 255 octets • 17: txrx_frames_511: monitoring tx 256 to 511 octets • 18: txrx_frames_1023: monitoring tx 512 to 1023 octets • 19: txrx_frames_1518: monitoring tx 1024 to 1518 octets <p>Type: Mandatory</p>
	<number>	<p>Source index in statistic table</p> <p>Valid values: 1 ~ 10</p> <p>Type: Mandatory</p>

13.3.131 rmon event <index> community <community>

Description	Set RMON event community	
Syntax	rmon event <index> community <community>	
Parameter		
	Name	Description
	<index>	RMON event entry index Valid values: 1 ~ 128 Type: Mandatory
	<community>	RMON event community Valid values: 0 ~ 127 characters Type: Mandatory

13.3.132 rmon event <index> delete

Description	Delete a RMON event entry	
Syntax	rmon event <index> delete	
Parameter		
	Name	Description
	<index>	RMON event entry index Valid values: 1 ~ 128 Type: Mandatory

13.3.133 rmon event <index> description <description>

Description	Set RMON event description	
Syntax	rmon event <index> description <description>	

Parameter		
	Name	Description
	<index>	RMON event entry index Valid values: 1 ~ 128 Type: Mandatory
	<description>	Event description Valid values: 0 ~ 127 characters Type: Mandatory

13.3.134 rmon event <index> owner <owner>

Description	Set RMON event owner	
Syntax	rmon event <index> owner <owner>	
Parameter		
	Name	Description
	<index>	RMON event entry index Valid values: 1 ~ 128 Type: Mandatory
	<owner>	Event owner Valid values: 0 ~ 127 characters Type: Mandatory

13.3.135 rmon event <index> type both | log | none | trap

Description	Set RMON event type	
Syntax	rmon event <index> type both rmon event <index> type log rmon event <index> type none rmon event <index> type trap	
Parameter		
	Name	Description
	<index>	RMON event entry index Valid values: 1 ~ 128 Type: Mandatory
	both	Both syslog and SNMP trap Type: Mandatory
	log	Only syslog Type: Mandatory
	none	No alarm Type: Mandatory
	trap	Only SNMP trap Type: Mandatory

13.3.136 rmon history <index> buckets_requested <number>

Description	Set RMON history buckets requested
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Syntax	rmon history <index> buckets_requested <number>	
Parameter		
	Name	Description
	<index>	RMON history control entry index Valid values: 1 ~ 10 Type: Mandatory
	<number>	RMON history buckets requested Valid values: 1 ~ 65535 Type: Mandatory

13.3.137 rmon history <index> delete

Description	Delete a RMON history entry	
Syntax	rmon history <index> delete	
Parameter		
	Name	Description
	<index>	RMON history control entry index Valid values: 1 ~ 10 Type: Mandatory

13.3.138 rmon history <index> ifc <ifc>

Description	Set RMON history physical interface	
Syntax	rmon history <index> ifc <ifc>	
Parameter		
	Name	Description
	<index>	RMON history control entry index Valid values: 1 ~ 10 Type: Mandatory
	<ifc>	Physical interface index Valid values: 1 ~ 2 Type: Mandatory

13.3.139 rmon history <index> interval <number>

Description	Set RMON history interval	
Syntax	rmon history <index> interval <number>	
Parameter		
	Name	Description
	<index>	RMON history control entry index Valid values: 1 ~ 10 Type: Mandatory
	<number>	RMON history interval Valid values: 1 ~ 3600 seconds Type: Mandatory

13.3.140 rmon history <index> owner <owner>

Description	Set RMON history owner	
Syntax	rmon history <index> owner <owner>	
Parameter		
	Name	Description
	<index>	RMON history control entry index Valid values: 1 ~ 10 Type: Mandatory
	<owner>	RMON history owner Valid values: 0 ~ 127 characters Type: Mandatory

13.3.141 rmon statistic <index> delete

Description	Delete a RMON statistic entry	
Syntax	rmon statistic <index> delete	
Parameter		
	Name	Description
	<index>	RMON statistic entry index Valid values: 1 ~ 10 Type: Mandatory

13.3.142 rmon statistic <index> ifc <ifc>

Description	Set RMON statistic physical interface	
Syntax	rmon statistic <index> ifc <ifc>	
Parameter		
	Name	Description
	<index>	RMON statistic entry index Valid values: 1 ~ 10 Type: Mandatory
	<ifc>	Physical interface index Valid values: 1 ~ 2 Type: Mandatory

13.3.143 rmon statistic <index> owner <owner>

Description	Set RMON statistic owner	
Syntax	rmon statistic <index> owner <owner>	
Parameter		
	Name	Description
	<index>	RMON statistic entry index

		Valid values: 1 ~ 10 Type: Mandatory
	<owner>	Owner Name Valid values: 0 ~ 127 characters Type: Mandatory

13.3.144 route add <network> netmask <netmask> gateway <gateway>

Description	Add an in-band route	
Syntax	route add <network> netmask <netmask> gateway <gateway>	
Parameter		
	Name	Description
	<network>	Destination network address Type: Mandatory
	<netmask>	Netmask value Type: Mandatory
	<gateway>	Gateway Type: Mandatory

13.3.145 route delete <network> netmask <netmask>

Description	Delete an in-band route	
Syntax	route delete <network> netmask <netmask>	
Parameter		
	Name	Description
	<network>	Destination network address Type: Mandatory
	<netmask>	Netmask value Type: Mandatory

13.3.146 runningcfg clear all | general

Description	Clear configuration	
Syntax	runningcfg clear all [noreboot] runningcfg clear general [noreboot]	
Parameter		
	Name	Description
	all	Clear all configuration <i>Note:</i> The database of VC-2402 contains two kinds of database - inband database and general database. Inband database contains configuration for the inband channel. General database contains other configuration. Type: Mandatory
	general	Clear general configuration Type: Mandatory

	noreboot	Clear configuration without Reboot. Must reboot system manually for the changes to take effect! Type: Optional
--	----------	---

13.3.147 runningcfg clear binary | cli | text

Description	Export configuration to files	
Syntax	runningcfg clear binary runningcfg clear cli runningcfg clear text	
Parameter		
	Name	Description
	binary	Binary mode export Type: Mandatory
	cli	Export configuration as a CLI script Type: Mandatory
	text	Text mode export (For debug only!!!) Type: Mandatory

13.3.148 runningcfg get <ip> <username> <password> binary | cli <string>

Description	Get exported configuration files from a FTP server	
Syntax	runningcfg get <ip> <username> <password> binary <string> runningcfg get <ip> <username> <password> cli <string>	
Parameter		
	Name	Description
	<ip>	FTP server IP address Type: Mandatory
	<username>	Username Valid values: 1 ~ 31 characters Type: Mandatory
	<password>	Password Valid values: 0 ~ 31 characters Type: Mandatory
	binary	Get two binary images Type: Mandatory
	cli	Get a CLI script Type: Mandatory
	<string>	Remote filename Valid values: 1 ~ 64 characters Type: Mandatory

13.3.149 runningcfg import binary | cli

Description	Import configuration from locally exported files
Syntax	runningcfg import binary [noreboot]

	runningcfg import cli [noreboot]	
Parameter		
	Name	Description
	binary	Import configuration from locally exported binary images Type: Mandatory
	cli	Import configuration from a locally exported CLI script Type: Mandatory
	noreboot	Import configuration without Reboot. Must reboot system manually for the changes to take effect! Type: Optional

13.3.150 runningcfg import download binary | cli

Description	Import configuration from files retrieved via 'runningcfg get'.	
Syntax	runningcfg import download binary [noreboot] runningcfg import download cli [noreboot]	
Parameter		
	Name	Description
	binary	Import configuration from binary images retrived via 'runningcfg get'. Type: Mandatory
	cli	Import configuration from the CLI script retrived via 'runningcfg get'. Type: Mandatory
	noreboot	Import configuration without Reboot. Must reboot system manually for the changes to take effect! Type: Optional

13.3.151 runningcfg put <ip> <username> <password> binary | cli <string>

Description	Put exported configuration files to a FTP server	
Syntax	runningcfg put <ip> <username> <password> binary <string> runningcfg put <ip> <username> <password> cli <string>	
Parameter		
	Name	Description
	<ip>	FTP server IP address Type: Mandatory
	<username>	Username Valid values: 1 ~ 31 characters Type: Mandatory
	<password>	Password Valid values: 0 ~ 31 characters Type: Mandatory
	binary	Put two binary images Type: Mandatory
	cli	Put a CLI script Type: Mandatory

	<string>	Remote filename Valid values: 1 ~ 64 characters Type: Mandatory
--	----------	---

13.3.152 runningcfg restore index

Description	Restore configuration	
Syntax	runningcfg restore index <inbandBackupIndex> [<generalBackupIndex>] [noreboot]	
Parameter		
	Name	Description
	<inbandBackupIndex>	Inband Backup Index Valid values: 1 ~ 16 Type: Mandatory
	<generalBackupIndex>	General Backup Index Valid values: 1 ~ 16 Type: Optional (if omitted, use the same index as <inbandBackupIndex>)
	noreboot	Restore database without reboot. Must reboot system manually for the changes to take effect! Type: Optional

13.3.153 runningcfg restore name

Description	Restore configuration	
Syntax	runningcfg restore name <inbandBackupName> [<generalBackupName>] [noreboot]	
Parameter		
	Name	Description
	<inbandBackupName>	Inband Backup Name Valid values: 1 ~ 31 characters Type: Mandatory
	<generalBackupName>	General Backup Name Valid values: 1 ~ 31 characters Type: Optional (if omitted, use the same name as <inbandBackupName>)
	noreboot	Restore database without reboot. Must reboot system manually for the changes to take effect! Type: Optional

13.3.154 runningcfg save

Description	Save running configuration to FLASH. <i>Note:</i> The database of VC-2402 contains two kinds of database - inband
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	database and general database. Inband database contains configuration for the inband channel. General database contains other configuration.	
Syntax	runningcfg save [<inbandBackupName>] [<generalBackupName>]	
Parameter		
	Name	Description
	<inbandBackupName>	Inband Backup Name Valid values: 1 ~ 31 characters Type: Optional
	<generalBackupName>	General Backup Name Valid values: 1 ~ 31 characters Type: Optional (if omitted, use the same name as <inbandBackupName>)

13.3.155 setenv script-delay

Description	Configure script delay	
Syntax	setenv script-delay <delay>	
Parameter		
	Name	Description
	<delay>	Script Delay Valid values: 1 ~ 0xFFFFFFFF ms Type: Mandatory

13.3.156 setenv pagefilter

Description	Configure Page Filter. <i>Page Filter</i> - for waiting the operator to hit a key when the output lines reach the number of rows of the terminal. The default value is enabled for interactive users, and disabled when executing a CLI script (-f).	
Syntax	setenv pagefilter <enabled>	
Parameter		
	Name	Description
	<enabled>	Enable Page Filter Valid values: 0:disable, 1:enable Type: Mandatory

13.3.157 setenv show-date-time-in-prompt

Description	Enable/disable showing Date/Time in Prompt	
Syntax	setenv show-date-time-in-prompt <enabled>	
Parameter		
	Name	Description
	<enabled>	Show Date/Time in Prompt Valid values: 0:disable, 1:enable Type: Mandatory

13.3.158 snmp <index> community

Description	Configure a SNMP community (read-only or read/write). Our system has a default SNMP community: public (read/write).	
Syntax	snmp <index> community {ro rw} <name>	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 32 Type: Mandatory
	<name>	Community name Valid values: 1 ~ 31 characters Type: Mandatory

13.3.159 snmp <index> community delete

Description	Delete a SNMP community	
Syntax	snmp <index> community delete	
Parameter		
	Name	Description
	<index>	Index Valid values: 2 ~ 32 Type: Mandatory

13.3.160 snmp <index> notify <name> <tag>

Description	Configure a SNMP notify	
Syntax	snmp <index> notify <name> <tag>	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 32 Type: Mandatory
	<name>	Notify name Valid values: 1 ~ 31 characters Type: Mandatory
	<tag>	Notify tag Valid values: 1 ~ 31 characters Type: Mandatory

13.3.161 snmp <index> notify delete

Description	Delete a SNMP notify	
Syntax	snmp <index> notify delete	

Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 32 Type: Mandatory

13.3.162 snmp target

Description	Configure a SNMP target	
Syntax	snmp <index> target <ip> <port> <name> <tag> v1 snmp <index> target <ip> <port> <name> <tag> v2c	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 32 Type: Mandatory
	<ip>	Target IP address Type: Mandatory
	<port>	Target port Valid values: 1 ~ 65535 Type: Mandatory
	<name>	Target name Valid values: 1 ~ 31 characters Type: Mandatory
	<tag>	Target tag list Valid values: 1 ~ 31 characters Type: Mandatory
	v1	Send version 1 trap Type: Mandatory
	v2c	Send version 2c trap Type: Mandatory

13.3.163 snmp <index> target delete

Description	Delete a SNMP target	
Syntax	snmp <index> target delete	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 32 Type: Mandatory

13.3.164 snmp polling-interval <interval>

Description	Set SNMP polling interval
Syntax	snmp polling-interval <interval>

Parameter		
	Name	Description
	<interval>	Polling Interval Valid values: 60 ~ 65535 seconds, 0:disabled Type: Mandatory

13.3.165 sntp server address <ip>

Description	Set SNTP server address	
Syntax	sntp server address <ip>	
Parameter		
	Name	Description
	<ip>	Sntp server IP address Type: Mandatory

13.3.166 sntp sync

Description	Manual synchronization
Syntax	sntp sync
Parameter	None

13.3.167 stp default

Description	Set STP configuration to default
Syntax	stp default
Parameter	None

13.3.168 stp disable | enable

Description	Disable or enable STP
Syntax	stp disable stp enable
Parameter	None

13.3.169 stp forward-delay

Description	Set STP forward delay	
Syntax	stp forward-delay <number> stp forward-delay default	
Parameter		
	Name	Description
	<number>	STP forward delay value Valid values: 4 ~ 30 seconds

		Default value: 15 Type: Mandatory
	default	Set STP forward delay value to default Type: Mandatory

13.3.170 stp hello-time

Description	Set STP hello time	
Syntax	stp hello-time <number> stp hello-time default	
Parameter		
	Name	Description
	<number>	STP hello time value Valid values: 1 ~ 10 seconds Default value: 2 Type: Mandatory
	default	Set STP hello time value to default Type: Mandatory

13.3.171 stp max-age

Description	Set STP maximum age	
Syntax	stp max-age <number> stp max-age default	
Parameter		
	Name	Description
	<number>	STP max age value Valid values: 6 ~ 40 seconds Default value: 20 Type: Mandatory
	default	Set STP max age value to default Type: Mandatory

13.3.172 stp priority

Description	Set STP priority	
Syntax	stp priority <number> stp priority default	
Parameter		
	Name	Description
	<number>	STP priority value Valid values: 0 ~ 61440 step 4096 Default value: 61440 Type: Mandatory
	default	Set STP priority value to default Type: Mandatory

13.3.173 stp version rstp | stp

Description	Set STP version
Syntax	stp version rstp stp version stp
Parameter	None

13.3.174 syslog disable | enable

Description	Disable or enable syslog service (default setting is disabled)
Syntax	syslog disable syslog enable
Parameter	None

13.3.175 syslog max-file-size <size>

Description	Set the maximum size of the log file for syslog	
Syntax	syslog max-file-size <size>	
Parameter		
	Name	Description
	<size>	Size (16 ~ 1024 KB) Default value: 16 (KB) Type: Mandatory

13.3.176 syslog server <ip>

Description	Set syslog server IP address	
Syntax	syslog server <ip>	
Parameter		
	Name	Description
	<ip>	IP address Default value: 192.168.1.1 Type: Mandatory

13.3.177 system dump

Description	Dump system to a FTP server	
Syntax	system dump <ip> <username> <password> <string>	
Parameter		
	Name	Description
	<ip>	FTP server IP address Type: Mandatory
	<username>	Username

		Valid values: 1 ~ 31 characters Type: Mandatory
	<password>	Password Valid values: 0 ~ 31 characters Type: Mandatory
	<string>	Image path and filename Valid values: 1 ~ 64 characters Type: Mandatory

13.3.178 system load

Description	Load inventory/flash backups from a dump archive	
Syntax	system load <string> all system load <string> inventory system load <string> backups	
Parameter		
	Name	Description
	<string>	Filename Valid values: 1 ~ 64 characters Type: Mandatory

13.3.179 system-config

Description	System configuration	
Syntax	system-config aclService <aclService> system-config pppoeService <pppoeService> system-config filterAndPriorityRemarkService <filterAndPriorityRemarkService> system-config rateLimitService <rateLimitService> system-config netBiosDenialService <netBiosDenialService> system-config allowIpService <allowIpService> system-config addAllowIpBySnoopDHCP <addAllowIpBySnoopDHCP> system-config agingTimePerPort <agingTimePerPort> system-config allowDownstreamBc <allowDownstreamBc> system-config extEtherType <extEtherType> system-config replaceArpDefaultGatewayMac <replaceArpDefaultGatewayMac> system-config replaceArpMac <replaceArpMac> system-config antiArpSpoofing <antiArpSpoofing> system-config antiMacSpoofing <antiMacSpoofing> system-config deleteOldMac <deleteOldMac> system-config vlanTranslationService <vlanTranslationService>	
Parameter		
	Name	Description
	<aclService>	Enable ACL service Valid values: 0:disable, 1:enable Default value: 0

		Type: Mandatory
<pppoeService>	Enable PPPOE service Valid values: 0:disable, 1:enable Default value: 0 Type: Mandatory	
<filterAndPriorityRemarkService>	Enable Filter and Priority Remark service Valid values: 0:disable, 1:enable Default value: 0 Type: Mandatory	
<rateLimitService>	Enable rate limiting service Valid values: 0:disable, 1:enable Default value: 0 Type: Mandatory	
<netBiosDenialService>	Enable NetBIOS Denial service Valid values: 0:disable, 1:enable Default value: 0 Type: Mandatory	
<allowIpService>	Enable IP Allow service Valid values: 0:disable, 1:enable Default value: 0 Type: Mandatory	
<addAllowIpBySnoopDHCP>	Enable DHCP snooping for dynamically creation of IP Allow Filters Valid values: 0:disable, 1:enable Default value: 0 Type: Mandatory	
<agingTimePerPort>	Enable aging timer per bridge port Valid values: 0:disable, 1:enable Default value: 0 Type: Mandatory	
<allowDownstreamBc>	Limit downstream broadcast traffic to ARP and DHCP Valid values: 0:disable, 1:enable Default value: 1 Type: Mandatory	
<extEtherType>	VLAN Stacking Ether Type Valid values: 0x8100, 0x88A8 Default value: 0x8100 Type: Mandatory	
<replaceArpDefaultGatewayMac>	MAC address of default gateway for destination MAC address replacing via ARP Valid values: MAC address Default value: FF:FF:FF:FF:FF:FF Type: Mandatory	
<replaceArpMac>	Enable destination MAC address replacing via ARP Valid values: 0:disable, 1:enable Default value: 0	

		Type: Mandatory
	<antiArpSpoofing>	Configure Anti-ARP Spoofing Valid values: 0:disable, 1:enable Default value: 0 Type: Mandatory
	<antiMacSpoofing>	Configure Anti-MAC Spoofing Valid values: 0:disable, 1:enable Default value: 1 Type: Mandatory
	<deleteOldMac>	Enable/disable delete old MAC. Valid values: 0:stop learning, 1: delete the oldest learned MAC address Default value: 0 (disable delete old MAC function) Type: Mandatory
	<vlanTranslationService>	Enable VLAN translation service Valid values: 0:disable, 1:enable Default value: 0 Type: Mandatory

13.3.180 system-info contact

Description	Modify system contact	
Syntax	system-info contact <string>	
Parameter		
	Name	Description
	<string>	System Contact Valid values: 0 ~ 255 characters (ASCII CODE: 0x01 - 0x7F) Default value: Contact Type: Mandatory

13.3.181 system-info location

Description	Modify system location	
Syntax	system-info location <string>	
Parameter		
	Name	Description
	<string>	System Location Valid values: 0 ~ 255 characters (ASCII CODE: 0x01 - 0x7F) Default value: Location Type: Mandatory

13.3.182 system-info name

Description	Modify system name
--------------------	--------------------

Syntax	system-info name <string>	
Parameter		
	Name	Description
	<string>	System Name Valid values: 0 ~ 255 characters (ASCII CODE: 0x01 - 0x7F) Default value: localhost Type: Mandatory

13.3.183 temperature shift down <time>

Description	Set downshift time	
Syntax	temperature shift down <time>	
Parameter		
	Name	Description
	<timer>	Downshift time Valid values: 1 ~ 255 seconds Default value: 10 (sec) Type: Mandatory

13.3.184 temperature shift up <time>

Description	Set upshift time	
Syntax	temperature shift up <time>	
Parameter		
	Name	Description
	<timer>	Downshift time Valid values: 1 ~ 255 seconds Default value: 10 (sec) Type: Mandatory

13.3.185 temperature threshold down <threshold>

Description	Set downshift temperature threshold	
Syntax	temperature threshold down <threshold>	
Parameter		
	Name	Description
	<thresholdr>	Downshift temperature threshold Valid values: -55 ~ 85 degrees Centigrade Default value: -40 Type: Mandatory

13.3.186 temperature threshold fan <threshold>

Description	Set fan temperature threshold
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Syntax	temperature threshold fan <threshold>	
Parameter		
	Name	Description
	<thresholdr>	Fan temperature threshold Valid values: -40 ~ 15 degrees Centigrade Default value: -40 Type: Mandatory

13.3.187 temperature threshold up <threshold>

Description	Set upshift temperature threshold	
Syntax	temperature threshold up <threshold>	
Parameter		
	Name	Description
	<thresholdr>	Downshift temperature threshold Valid values: -55 ~ 85 degrees Centigrade Default value: 65 Type: Mandatory

13.3.188 time set

Description	Set date/time	
Syntax	time set date <month> <day> <year>	
	time set time <hour> <minute>	
	time set time <hour> <minute> <second>	
Parameter		
	Name	Description
	<month>	Month Valid values: 1 ~ 12 Type: Mandatory
	<day>	Day Valid values: 1 ~ 31 Type: Mandatory
	<year>	Year Valid values: 0 ~ 99 Type: Mandatory
	<hour>	Hour Valid values: 0 ~ 23 Type: Mandatory
	<minute>	Minute Valid values: 0 ~ 59 Type: Mandatory
	<second>	Second Valid values: 0 ~ 59 Type: Mandatory

13.3.189 time set timezone

Description	Set time zone	
Syntax	time set timezone <timezone> time set timezone default	
Parameter		
	Name	Description
	<timezone>	Timezone Valid values: Given below. IDL -12:00 International Date Line IDLW -12:00 International Date Line West NT -11:00 Nome Time AHST -10:00 Alaska-Hawaii Standard Time BDT -10:00 BDT CAT -10:00 Central Alaska Time YST -09:00 Yukon Standard Time HDT -09:00 HDT PST -08:00 Pacific Standard Time YDT -08:00 YDT MST -07:00 Mountain Standard Time PDT -07:00 Pacific Daylight Time CST -06:00 Central Standard Time MDT -06:00 Mountain Daylight Time EST -05:00 Eastan Standard Time CDT -05:00 Central Daylight Time AST -04:00 Atlantic Standard Time EDT -04:00 Eastan Daylight Time NFT -03:30 Newfoundland Standard Time ADT -03:00 Altantic Daylight Time BRA -03:00 Brazil Standard Time GWST -03:00 Greenland Western Standard Time AT -02:00 Azores Time WAT -01:00 West Africa Time GMT +00:00 Greenwich Mean Time WET +00:00 Western European Time UT +00:00 Universal Time UTC +00:00 Universal Time CET +01:00 Central European Time BST +01:00 British Summer Time MET +01:00 Middle European Time MEWT +01:00 Middle Eruopean Winter Time SWT +01:00 Swedish Winter Time FWT +01:00 French Winter Time EET +02:00 Eastean European Time MEST +02:00 Middle European Summer Time FST +02:00 French Summer Time EGST +02:00 Egypt Standard Time EGDY +03:00 Egypt Daylight Time BT +03:00 Baghdad Time IT +03:30 Iran Time ZP4 +04:00 GMT Plus 4 Hours

		ZP5 +05:00 GMT Plus 5 Hours IST +05:30 Indian Standard Time ZP6 +06:00 GMT Plus 6 Hours NST +06:30 North Sumatra Time SST +07:00 South Smatra Time WAST +07:00 West Australian Standard Time JT +07:30 Java Time CCT +08:00 China Coast Time HST +08:00 HongKong Standard Time WADT +08:00 West Australian Daylight Time WST +08:00 WST JST +09:00 Japan Standard Time KST +09:00 Korean Standard Time CAST +09:30 Central Australian Standard Time SAST +09:30 South Australian Standard Time JDT +10:00 JDT GST +10:00 Guam Standard Time EAST +10:00 East Australian Standard Time CADT +10:30 Central Austrlian Daylight Time SADT +10:30 South Australian Daylight Time EADT +11:00 East Australian Daylight Time NZT +12:00 New Zealand Time NZST +12:00 New Zealand Standard Time IDLE +12:00 International Date Line East NZDT +13:00 New Zealand Daylight Time Default value: GMT. Type: Mandatory
	default	Set timezone to default (GMT/UTC) Type: Mandatory

13.3.190 uplink-mode-conf

Description	Configure uplink mode	
Syntax	uplink-mode-conf la uplink-mode-conf nonla	
Parameter		
	Name	Description
	la	Link aggregation enabled Type: Mandatory
	nonla	Link aggregation disabled Type: Mandatory

13.3.191 vlan

Description	Create empty VLAN (or add “disable” to delete empty VLAN)	
Syntax	vlan <vlanid> [disable]	
Parameter		
	Name	Description
	<vlanid>	VLAN ID

		Valid values: 1 ~ 4094 Type: Mandatory
--	--	---

13.4 XDSL Interface Config Mode Commands

Commands that can be executed under XDSL Interface Config Mode include the commands in section 0, section 0 (except “configure” command), and the commands in this section.

13.4.1 bridge <bport>

Description	Enter bridge configuration mode (for a line port, ATM mode bridge port and Packet mode bridge port cannot coexist)	
Syntax	bridge <bport>	
Parameter		
	Name	Description
	<bport>	Bridge Port Number Valid values: 1 ~ 8(ATM Bridge), 9(Packet Bridge) Type: Mandatory

13.4.2 bridge <bport> disable

Description	Disable bridge port	
Syntax	bridge <bport> disable	
Parameter		
	Name	Description
	<bport>	Bridge Port Number Valid values: 1 ~ 8(ATM Bridge), 9(Packet Bridge) Type: Mandatory

13.4.3 line port description <string>

Description	Configure XDSL line port description	
Syntax	line port description <string>	
Parameter		
	Name	Description
	<string>	Description Valid values: 0 ~ 48 characters Type: Mandatory

13.4.4 line port id <string>

Description	Configure XDSL line port ID	
Syntax	line port id <string>	
Parameter		
	Name	Description
	<string>	ID

		Valid values: 0 ~ 32 characters Type: Mandatory
--	--	--

13.4.5 line port phone <string>

Description	Configure XDSL line port phone number	
Syntax	line port phone <string>	
Parameter		
	Name	Description
	<string>	Phone Number Valphone values: 0 ~ 32 characters Type: Mandatory

13.5 VDSL Interface Config Mode Commands

Commands that can be executed under VDSL Interface Config Mode include the commands in section 0, section 0 (except “configure” command), and the commands in this section.

13.5.1 linealarmconfprofile ne_15min

Description	Configure near-end 15-minute interval PM thresholds	
Syntax	linealarmconfprofile ne_15min <name> <ess> <sess> <uass>	
Parameter		
	Name	Description
	<name>	Profile Name Valid values: 1 ~ 32 characters Type: Mandatory
	<ess>	vdslLineAlarmConfNeThresh15MinESs Valid values: 0 ~ 900 seconds Default value: 0 Type: Mandatory
	<sess>	vdslLineAlarmConfNeThresh15MinSESs Valid values: 0 ~ 900 seconds Default value: 0 Type: Mandatory
	<uass>	vdslLineAlarmConfNeThresh15MinUASs Valid values: 0 ~ 900 seconds Default value: 0 Type: Mandatory

13.5.2 linealarmconfprofile fe_15min

Description	Configure far-end 15-minute interval PM thresholds	
Syntax	linealarmconfprofile fe_15min <name> <ess> <sess> <uass>	
Parameter		
	Name	Description
	<name>	Profile Name Valid values: 1 ~ 32 characters Type: Mandatory
	<ess>	vdslLineAlarmConfFeThresh15MinESs Valid values: 0 ~ 900 seconds Default value: 0 Type: Mandatory
	<sess>	vdslLineAlarmConfFeThresh15MinSESs Valid values: 0 ~ 900 seconds Default value: 0 Type: Mandatory
	<uass>	vdslLineAlarmConfFeThresh15MinUASs Valid values: 0 ~ 900 seconds

		Default value: 0 Type: Mandatory
--	--	---

13.5.3 linealarmconfprofile ne_1day

Description	Configure near-end 1-day interval PM thresholds	
Syntax	linealarmconfprofile ne_1day <name> <ess> <sess> <uass>	
Parameter		
	Name	Description
	<name>	Profile Name Valid values: 1 ~ 32 characters Type: Mandatory
	<ess>	vdsILineAlarmConfNeThresh1DayESs Valid values: 0 ~ 86400 seconds Default value: 0 Type: Mandatory
	<sess>	vdsILineAlarmConfNeThresh1DaySESs Valid values: 0 ~ 86400 seconds Default value: 0 Type: Mandatory
	<uass>	vdsILineAlarmConfNeThresh1DayUASs Valid values: 0 ~ 86400 seconds Default value: 0 Type: Mandatory

13.5.4 linealarmconfprofile fe_1day

Description	Configure near-end 1-day interval PM thresholds	
Syntax	linealarmconfprofile fe_1day <name> <ess> <sess> <uass>	
Parameter		
	Name	Description
	<name>	Profile Name Valid values: 1 ~ 32 characters Type: Mandatory
	<ess>	vdsILineAlarmConfFeThresh1DayESs Valid values: 0 ~ 86400 seconds Default value: 0 Type: Mandatory
	<sess>	vdsILineAlarmConfFeThresh1DaySESs Valid values: 0 ~ 86400 seconds Default value: 0 Type: Mandatory
	<uass>	vdsILineAlarmConfFeThresh1DayUASs Valid values: 0 ~ 86400 seconds Default value: 0 Type: Mandatory

13.5.5 linealarmconfprofile initfail

Description	Configure initialization failure notification	
Syntax	linealarmconfprofile initfail <name> <initfail>	
Parameter		
	Name	Description
	<name>	Profile Name Valid values: 1 ~ 32 characters Type: Mandatory
	<initfail>	vdsLineAlarmConfInitFailure Valid values: 1:True / 2:False Default value: 2 (disable) Type: Mandatory

13.5.6 linealarmconfprofile active | create | delete | notinservice

Description	Configure status of a VDSL line alarm configuration profile	
Syntax	linealarmconfprofile active <name> linealarmconfprofile create <name> linealarmconfprofile delete <name> linealarmconfprofile notinservice <name>	
Parameter		
	Name	Description
	create	Create a VDSL line alarm configuration profile Type: Mandatory
	delete	Delete a VDSL line alarm configuration profile Type: Mandatory
	active	Activate a VDSL line alarm configuration profile Type: Mandatory
	notinservice	Deactivate a VDSL line alarm configuration profile Type: Mandatory
	<name>	Profile Name Valid values: 1 ~ 32 characters Type: Mandatory

13.5.7 lineconfprofile active | create | delete | notinservice

Description	Configure status of a VDSL line configuration profile	
Syntax	lineconfprofile active <name> lineconfprofile create <name> lineconfprofile delete <name> lineconfprofile notinservice <name>	
Parameter		
	Name	Description
	create	Create a VDSL line configuration profile Type: Mandatory

	delete	Delete a VDSL line configuration profile Type: Mandatory
	active	Activate a VDSL line configuration profile Type: Mandatory
	notinservice	Deactivate a VDSL line configuration profile Type: Mandatory
	<name>	Profile Name Valid values: 1 ~ 32 characters Type: Mandatory

13.5.8 lineconfprofile bandcfg

Description	Configure band configuration of a VDSL line configuration profile	
Syntax	lineconfprofile bandcfg <name> <tx> <rx> <opt>	
Parameter		
	Name	Description
	<name>	Profile Name Valid values: 1 ~ 32 characters Type: Mandatory
	<tx>	VDSL line transmit band configuration. Valid values: <ul style="list-style-type: none"> • ALL_TONES_ON(1) • DISABLE_640K_BELOW(2) • DISABLE_1100K_BELOW(3) • DISABLE_2200K_BELOW(4) Default value: DISABLE_2200K_BELOW (4) for VDSL ALL_TONES_ON (1) for ADSL Type: Mandatory
	<rx>	VDSL line receive band configuration. Valid values: <ul style="list-style-type: none"> • ALL_TONES_ON(1) • DISABLE_640K_BELOW(2) • DISABLE_1100K_BELOW(3) • DISABLE_2200K_BELOW(4) Default value: ALL_TONES_ON (1) Type: Mandatory
	<opt>	VDSL line optional band configuration. Valid values: <ul style="list-style-type: none"> • DISABLE(0) • ANNEX_A_26K_TO_138K(1) • ANNEX_B_138K_TO_276K(2) • ANNEX_B_26K_TO_276K(3) Default value: DISABLE (0) for VDSL ANNEX_A_26K_TO_138K(1) for ADSL Annex A ANNEX_B_138K_TO_276K(2) for ADSL Annex B Type: Mandatory

13.5.9 lineconfprofile bandplan

Description	Configure band plan of a VDSL line configuration profile	
Syntax	lineconfprofile bandplan <name> <plan>	
Parameter		
	Name	Description
	<name>	Profile Name Valid values: 1 ~ 32 characters Type: Mandatory
	<plan>	VDSL line band plan configuration Valid values: <ul style="list-style-type: none"> • 998-138-8500_Long_Reach(3) • 998-138-12000 High Data Rate(4) • 998-640-30000 100/100(5) • 997-138-8500(6) • Flex-138-4400(7) • 998-138-4400(8) • 997-138-4400(9) • 998-138-4400-optBand(11) • 997-138-4400-optBand(12) • 998-138-12000 4K Tones(18) • 997-138-12000 4K Tones(19) • 998-138-17000 4K Tones(20) • 998-138-30000 4K Tones 30A(21) Default value: 998-138-30000 4K Tones 30A(21) for VDSL (998-138-17000 4K Tones(20) if the system you purchase supports up to 5 VDSL bands); 998-138-8500_Long_Reach(3) for ADSL Type: Mandatory

13.5.10 lineconfprofile datarate

Description	Configure data rate of a VDSL line configuration profile	
Syntax	lineconfprofile datarate <name> <dnfastmax> <dnfastmin> <dnslowmax> <dnslowmin> <upfastmax> <upfastmin> <upslowmax> <upslowmin>	
Parameter		
	Name	Description
	<name>	Profile Name Valid values: 1 ~ 32 characters Type: Mandatory
	<dnfastmax>	Maximum downstream data rate for fast channel Valid values: 32 ~ 200000 Units: kbps Step: 4 kbps Effective Range: 32 ~ 200000 kbps Default value: 200000 (kbps) Type: Mandatory

<dnfastmin>	Minimum downstream data rate for fast channel. Valid values: 32 ~ 200000 Units: kbps Step: 4 kbps Effective Range: 32 ~ 200000 kbps Default value: 32 (kbps) Type: Mandatory
<dnslowmax>	Maximum downstream data rate for slow channel Valid values: 32 ~ 200000 Units: kbps Step: 4 kbps Effective Range: 32 ~ 200000 kbps Default value: 200000 (kbps) Type: Mandatory
<dnslowmin>	Minimum downstream data rate for slow channel Valid values: 32 ~ 200000 Units: kbps Step: 4 kbps Effective Range: 32 ~ 200000 kbps Default value: 32 (kbps) Type: Mandatory
<upfastmax>	Maximum upstream data rate for fast channel. Valid values: 32 ~ 200000 Units: kbps Step: 4 kbps Effective Range: 32 ~ 200000 kbps Default value: 200000 (kbps) Type: Mandatory
<upfastmin>	Minimum upstream data rate for fast channel Valid values: 32 ~ 200000 Units: kbps Step: 4 kbps Effective Range: 32 ~ 200000 kbps Default value: 32 (kbps) Type: Mandatory
<upslowmax>	Maximum upstream data rate for slow channel Valid values: 32 ~ 200000 Units: kbps Step: 4 kbps Effective Range: 32 ~ 200000 kbps Default value: 200000 (kbps) Type: Mandatory
<upslowmin>	Minimum upstream data rate for slow channel Valid values: 32 ~ 200000 Units: kbps Step: 4 kbps Effective Range: 32 ~ 200000 kbps Default value: 32 (kbps) Type: Mandatory

13.5.11 lineconfprofile deployment

Description	Configure deployment scenario of a VDSL line configuration profile.	
Syntax	lineconfprofile deployment <name> <scenario>	
Parameter		
	Name	Description
	<name>	Profile Name Valid values: 1 ~ 32 characters Type: Mandatory
	<scenario>	VDSL line Deployment Scenario configuration Valid values: fttCab(1) / fttEx(2) / other(3) Default value: fttCab (1) Type: Mandatory

13.5.12 lineconfprofile downpsdtone

Description	Configure downstream PSD tones of a VDSL line configuration profile.	
Syntax	lineconfprofile downpsdtone <name> <index> <freq> <psdLevel>	
Parameter		
	Name	Description
	<name>	Profile Name Valid values: 1 ~ 32 characters Type: Mandatory
	<index>	Index. Valid values: 0 ~ 31 Type: Mandatory
	<freq>	Frequency. Valid values: 0 ~ 65535 Units: kHz Effective Range: 0 ~ 65535 kHz Default value: 1 (KHz) Type: Mandatory
	<psdLevel>	PSD Level Valid values: -1400 ~ -125 Units: 0.1 dBm/Hz Step: 0.5 dBm/Hz Effective Range: -140.0 to -12.5 dBm/Hz Default value: -140.00 (dBm/Hz) Type: Mandatory

13.5.13 lineconfprofile ghscarrieraset

Description	Configure G.hs Carrier Set of a VDSL line configuration profile.	
Syntax	lineconfprofile ghscarrieraset <name> <value>	
Parameter		
	Name	Description
	<name>	Profile Name

		Valid values: 1 ~ 32 characters Type: Mandatory
	<value>	Carrier Set for G.Handshake feature Valid values: (bitmap) I.43(0) - For Ikanos VDSL1 100/100 Mbps V.43(1) - For VDSL modem A.43(2) - For AnnexA or AnnexM modem B.43(3) – Suggest for Annex B modem Note that A43 and B43 cannot be set at the same time. Default value: V.43 & A.43 for VDSL and ADSL Annex A V.43 & B.43 for ADSL Annex B Type: Mandatory

13.5.14 lineconfprofile interdelay

Description	Configure interleave delay of a VDSL line configuration profile.	
Syntax	lineconfprofile interdelay <name> <down> <up>	
Parameter		
	Name	Description
	<name>	Profile Name Valid values: 1 ~ 32 characters Type: Mandatory
	<down>	VDSL line downstream maximum interleaver delay Valid values: 0 ~ 50 Units: ms Effective Range: 0 ~ 50 ms Default value: 2 (ms) Type: Mandatory
	<up>	VDSL line upstream maximum interleaver delay Valid values: 0 ~ 50 Units: ms Effective Range: 0 ~ 50 ms Default value: 2 (ms) Type: Mandatory

13.5.15 lineconfprofile linetype

Description	Configure line type of a VDSL line configuration profile.	
Syntax	lineconfprofile linetype <name> <linetype>	
Parameter		
	Name	Description
	<name>	Profile Name Valid values: 1 ~ 32 characters Type: Mandatory
	<linetype>	VDSL line type. Valid values: no Channel(1) / fast Only(2) / interleaved

	Only(3) Default value: 3 Type: Mandatory
--	--

13.5.16 lineconfprofile maxpwr

Description	Configure maximum aggregate power level of a VDSL line configuration profile.	
Syntax	lineconfprofile maxpwr <name> <down> <up>	
Parameter		
	Name	Description
	<name>	Profile Name Valid values: 1 ~ 32 characters Type: Mandatory
	<down>	VDSL line downstream maximum power. Valid values: 0 ~ 6375 Units: 0.01 dBm Step: 0.25 dBm Effective Range: 0 ~ 63.75 dBm Default value: 63.75 (dBm) Type: Mandatory
	<up>	VDSL line upstream maximum power. Valid values: 0 ~ 6375 Units: 0.01 dBm Step: 0.25 dBm Effective Range: 0 ~ 63.75 dBm Default value: 63.75 (dBm) Type: Mandatory

13.5.17 lineconfprofile minprot

Description	Configure minimal protection of a VDSL line configuration profile.	
Syntax	lineconfprofile minprot <name> <down> <up>	
Parameter		
	Name	Description
	<name>	Profile Name Valid values: 1 ~ 32 characters Type: Mandatory
	<down>	VDSL line downstream minimum protection against impulse noise. Valid values: 0 ~ 31875 Units: 1 us Step: 125 us Effective Range: 0 ~ 31875 us Default value: 0 (us) Type: Mandatory
	<up>	VDSL line upstream minimum protection against impulse noise.

		Valid values: 0 ~ 31875 Units: 1 us Step: 125 us Effective Range: 0 ~ 31875 us Default value: 0 (us) Type: Mandatory
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13.5.18 lineconfprofile ohmrate

Description	Configure overhead rate of a VDSL line configuration profile.	
Syntax	lineconfprofile ohmrate <name> <up> <down>	
Parameter		
	Name	Description
	<name>	Profile Name Valid values: 1 ~ 32 characters Type: Mandatory
	<up>	VDSL line upstream overhead rate Valid values: 4 ~ 64 Units: kbps Effective Range: 4 ~ 64 kbps Default value: 4 (kbps) Type: Mandatory
	<down>	VDSL line downstream overhead rate Valid values: 4 ~ 64 Units: kbps Effective Range: 4 ~ 64 kbps Default value: 4 (kbps) Type: Mandatory

13.5.19 lineconfprofile opmode

Description	Configure allowed operation modes of a VDSL line configuration profile	
Syntax	lineconfprofile opmode <name> <opmode>	
Parameter		
	Name	Description
	<name>	Profile Name Valid values: 1 ~ 32 characters Type: Mandatory
	<opmode>	VDSL line operation mode. Valid values: bitmap, please refer to “13.1.9 list opmode” Default value: 0x0FF00000 for VDSL 0x00000829 for ADSL Annex A 0x00000052 for ADSL Annex B Type: Mandatory

13.5.20 lineconfprofile pbo

Description	Configure power backoff of a VDSL line configuration profile.	
Syntax	lineconfprofile pbo <name> <pbo>	
Parameter		
	Name	Description
	<name>	Profile Name Valid values: 1 ~ 32 characters Type: Mandatory
	<pbo>	VDSL line power backoff control. Valid values: disabled(1) / enabled(2) Default value: disabled Type: Mandatory

13.5.21 lineconfprofile psdmasklvl

Description	Configure PSD mask level of a VDSL line configuration profile.	
Syntax	lineconfprofile psdmasklvl <name> <level>	
Parameter		
	Name	Description
	<name>	Profile Name Valid values: 1 ~ 32 characters Type: Mandatory
	<level>	VDSL line PSD mask level. Valid values: <ul style="list-style-type: none"> • DEFAULT_PSD(0) • ANSI_M1_CAB(1) • ANSI_M2_CAB(2) • ETSI_M1_CAB(3) • ETSI_M2_CAB(4) • ANNEX_F(5) • ANSI_M1_EX(6) • ANSI_M2_EX(7) • ETSI_M1_EX_P2(8) • ETSI_M2_EX_P2(9) • PSD_K(11) • PSD_CHINA(12) • ETSI_M1_EX_P1(13) • ETSI_M2_EX_P1(14) Default value: ANSI_M2_EX(7)

13.5.22 lineconfprofile psdnum

Description	Configure number of customized PSD tones of a VDSL line configuration profile.	
Syntax	lineconfprofile psdnum <name> <up> <down>	
Parameter		
	Name	Description
	<name>	Profile Name

		Valid values: 1 ~ 32 characters Type: Mandatory
	<up>	vdsLineConfUsPsdNum Valid values: 0 ~ 20
	<down>	vdsLineConfDsPsdNum Valid values: 0 ~ 32

13.5.23 lineconfprofile ratemode

Description	Configure rate mode of a VDSL line configuration profile.	
Syntax	lineconfprofile ratemode <name> <mode>	
Parameter		
	Name	Description
	<name>	Profile Name Valid values: 1 ~ 32 characters Type: Mandatory
	<mode>	VDSL line rate adaptive mode. Valid values: manual(1) / adaptAtInit(2) Default value: adaptAtInit (2) Type: Mandatory

13.5.24 lineconfprofile snrmgn

Description	Configure snr margin of a VDSL line configuration profile.	
Syntax	lineconfprofile snrmgn <name> <dnmax> <upmax> <dnmin> <upmin> <dntr> <uptr>	
Parameter		
	Name	Description
	<name>	Profile Name Valid values: 1 ~ 32 characters Type: Mandatory
	<dnmax>	VDSL line downstream maximum SNR margin Valid values: 0 ~ 1275 Units: 0.1 dB Step: 0.5 dB Effective Range: 0 ~ 127.5 dB Default value: 127.5 (dB) Type: Mandatory
	<upmax>	VDSL line upstream maximum SNR margin. Valid values: 0 ~ 1275 Units: 0.1 dB Step: 0.5 dB Effective Range: 0 ~ 127.5 dB Default value: -127.5 (dB) Type: Mandatory
	<dnmin>	VDSL line downstream minimum SNR margin. Valid values: 0 ~ 310

		Units: 0.1 dB Step: 0.5 dB Effective Range: 0 ~ 31.0 dB Default value: 5 (dB) Type: Mandatory
	<upmin>	VDSL line upstream minimum SNR margin. Valid values: 0 ~ 310 Units: 0.1 dB Step: 0.5 dB Effective Range: 0 ~ 31.0 dB Default value: 5 (dB) Type: Mandatory
	<dntar>	VDSL line downstream target SNR margin Valid values: 0 ~ 310 Units: 0.1 dB Step: 0.5 dB Effective Range: 0 ~ 31.0 dB Default value: 6 (dB) Type: Mandatory
	<uptar>	VDSL line upstream target SNR margin Valid values: 0 ~ 310 Units: 0.1 dB Step: 0.5 dB Effective Range: 0 ~ 31.0 dB Default value: 6 (dB) Type: Mandatory

13.5.25 lineconfprofile stdrfiband

Description	Configure masked RFI bands of a VDSL line configuration profile.	
Syntax	lineconfprofile stdrfiband <name> <value>	
Parameter		
	Name	Description
	<name>	Profile Name Valid values: 1 ~ 32 characters Type: Mandatory
	<value>	VDSL line standard RFI bands. Valid values: bitmap <ul style="list-style-type: none"> 1810_1825(0) -- 1.810 - 1.825 MHz: ANNEX F 1810_2000(1) -- 1.810 - 2.000 MHz: ETSI, T1E1 19075_19125(2) -- 1.9075 - 1.9125 MHz: ANNEX F 3500_3575(3) -- 3.500 - 3.575 MHz: ANNEX F 3500_3800(4) -- 3.500 - 3.800 MHz: ETSI 3500_4000(5) -- 3.500 - 4.000 MHz: T1E1 3747_3754(6) -- 3.747 - 3.754 MHz: ANNEX F 3791_3805(7) -- 3.791 - 3.805 MHz: ANNEX F 7000_7100(8) -- 7.000 - 7.100 MHz: ANNEX F, ETSI 7000_7300(9) -- 7.000 - 7.300 MHz: T1E1 10100_10150(10) -- 10.100 - 10.150 MHz: ANNEX F,

	ETSI, T1E1 <ul style="list-style-type: none"> • 14000_14350(11) -- 14.000 - 14.350 MHz: ANNEX F, ETSI, T1E1 • 18068_18168(12) -- 18.068 - 18.168 MHz: ANNEX F, ETSI, T1E1 • 1800_1825(13) -- 1.800 - 1.825 MHz: HAM Band 1 • 3500_3550(14) -- 3.500 - 3.550 MHz: HAM Band 2 • 3790_3800(15) -- 3.790 - 3.800 MHz: HAM Band 3 • 1800_1810(16) -- 1.800 - 1.810 MHz: RFI Notch • 21000_21450(17) -- 21.000 - 21.450 MHz: ANNEX F, ETSI, T1E1 • 24890_24990(18) -- 24.890 - 24.990 MHz: ANNEX F, ETSI, T1E1 • 28000_29100(19) -- 28.000 - 29.100 MHz: ANNEX F, ETSI, T1E1 • 28000_29700(20) -- 28.000 - 29.700 MHz: ANNEX F, ETSI, T1E1 Default value: 0
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13.5.26 lineconfprofile maxpsd

Description	Configure maximum PSD of a VDSL line configuration profile.	
Syntax	lineconfprofile maxpsd <name> <up> <down>	
Parameter		
	Name	Description
	<name>	Profile Name Valid values: 1 ~ 32 characters Type: Mandatory
	<up>	VDSL line upstream maximum PSD Valid values: -1400 ~ -135 Units: 0.1 dBm/Hz Step: 0.5 dBm/Hz Effective Range: -140.0 ~ -13.5 dBm/Hz Default value: -38.00 (dBm/Hz)
	<down>	VDSL line downstream maximum PSD Valid values: -1400 ~ -135 Units: 0.1 dBm/Hz Step: 0.5 dBm/Hz Effective Range: -140.0 ~ -13.5 dBm/Hz Default value: -41.00 (dBm/Hz)

13.5.27 lineconfprofile uppbok1

Description	Configure upstream power backoff (K1) of a VDSL line configuration profile. K1 and K2 parameters allow the user more flexibility in using Upstream Power Back-Off (UPBO) on CPE modem. Changing K1 and K2 values will affect the CPE Tx PSD. Please refer to VDSL standards for exact
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	relation between K1, K2 parameters and Tx PSD. There is a set of K1/K2 parameters associated with each upstream band in the PSD: Upstream Band 0 or Optional band, Upstream band 1, Upstream band 2, Upstream band 3, Upstream band4, and Upstream Band 5. Setting all K2 parameters to 0 and all K1 to a high power level (ie low number) will essentially disable UPBO.	
Syntax	lineconfprofile uppbok1 <name> <index> <k1>	
Parameter		
	Name	Description
	<name>	Profile Name Valid values: 1 ~ 32 characters Type: Mandatory
	<index>	Index (0:opt, 1:US1, 2:US2, 3:US3, 4:US4, 5:US5) Valid values: 0 ~ 5
	<k1>	vdslLineConfUpPboK1 Valid values: -1000000 ~ 100000 Units: 0.001 dBm/Hz Effective Range: -1000 ~ 100 dBm/Hz Default value: OPT: 0 (dBm/Hz) US1: -60000 (dBm/Hz) US2: -6000 (dBm/Hz) US3: -60000 (dBm/Hz) US4: 0 (dBm/Hz) US5: 0 (dBm/Hz)

13.5.28 lineconfprofile uppbok2

Description	Configure upstream power backoff (K2) of a VDSLLineConfProfile. K1 and K2 parameters allow the user more flexibility in using Upstream Power Back-Off (UPBO) on CPE modem. Changing K1 and K2 values will affect the CPE Tx PSD. Please refer to VDSL standards for exact relation between K1, K2 parameters and Tx PSD. There is a set of K1/K2 parameters associated with each upstream band in the PSD: Upstream Band 0 or Optional band, Upstream band 1, Upstream band 2, Upstream band 3, Upstream band4, and Upstream Band 5. Setting all K2 parameters to 0 and all K1 to a high power level (ie low number) will essentially disable UPBO.	
Syntax	lineconfprofile uppbok2 <name> <index> <k2>	
Parameter		
	Name	Description
	<name>	Profile Name Valid values: 1 ~ 32 characters Type: Mandatory
	<index>	Index (0:opt, 1:US1, 2:US2, 3:US3, 4:US4, 5:US5) Valid values: 0 ~ 5
	<k2>	vdslLineConfUpPboK2 Valid values: -1000000 ~ 100000 Units: 0.001 dBm/Hz Effective Range: -1000 ~ 100 dBm/Hz

		Default value: OPT: 0 (dBm/Hz) US1: -15780 (dBm/Hz) US2: -10710 (dBm/Hz) US3: -5400 (dBm/Hz) US4: 0 (dBm/Hz) US5: 0 (dBm/Hz)
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13.5.29 lineconfprofile uppsdtone

Description	Configure upstream PSD tones of a VDSL line configuration profile.	
Syntax	lineconfprofile uppsdtone <name> <index> <freq> <psdLevel>	
Parameter		
	Name	Description
	<name>	Profile Name Valid values: 1 ~ 32 characters Type: Mandatory
	<index>	Index. Valid values: 0 ~ 19 Type: Mandatory
	<freq>	Frequency. Valid values: 0 ~ 65535 Units: kHz Effective Range: 0 ~ 65535 kHz Default value: 1 (KHz) Type: Mandatory
	<psdLevel>	PSD Level Valid values: -1400 ~ -125 Units: 0.1 dBm/Hz Step: 0.5 dBm/Hz Effective Range: -140.0 to -12.5 dBm/Hz Default value: -140.00 (dBm/Hz) Type: Mandatory

13.5.30 lineconfprofile us0mask

Description	Configure US0 band masks of a VDSL line configuration profile.	
Syntax	lineconfprofile us0mask <name> <adsl2m> <vdsl2a> <vdsl2b>	
Parameter		
	Name	Description
	<name>	Profile Name Valid values: 1 ~ 32 characters Type: Mandatory
	<adsl2m>	US0 mask of Annex M Valid values: bitmap <ul style="list-style-type: none"> • eu36(0) • eu40(1) • eu44(2)

		<ul style="list-style-type: none"> • eu48(3) • eu52(4) • eu56(5) • eu60(6) • eu64(7) Default value: 0x000000FF
	<vdsl2a>	US0 mask of Annex A Valid values: bitmap <ul style="list-style-type: none"> • eu32(0) • eu36(1) • eu40(2) • eu44(3) • eu48(4) • eu52(5) • eu56(6) • eu60(7) • eu64(8) • ds1(10) • ds9(11) Default values: 0x00000DFF
	<vdsl2b>	US0 mask of Annex B Valid values: bitmap <ul style="list-style-type: none"> • US_A(0) • US_M(1) • US_B(2) Default values: 0x00000007

13.5.31 lineconfprofile vdsl2freqplan

Description	Configure VDSL2 Frequency Plan of a VDSL line configuration profile.	
Syntax	lineconfprofile vdsl2freqplan <name> <value>	
Parameter		
	Name	Description
	<name>	Profile Name Valid values: 1 ~ 32 characters Type: Mandatory
	<value>	VDSL2 Frequency Plan. Valid values: 0 - VDSL2 Annex C TTC (Default)(Japan) 1 - VDSL2 Annex A (North America) 2 - VDSL2 Annex B 998ADExx (EU: DT) 3 - VDSL2 Annex B 998Exx(EU:Swisscom/FT) 4 - VDSL2 Annex B 997Exx (EU: Telecom Italia) 5 - VDSL2 Annex B HPE30 (EU: BT) Default value: 0 - VDSL2 Annex C TTC (Default)(Japan) Type: Mandatory

13.5.32 vdsl bind

Description	Bind profiles to VDSL line ports	
Syntax	vdsl bind <portNo> [<config>] [<alarm>]	
Parameter		
	Name	Description
	<portNo>	Port Number Valid values: 1 ~ 24, 0: all ports Type: Mandatory
	<config>	Line Configuration Profile Name Valid values: 1 ~ 32 characters Default value: DEFVAL Type: Optional
	<alarm>	Line Alarm Configuration Profile Name Valid values: 1 ~ 32 characters Default value: DEFVAL Type: Optional

13.5.33 vdsl disable | enable

Description	Disable or enable VDSL ports (all ports are default disabled)	
Syntax	vdsl disable <portNo> vdsl enable <portNo>	
Parameter		
	Name	Description
	<portNo>	Port Number Valid values: 1 ~ 24, 0: all ports Type: Mandatory

13.5.34 vdsl delt disable | enable

Description	Disable or enable DELT of VDSL ports (default setting is disabled)	
Syntax	vdsl delt disable <portNo> vdsl delt enable <portNo>	
Parameter		
	Name	Description
	<portNo>	Port Number Valid values: 1 ~ 24, 0: all ports Type: Mandatory

13.5.35 vdsl loopback

Description	Enable loopback of VDSL ports	
Syntax	vdsl loopback <portNo>	
Parameter		

	Name	Description
	<portNo>	Port Number Valid values: 1 ~ 24, 0: all ports Type: Mandatory

13.6 XDSL ATM Bridge Config Mode Commands

Commands that can be executed under XDSL ATM Bridge Config Mode include the commands in section 0, section 0 (except “configure” command), and the commands in this section.

13.6.1 accfrm all | tag

Description	Configure acceptable frame type	
Syntax	accfrm all accfrm tag	
Parameter		
	Name	Description
	all	Accept all frames Type: Mandatory
	tag	Accept tagged frames only Type: Mandatory

13.6.2 aging-bport

Description	Configure aging time for a bridge port	
Syntax	aging-bport <time>	
Parameter		
	Name	Description
	<time>	Aging time Valid values: 10 ~ 600 seconds Default value: 300 (sec) Type: Mandatory

13.6.3 anti-arp-spoofing

Description	Configure Anti-ARP Spoofing Table (create or delete entry)	
Syntax	anti-arp-spoofing <index> { create <ip> <mac> delete }	
Parameter		
	Name	Description
	<index>	Entry index Valid values: 1 ~ 1728 Type: Mandatory
	<ip>	IP Address to be checked Type: Mandatory
	<mac>	Corresponding MAC Address Type: Mandatory

13.6.4 arp-dhcp-snooping

Description	Configure DHCP snooping for replacing MAC via ARP	
Syntax	arp-dhcp-snooping <dhcp-snooping> [<default-mac>]	
Parameter		
	Name	Description
	<dhcp-snooping>	DHCP snooping Valid values: 0:disabled, 1:enabled Type: Mandatory
	<default-mac>	Default MAC Valid values: MAC address Type: Optional

13.6.5 bportbc

Description	Set broadcast rate limit IwPolicer index	
Syntax	bportbc <index>	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 128 Type: Mandatory

13.6.6 default prio <priority>

Description	Set default priority	
Syntax	default prio <priority>	
Parameter		
	Name	Description
	<priority>	Priority Valid values: 0 ~ 7 Type: Mandatory

13.6.7 default vlan <vlanid>

Description	Set default VLAN ID	
Syntax	default vlan <vlanid>	
Parameter		
	Name	Description
	<vlanid>	VLAN ID Valid values: 1 ~ 4094 Type: Mandatory

13.6.8 dhcp-pppoe-config <cid> <rid> <trusted> <pppoeMode>

Description	Set DHCP/PPPOE relay parameters	
Syntax	dhcp-pppoe-config <cid> <rid> <trusted> <pppoeMode>	
Parameter		
	Name	Description
	<cid>	Agent Circuit ID Valid values: 1 ~ 63 characters Type: Mandatory
	<rid>	Agent Remote ID Valid values: 1 ~ 63 characters Type: Mandatory
	<trusted>	Trust DHCP packets with option 82 Valid values: 0:false / 1:true Type: Mandatory
	<pppoeMode>	PPPOE Operation Mode Valid values: 0:transparent / 1:relay Type: Mandatory

13.6.9 dhcp-static-ip <index> create <ip> <mac>

Description	Configure the Static DHCP IP Mapping Table that is used when the DSLAM acts as a DHCP server	
Syntax	dhcp-static-ip <index> create <ip> <mac>	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 432 Type: Mandatory
	<ip>	IP Address to be allocated Type: Mandatory
	<mac>	Corresponding MAC Address Type: Mandatory

13.6.10 dhcp-static-ip <index> delete

Description	Delete a Static DHCP IP Mapping entry	
Syntax	dhcp-static-ip <index> delete	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 432 Type: Mandatory

13.6.11 egress tag | untag

Description	Set Default VLAN egress setting	
Syntax	egress tag egress untag	
Parameter		
	Name	Description
	tag	Egress tagged VLAN Type: Mandatory
	untag	Egress untagged VLAN Type: Mandatory

13.6.12 igmpaclprofile <index>

Description	Set IGMP ACL profile index	
Syntax	igmpaclprofile <index>	
Parameter		
	Name	Description
	<index>	IGMP ACL Profile Index Valid values: 1 ~ 24 Type: Mandatory

13.6.13 ingress disable | enable

Description	Set ingress filter mode	
Syntax	ingress disable ingress enable	
Parameter		
	Name	Description
	disable	Disable ingress filter Type: Mandatory
	enable	Enable ingress filter Type: Mandatory

13.6.14 isolation

Description	Configure default VLAN port isolation	
Syntax	isolation isolation disable	
Parameter		
	Name	Description
	disable	Disable default vlan port isolation Type: Mandatory

13.6.15 link mode uplink | user

Description	Configure link mode
Syntax	link mode uplink link mode user
Parameter	None

13.6.16 mac-learning

Description	Enable/disable mac-learning ability for a bridge port
Syntax	mac-learning {enable disable}
Parameter	None

13.6.17 max-mac

Description	Configure port based maximum MAC addresses	
Syntax	max-mac <value> max-mac default	
Parameter		
	Name	Description
	<value>	Number of MAC addresses Valid values: 0 ~ 512 Type: Mandatory
	default	Set to default value (16) Type: Mandatory

13.6.18 priority-force

Description	Configure Priority Force Mode	
Syntax	priority-force disable priority-force ingress priority-force egress priority-force both	
Parameter		
	Name	Description
	disable	Disable Priority Force Type: Mandatory
	ingress	Enable Priority Force for ingress Type: Mandatory
	egress	Enable Priority Force for egress Type: Mandatory
	both	Enable Priority Force for both ingress and egress Type: Mandatory

13.6.19 protocol-vlan-conf

Description	Configure per port Protocol-based VLAN setting	
Syntax	protocol-vlan-conf disable protocol-vlan-conf enable	
Parameter		
	Name	Description
	disable	Disable Protocol-based VLAN Type: Mandatory
	enable	Enable Protocol-based VLAN Type: Mandatory

13.6.20 pvc <vpi> <vci>

Description	Configure VPI/VCI value	
Syntax	pvc <vpi> <vci>	
Parameter		
	Name	Description
	<vpi>	VPI value Valid values: 0 ~ 255 Type: Mandatory
	<vci>	VCI value Valid values: 32 ~ 65535, 21 Type: Mandatory

13.6.21 pvc encapsulation llc | vcmux

Description	Configure AAL5 encapsulation type	
Syntax	pvc encapsulation llc pvc encapsulation vcmux	
Parameter		
	Name	Description
	llc	RFC-1483 LLC Bridge type Type: Mandatory
	vcmux	RFC-1483 VCMux Bridge type Type: Mandatory

13.6.22 pvc trafdesc <index>

Description	Set traffic descriptor	
Syntax	pvc trafdesc <index>	
Parameter		
	Name	Description
	<index>	Traffic descriptor index Valid values: 1 ~ 16

	Type: Mandatory
--	------------------------

13.6.23 ratelimit <index>

Description	Set rate limit policer index	
Syntax	ratelimit <egress> <ingress>	
Parameter		
	Name	Description
	<egress>	Rate limit policer index for egress direction Valid values: 1 ~ 128 Type: Mandatory
	<ingress>	Rate limit policer index for ingress direction Valid values: 1 ~ 128 Type: Mandatory

13.6.24 vlan <vlanid> disable

Description	Delete VLAN member set	
Syntax	vlan <vlanid> disable	
Parameter		
	Name	Description
	<vlanid>	VLAN ID Valid values: 1 ~ 4094 Type: Mandatory

13.6.25 vlan

Description	Configure VLAN member set setting	
Syntax	vlan <vlanid> tag isolation vlan <vlanid> tag isolation disable vlan <vlanid> untag isolation vlan <vlanid> untag isolation disable	
Parameter		
	Name	Description
	<vlanid>	VLAN ID Valid values: 1 ~ 4094 Type: Mandatory
	tag	Egress tagged VLAN Type: Mandatory
	untag	Egress untagged VLAN Type: Mandatory
	isolation	Enable default vlan port isolation Type: Mandatory
	isolation disable	Disable default vlan port isolation Type: Mandatory

13.6.26 vlan-mode

Description	Set VLAN mode to Non-TLS, QinQ, or TLS (transparent LAN service)
Syntax	vlan-mode { non-tls q-in-q tls }
Parameter	None

13.6.27 vlan-regen <incoming> <outgoing>

Description	Configure priority re-generation	
Syntax	vlan-regen <incoming> <outgoing>	
Parameter		
	Name	Description
	<incoming>	Incoming VLAN priority value Valid values: 0 ~ 7 Type: Mandatory
	<outgoing>	Outgoing VLAN priority value Valid values: 0 ~ 7 Type: Mandatory

13.6.28 vlan-regen <incoming> disable

Description	Disable priority re-generation	
Syntax	vlan-regen <incoming> disable	
Parameter		
	Name	Description
	<incoming>	Incoming VLAN priority value Valid values: 0 ~ 7 Type: Mandatory

13.6.29 vlan-translation <index> create <userVlanid> <uplinkBP> one-to-one

Description	Create a one-to-one VLAN translation entry (including Replaced, Reserved, Stacking, Stacking and Replaced mode)	
Syntax	vlan-translation <index> create <userVlanid> <uplinkBP> one-to-one replaced <uplinkVlanid> {priority replaced <replaced priority> priority reserved} vlan-translation <index> create <userVlanid> <uplinkBP> one-to-one reserved {priority replaced <replaced priority> priority reserved} vlan-translation <index> create <userVlanid> <uplinkBP> one-to-one stacking <uplinkVlanid> [ctag-replaced <newUserVlanid> <newUserPriority>] {priority-replaced <replacedPriority> priority reserved}	
Parameter		
	Name	Description
	<index>	Index

		Valid values: 1 ~ 512 Type: Mandatory
	<userVlanid>	User bridge port VLAN Valid values: 1 ~ 4094 Type: Mandatory
	<uplinkBP>	Uplink bridge port index Valid values: 1 ~ 3 Type: Mandatory
	<uplinkVlanid>	Uplink bridge port VLAN Valid values: 1 ~ 4094 Type: Mandatory
	<replacedPriority>	Priority to be replaced with. Valid values: 0 ~ 7 Type: Mandatory
	<newUserVlanid>	New user bridge port VLAN (for stacking and replaced mode) Valid values: 1 ~ 4094 Type: Mandatory
	<newUserPriority>	New user bridge port priority (for stacking and replaced mode) Valid values: 0 ~ 7 Type: Mandatory

13.6.30 vlan-translation <index> create <userVlanid> <uplinkBP> many-to-one

Description	Create a many-to-one VLAN translation entry (including only Replaced mode)	
Syntax	vlan-translation <index> create <userVlanid> <uplinkBP> many-to-one replaced <uplinkVlanid> {priority replaced <replaced priority> priority reserved}	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 512 Type: Mandatory
	<userVlanid>	User bridge port VLAN Valid values: 1 ~ 4094 Type: Mandatory
	<uplinkBP>	Uplink bridge port index Valid values: 1 ~ 3 Type: Mandatory
	<uplinkVlanid>	Uplink bridge port VLAN Valid values: 1 ~ 4094 Type: Mandatory
	<replacedPriority>	Priority to be replaced with. Valid values: 0 ~ 7 Type: Mandatory

13.6.31 vlan-translation <index> delete

Description	Delete a VLAN translation entry	
Syntax	vlan-translation <index> delete	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 512 Type: Mandatory

13.7 XDSL Packet Bridge Config Mode Commands

Commands that can be executed under XDSL Packet Bridge Config Mode include the commands in section 0, section 0 (except “configure” command), and the commands in this section.

13.7.1 accfrm all | tag

Description	Configure acceptable frame type	
Syntax	accfrm all accfrm tag	
Parameter		
	Name	Description
	all	Accept all frames Type: Mandatory
	tag	Accept tagged frames only Type: Mandatory

13.7.2 aging-bport

Description	Configure aging time for a bridge port	
Syntax	aging-bport <time>	
Parameter		
	Name	Description
	<time>	Aging time Valid values: 10 ~ 600 seconds Default value: 300 (sec) Type: Mandatory

13.7.3 anti-arp-spoofing

Description	Configure Anti-ARP Spoofing Table (create or delete entry)	
Syntax	anti-arp-spoofing <index> { create <ip> <mac> delete }	
Parameter		
	Name	Description
	<index>	Entry index Valid values: 1 ~ 1728 Type: Mandatory
	<ip>	IP Address to be checked Type: Mandatory
	<mac>	Corresponding MAC Address Type: Mandatory

13.7.4 arp-dhcp-snooping

Description	Configure DHCP snooping for replacing MAC via ARP	
Syntax	arp-dhcp-snooping <dhcp-snooping> [<default-mac>]	
Parameter		
	Name	Description
	<dhcp-snooping>	DHCP snooping Valid values: 0:disabled, 1:enabled Type: Mandatory
	<default-mac>	Default MAC Valid values: MAC address Type: Optional

13.7.5 bportbc

Description	Set broadcast rate limit IwPolicer index	
Syntax	bportbc <index>	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 128 Default value: 1 Type: Mandatory

13.7.6 default prio <priority>

Description	Set default priority	
Syntax	default prio <priority>	
Parameter		
	Name	Description
	<priority>	Priority Valid values: 0 ~ 7 Type: Mandatory

13.7.7 default vlan <vlanid>

Description	Set default VLAN ID	
Syntax	default vlan <vlanid>	
Parameter		
	Name	Description
	<vlanid>	VLAN ID Valid values: 1 ~ 4094 Type: Mandatory

13.7.8 dhcp-pppoe-config <cid> <rid> <trusted> <pppoeMode>

Description	Set DHCP/PPPOE relay parameters	
Syntax	dhcp-pppoe-config <cid> <rid> <trusted> <pppoeMode>	
Parameter		
	Name	Description
	<cid>	Agent Circuit ID Valid values: 1 ~ 63 characters Type: Mandatory
	<rid>	Agent Remote ID Valid values: 1 ~ 63 characters Type: Mandatory
	<trusted>	Trust DHCP packets with option 82 Valid values: 0:false / 1:true Type: Mandatory
	<pppoeMode>	PPPOE Operation Mode Valid values: 0:transparent / 1:relay Type: Mandatory

13.7.9 dhcp-static-ip <index> create <ip> <mac>

Description	Configure the Static DHCP IP Mapping Table that is used when the DSLAM acts as a DHCP server	
Syntax	dhcp-static-ip <index> create <ip> <mac>	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 432 Type: Mandatory
	<ip>	IP Address to be allocated Type: Mandatory
	<mac>	Corresponding MAC Address Type: Mandatory

13.7.10 dhcp-static-ip <index> delete

Description	Delete a Static DHCP IP Mapping entry	
Syntax	dhcp-static-ip <index> delete	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 432 Type: Mandatory

13.7.11 egress tag | untag

Description	Set Default VLAN egress setting	
Syntax	egress tag egress untag	
Parameter		
	Name	Description
	tag	Egress tagged VLAN Type: Mandatory
	untag	Egress untagged VLAN Type: Mandatory

13.7.12 igmpaclprofile <index>

Description	Set IGMP ACL profile index	
Syntax	igmpaclprofile <index>	
Parameter		
	Name	Description
	<index>	IGMP ACL Profile Index Valid values: 1 ~ 24 Type: Mandatory

13.7.13 ingress disable | enable

Description	Set ingress filter mode	
Syntax	ingress disable ingress enable	
Parameter		
	Name	Description
	disable	Disable ingress filter Type: Mandatory
	enable	Enable ingress filter Type: Mandatory

13.7.14 isolation

Description	Configure default VLAN port isolation	
Syntax	isolation isolation disable	
Parameter		
	Name	Description
	disable	Disable default vlan port isolation Type: Mandatory

13.7.15 link mode uplink | user

Description	Configure link mode
Syntax	link mode uplink link mode user
Parameter	None

13.7.16 mac-learning

Description	Enable/disable mac-learning ability for a bridge port
Syntax	mac-learning {enable disable}
Parameter	None

13.7.17 max-mac

Description	Configure port based maximum MAC addresses	
Syntax	max-mac <value> max-mac default	
Parameter		
	Name	Description
	<value>	Number of MAC addresses Valid values: 0 ~ 512 Type: Mandatory
	default	Set to default value (16) Type: Mandatory

13.7.18 priority-force

Description	Configure Priority Force Mode	
Syntax	priority-force disable priority-force ingress priority-force egress priority-force both	
Parameter		
	Name	Description
	disable	Disable Priority Force Type: Mandatory
	ingress	Enable Priority Force for ingress Type: Mandatory
	egress	Enable Priority Force for egress Type: Mandatory
	both	Enable Priority Force for both ingress and egress Type: Mandatory

13.7.19 protocol-vlan-conf

Description	Configure per port Protocol-based VLAN setting	
Syntax	protocol-vlan-conf disable protocol-vlan-conf enable	
Parameter		
	Name	Description
	disable	Disable Protocol-based VLAN Type: Mandatory
	enable	Enable Protocol-based VLAN Type: Mandatory

13.7.20 ratelimit <index>

Description	Set rate limit policer index	
Syntax	ratelimit <egress> <ingress>	
Parameter		
	Name	Description
	<egress>	Rate limit policer index for egress direction Valid values: 1 ~ 128 Type: Mandatory
	<ingress>	Rate limit policer index for ingress direction Valid values: 1 ~ 128 Type: Mandatory

13.7.21 vlan <vlanid> disable

Description	Delete VLAN member set	
Syntax	vlan <vlanid> disable	
Parameter		
	Name	Description
	<vlanid>	VLAN ID Valid values: 1 ~ 4094 Type: Mandatory

13.7.22 vlan

Description	Configure VLAN member set setting	
Syntax	vlan <vlanid> tag isolation vlan <vlanid> tag isolation disable vlan <vlanid> untag isolation vlan <vlanid> untag isolation disable	
Parameter		
	Name	Description
	<vlanid>	VLAN ID

		Valid values: 1 ~ 4094 Type: Mandatory
	tag	Egress tagged VLAN Type: Mandatory
	untag	Egress untagged VLAN Type: Mandatory
	isolation	Enable default vlan port isolation Type: Mandatory
	isolation disable	Disable default vlan port isolation Type: Mandatory

13.7.23 vlan-mode

Description	Set VLAN mode to Non-TLS, QinQ, or TLS (transparent LAN service)
Syntax	vlan-mode {non-tls q-in-q tls}
Parameter	None

13.7.24 vlan-regen <incoming> <outgoing>

Description	Configure priority re-generation	
Syntax	vlan-regen <incoming> <outgoing>	
Parameter		
	Name	Description
	<incoming>	Incoming VLAN priority value Valid values: 0 ~ 7 Type: Mandatory
	<outgoing>	Outgoing VLAN priority value Valid values: 0 ~ 7 Type: Mandatory

13.7.25 vlan-regen <incoming> disable

Description	Disable priority re-generation	
Syntax	vlan-regen <incoming> disable	
Parameter		
	Name	Description
	<incoming>	Incoming VLAN priority value Valid values: 0 ~ 7 Type: Mandatory

13.7.26 vlan-translation <index> create <userVlanid> <uplinkBP> one-to-one

Description	Create a one-to-one VLAN translation entry (including Replaced, Reserved, Stacking, Stacking and Replaced mode)
Syntax	vlan-translation <index> create <userVlanid> <uplinkBP> one-to-one

	replaced <uplinkVlanid> {priority replaced <replaced priority> priority reserved} vlan-translation <index> create <userVlanid> <uplinkBP> one-to-one reserved {priority replaced <replaced priority> priority reserved} vlan-translation <index> create <userVlanid> <uplinkBP> one-to-one stacking <uplinkVlanid> [ctag-replaced <newUserVlanid> <newUserPriority>] {priority-replaced <replacedPriority> priority reserved}	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 512 Type: Mandatory
	<userVlanid>	User bridge port VLAN Valid values: 1 ~ 4094 Type: Mandatory
	<uplinkBP>	Uplink bridge port index Valid values: 1 ~ 3 Type: Mandatory
	<uplinkVlanid>	Uplink bridge port VLAN Valid values: 1 ~ 4094 Type: Mandatory
	<repalcedPriority>	Priority to be replaced with. Valid values: 0 ~ 7 Type: Mandatory
	<newUserVlanid>	New user bridge port VLAN (for stacking and replaced mode) Valid values: 1 ~ 4094 Type: Mandatory
	<newUserPriority>	New user bridge port priority (for stacking and replaced mode) Valid values: 0 ~ 7 Type: Mandatory

13.7.27 vlan-translation <index> create <userVlanid> <uplinkBP> many-to-one

Description	Create a many-to-one VLAN translation entry (including only Replaced mode)	
Syntax	vlan-translation <index> create <userVlanid> <uplinkBP> many-to-one replaced <uplinkVlanid> {priority replaced <replaced priority> priority reserved}	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 512

	<userVlanid>	User bridge port VLAN Valid values: 1 ~ 4094 Type: Mandatory
	<uplinkBP>	Uplink bridge port index Valid values: 1 ~ 3 Type: Mandatory
	<uplinkVlanid>	Uplink bridge port VLAN Valid values: 1 ~ 4094 Type: Mandatory
	<repalcedPriority>	Priority to be replaced with. Valid values: 0 ~ 7

13.7.28 vlan-translation <index> delete

Description	Delete a VLAN translation entry	
Syntax	vlan-translation <index> delete	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 512 Type: Mandatory

13.7.29 vpmt <index>

Description	Set VPMT profile index for the packet line bridge port	
Syntax	vpmt <index>	
Parameter		
	Name	Description
	<index>	Profile Index Valid values: 1 ~ 24 Type: Mandatory

13.8 Gigabit Interface Config Mode Commands

Commands that can be executed under Gigabit Interface Config Mode include the commands in section 0, section 0 (except “configure” command), and the commands in this section.

13.8.1 bridge

Description	Enter bridge configuration mode
Syntax	bridge
Parameter	None

13.8.2 gbe physical

Description	Configure physical medium of gigabit Ethernet port (default is SFP first)	
Syntax	gbe physical copper gbe physical sfp	
Parameter		
	Name	Description
	copper	Copper first Type: Mandatory
	sfp	SFP first Type: Mandatory

13.8.3 gbe-speed

Description	Configure gigabit Ethernet port speed (default is Auto Negotiate)	
Syntax	gbe-speed auto gbe-speed full-1000mbps gbe-speed full-100mbps gbe-speed full-10mbps gbe-speed half-100mbps gbe-speed half-10mbps	
Parameter		
	Name	Description
	auto	Set GBE to auto negotiate Type: Mandatory
	full-1000mbps	Set GBE to 1000Mbps full duplexing Type: Mandatory
	full-100mbps	Set GBE to 100Mbps full duplexing Type: Mandatory
	full-10mbps	Set GBE to 10Mbps full duplexing Type: Mandatory

	half-100mbps	Set GBE to 100Mbps half duplexing Type: Mandatory
	half-10mbps	Set GBE to 10Mbps half duplexing Type: Mandatory

13.8.4 uplink-mode-conf

Description	Configure uplink mode (default is non-LACP mode)	
Syntax	uplink-mode-conf la uplink-mode-conf nonla	
Parameter		
	Name	Description
	la	Link aggregation enabled Type: Mandatory
	nonla	Link aggregation disabled Type: Mandatory

13.9 Gigabit Bridge Config Mode Commands

Commands that can be executed under Gigabit Bridge Config Mode include the commands in section 0, section 0 (except “configure” command), and the commands in this section.

13.9.1 accfrm all | tag

Description	Configure Acceptable frame type (default is all: accept all frames)	
Syntax	accfrm all accfrm tag	
Parameter		
	Name	Description
	all	Accept all frames Type: Mandatory
	tag	Accept tagged frames only Type: Mandatory

13.9.2 aging-bport

Description	Configure aging time for a bridge port	
Syntax	aging-bport <time>	
Parameter		
	Name	Description
	<time>	Aging time Valid values: 10 ~ 600 seconds Default value: 300 (sec) Type: Mandatory

13.9.3 bportbc

Description	Set broadcast rate limit IwPolicer index	
Syntax	bportbc <index>	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 128 Default value: 1 Type: Mandatory

13.9.4 default prio <priority>

Description	Set default priority
Syntax	default prio <priority>

Parameter		
	Name	Description
	<priority>	Priority Valid values: 0 ~ 7 Default value: 0 Type: Mandatory

13.9.5 default vlan <vlanid>

Description	Set default VLAN ID.	
Syntax	default vlan <vlanid>	
Parameter		
	Name	Description
	<vlanid>	VLAN ID Valid values: 1 ~ 4094 Default value: 1 Type: Mandatory

13.9.6 egress tag | untag

Description	Set Default VLAN egress setting (default setting is Untagged)	
Syntax	egress tag egress untag	
Parameter		
	Name	Description
	tag	Egress tagged VLAN Type: Mandatory
	untag	Egress untagged VLAN Type: Mandatory

13.9.7 ingress disable | enable

Description	Set ingress filter mode (default setting is ingress filter enabled)	
Syntax	ingress disable ingress enable	
Parameter		
	Name	Description
	disable	Disable ingress filter Type: Mandatory
	enable	Enable ingress filter Type: Mandatory

13.9.8 isolation

Description	Configure default VLAN port isolation (default is isolation enabled)	
Syntax	isolation isolation disable	
Parameter		
	Name	Description
	disable	Disable default VLAN port isolation Type: Mandatory

13.9.9 link mode uplink | user

Description	Configure link mode (default is uplink mode)	
Syntax	link mode uplink link mode user	
Parameter	None	

13.9.10 stpport edge disable | enable

Description	Set edge status (default is disabled)	
Syntax	stpport edge disable stpport edge enable	
Parameter	None	

13.9.11 stpport pathcost <pathcost>

Description	Set STP path cost	
Syntax	stpport pathcost <pathcost>	
Parameter		
	Name	Description
	<pathcost>	Pathcost value Valid values: 1 ~ 65535 Default value: 100 Type: Mandatory

13.9.12 stpport priority <priority>

Description	Set STP priority	
Syntax	stpport priority <priority>	
Parameter		
	Name	Description
	<priority>	STP priority value Valid values: 0 ~ 61440 step 4096 Default value: 128 Type: Mandatory

13.9.13 vlan <vlanid> disable

Description	Delete VLAN member set	
Syntax	vlan <vlanid> disable	
Parameter		
	Name	Description
	<vlanid>	VLAN ID Valid values: 1 ~ 4094 Type: Mandatory

13.9.14 vlan

Description	Configure VLAN member set setting	
Syntax	vlan <vlanid> tag isolation vlan <vlanid> tag isolation disable vlan <vlanid> untag isolation vlan <vlanid> untag isolation disable	
Parameter		
	Name	Description
	<vlanid>	VLAN ID Valid values: 1 ~ 4094 Type: Mandatory
	tag	Egress tagged VLAN Type: Mandatory
	untag	Egress untagged VLAN Type: Mandatory
	isolation	Enable default VLAN port isolation Type: Mandatory
	isolation disable	Disable default VLAN port isolation Type: Mandatory

13.9.15 vlan-regen <incoming> <outgoing>

Description	Configure priority re-generation	
Syntax	vlan-regen <incoming> <outgoing>	
Parameter		
	Name	Description
	<incoming>	Incoming VLAN priority value Valid values: 0 ~ 7 Type: Mandatory
	<outgoing>	Outgoing VLAN priority value Valid values: 0 ~ 7 Type: Mandatory

13.9.16 vlan-regen <incoming> disable

Description	Disable priority re-generation	
Syntax	vlan-regen <incoming> disable	
Parameter		
	Name	Description
	<incoming>	Incoming VLAN priority value Valid values: 0 ~ 7 Type: Mandatory

13.9.17 vpmt pass | deny

Description	Allow or deny VLAN priority	
Syntax	vpmt deny <vlan-priority> vpmt pass <vlan-priority>	
Parameter		
	Name	Description
	<vlan-priority>	VALN Priority Valid values: 0 ~ 7 Type: Mandatory

13.9.18 vpmt priority

Description	Configure VLAN priority mapping Default setting is: VLAN Priority: QueuePriority 0 3 1 3 2 2 3 2 4 1 5 1 6 0 7 0	
Syntax	vpmt priority <vlan-priority> <queue-priority>	
Parameter		
	Name	Description
	<vlan-priority>	VALN Priority Valid values: 0 ~ 7 Type: Mandatory
	<queue-priority>	Queue Priority Valid values: 0 ~ 3 Type: Mandatory

13.10 Gigabit LA Interface Config Mode Commands

Commands that can be executed under Gigabit LA Interface Config Mode include the commands in section 0, section 0 (except “configure” command), and the commands in this section.

13.10.1 bridge

Description	Enter bridge configuration mode
Syntax	bridge
Parameter	None

13.10.2 uplink-mode-conf

Description	Configure uplink mode	
Syntax	uplink-mode-conf la uplink-mode-conf nonla	
Parameter		
	Name	Description
	la	Link aggregation enabled Type: Mandatory
	nonla	Link aggregation disabled Type: Mandatory

13.11 Gigabit LA Bridge Config Mode Commands

Commands that can be executed under Gigabit LA Bridge Config Mode include the commands in section 0, section 0 (except “configure” command), and the commands in this section.

13.11.1 accfrm all | tag

Description	Configure acceptable frame type	
Syntax	accfrm all accfrm tag	
Parameter		
	Name	Description
	all	Accept all frames Type: Mandatory
	tag	Accept tagged frames only Type: Mandatory

13.11.2 bportbc

Description	Set broadcast rate limit IwPolicer index	
Syntax	bportbc <index>	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 128 Default value: 1 Type: Mandatory

13.11.3 default prio <priority>

Description	Set default priority	
Syntax	default prio <priority>	
Parameter		
	Name	Description
	<priority>	Priority Valid values: 0 ~ 7 Type: Mandatory

13.11.4 default vlan <vlanid>

Description	Set default VLAN ID
Syntax	default vlan <vlanid>

Parameter		
	Name	Description
	<vlanid>	VLAN ID Valid values: 1 ~ 4094 Type: Mandatory

13.11.5 egress tag | untag

Description	Set Default VLAN egress setting	
Syntax	egress tag egress untag	
Parameter		
	Name	Description
	tag	Egress tagged VLAN Type: Mandatory
	untag	Egress untagged VLAN Type: Mandatory

13.11.6 ingress disable | enable

Description	Set ingress filter mode	
Syntax	ingress disable ingress enable	
Parameter		
	Name	Description
	disable	Disable ingress filter Type: Mandatory
	enable	Enable ingress filter Type: Mandatory

13.11.7 isolation

Description	Configure default VLAN port isolation	
Syntax	isolation isolation disable	
Parameter		
	Name	Description
	disable	Disable default VLAN port isolation Type: Mandatory

13.11.8 lacp actor admin-key <key>

Description	Set administrative key for the aggregator	
Syntax	lacp actor admin-key <key>	

Parameter		
	Name	Description
	key	Key value Valid values: 0 ~ 65535 Type: Mandatory

13.11.9 lacp actor system-priority <priority>

Description	Set actor's system priority	
Syntax	lacp actor system-priority <priority>	
Parameter		
	Name	Description
	priority	Priority Valid values: 0 ~ 65535 Type: Mandatory

13.11.10 link mode uplink | user

Description	Configure link mode
Syntax	link mode uplink link mode user
Parameter	None

13.11.11 vlan <vlanid> disable

Description	Delete VLAN member set	
Syntax	vlan <vlanid> disable	
Parameter		
	Name	Description
	<vlanid>	VLAN ID Valid values: 1 ~ 4094 Type: Mandatory

13.11.12 vlan

Description	Configure VLAN member set setting	
Syntax	vlan <vlanid> tag isolation vlan <vlanid> tag isolation disable vlan <vlanid> untag isolation vlan <vlanid> untag isolation disable	
Parameter		
	Name	Description

	<vlanid>	VLAN ID Valid values: 1 ~ 4094 Type: Mandatory
	tag	Egress tagged VLAN Type: Mandatory
	untag	Egress untagged VLAN Type: Mandatory
	isolation	Enable default VLAN port isolation Type: Mandatory
	isolation disable	Disable default VLAN port isolation

13.11.13 vlan-regen <incoming> <outgoing>

Description	Configure priority re-generation	
Syntax	vlan-regen <incoming> <outgoing>	
Parameter		
	Name	Description
	<incoming>	Incoming VLAN priority value Valid values: 0 ~ 7 Type: Mandatory
	<outgoing>	Outgoing VLAN priority value Valid values: 0 ~ 7 Type: Mandatory

13.11.14 vlan-regen <incoming> disable

Description	Disable priority re-generation	
Syntax	vlan-regen <incoming> disable	
Parameter		
	Name	Description
	<incoming>	Incoming VLAN priority value Valid values: 0 ~ 7 Type: Mandatory

13.12 Access Control List Mode Commands

Commands that can be executed under Access Control List Mode include the commands in section 0, section 0 (except “configure” command), and the commands in this section.

13.12.1 arpbcast <bport> deny

Description	Configure a ARP broadcast deny access list entry	
Syntax	arpbcast <bport> deny	
Parameter		
	Name	Description
	<bport>	Bridge Port Valid values: G1 - gigabit bridge port 1, G2 - gigabit bridge port 2, LA - gigabit bridge LA, XDSL/<port>/<bport> - XDSL/port 1 ~ 24/ bridge port 1 ~ 9 Input is not case sensitive Type: Mandatory

13.12.2 arpbcast <bport> disable

Description	Disable a ARP broadcast deny access list entry	
Syntax	arpbcast <bport> disable	
Parameter		
	Name	Description
	<bport>	Bridge Port Valid values: G1 - gigabit bridge port 1, G2 - gigabit bridge port 2, LA - gigabit bridge LA, XDSL/<port>/<bport> - XDSL/port 1 ~ 24/ bridge port 1 ~ 9 Input is not case sensitive Type: Mandatory

13.12.3 bcrate <vlanid> <cir> <cbs>

Description	Configure broadcast rate limiting	
Syntax	bcrate <vlanid> <cir> <cbs>	
Parameter		
	Name	Description
	<vlanid>	VLAN ID Valid values: 1 ~ 4094

		Type: Mandatory
	<cir>	Committed Information Rate Valid values: 1536 ~ 1G bps Default value: 80000 (bps) Type: Mandatory
	<cbs>	Committed Burst Size Valid values: 1 ~ 1024 ms Default value: 40 (ms) Type: Mandatory

13.12.4 bcrate <vlanid> disable

Description	Disable broadcast rate limiting	
Syntax	bcrate <vlanid> disable	
Parameter		
	Name	Description
	<vlanid>	VLAN ID Valid values: 1 ~ 4094 Type: Mandatory

13.12.5 dstip <index> deny <bport> <ip> <netmask>

Description	Configure a destination IP address deny access list entry	
Syntax	dstip <index> deny <bport> <ip> <netmask>	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 200 Type: Mandatory
	<bport>	Bridge Port Valid values: G1 - gigabit bridge port 1, G2 - gigabit bridge port 2, LA - gigabit bridge LA, XDSL/<port>/<bport> - XDSL/port 1 ~ 24/ bridge port 1 ~ 9 Input is not case sensitive Type: Mandatory
	<ip>	Destination IP address Type: Mandatory
	<netmask>	Netmask Type: Mandatory

13.12.6 dstip <index> disable

Description	Disable a destination IP address deny access list entry
--------------------	---

Syntax	dstip <index> disable	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 200 Type: Mandatory

13.12.7 dstmac <index> deny <bport> <mac>

Description	Configure a destination MAC address deny access list entry	
Syntax	dstmac <index> deny <bport> <mac>	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 200 Type: Mandatory
	<bport>	Bridge Port Valid values: G1 - gigabit bridge port 1, G2 - gigabit bridge port 2, LA - gigabit bridge LA, XDSL/<port>/<bport> - XDSL/port 1 ~ 24/ bridge port 1 ~ 9 Input is not case sensitive Type: Mandatory
	<mac>	Destination MAC address Type: Mandatory

13.12.8 dstmac <index> disable

Description	Disable a destination MAC address deny access list entry	
Syntax	dstmac <index> disable	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 200 Type: Mandatory

13.12.9 ipallow <index> create

Description	Create an IP allow entry	
Syntax	ipallow <index> create <bport> <ip>	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 960 for create, 1 ~ 1920 for delete

		Type: Mandatory
	<bport>	Bridge Port Valid values: XDSL/<port>/<bport> - XDSL/port 1 ~ 24/ bridge port 1 ~ 9 Input is not case sensitive Type: Mandatory
	<ip>	Source IP Address Valid values: IP Address Type: Mandatory

13.12.10 ipallow <index> delete

Description	Delete an IP allow entry	
Syntax	ipallow <index> delete	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 1920 Type: Mandatory

13.12.11 ipprotocol

Description	Configure a IP protocol deny access list entry	
Syntax	ipprotocol <index> deny <bport> eigrp ipprotocol <index> deny <bport> gre ipprotocol <index> deny <bport> icmp ipprotocol <index> deny <bport> igmp ipprotocol <index> deny <bport> igp ipprotocol <index> deny <bport> ipinip ipprotocol <index> deny <bport> ospf ipprotocol <index> deny <bport> tcp ipprotocol <index> deny <bport> udp	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 200 Type: Mandatory
	<bport>	Bridge Port Valid values: G1 - gigabit bridge port 1, G2 - gigabit bridge port 2, LA - gigabit bridge LA, XDSL/<port>/<bport> - XDSL/port 1 ~ 24/ bridge port 1 ~ 9 Input is not case sensitive Type: Mandatory
	eigrp	EIGRP

		Type: Mandatory
	gre	(GRE) General Routing Encapsulation Type: Mandatory
	icmp	(ICMP) Internet Control Message Protocol Type: Mandatory
	igmp	(IGMP) Internet Group Management Protocol Type: Mandatory
	igp	IGP) Any private interior gateway Type: Mandatory
	ipinip	IP in IP (encapsulation) Type: Mandatory
	ospf	OSPF Type: Mandatory
	tcp	(TCP) Transmission Control Protocol Type: Mandatory
	udp	(UDP) User Datagram Protocol Type: Mandatory

13.12.12 ipprotocol <index> disable

Description	Disable a IP protocol deny access list entry	
Syntax	ipprotocol <index> disable	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 200 Type: Mandatory

13.12.13 iwpolicer <index> create

Description	Configure a rate limit profile	
Syntax	iwpolicer <index> create <cir> <cbs> <colorField> <green> <yellow> <red> <nonconf> <aware>; iwpolicer <index> create <cir> <cbs> <colorField> <green> <yellow> <red> <nonconf> <aware> <eir> <ebs>	
Parameter		
	Name	Description
	<index>	Index Valid values: 2 ~ 128 Type: Mandatory
	<cir>	Committed Information Rate Valid values: 1536 ~ 1000000000 bps Default value: 1000000000 bps Type: Mandatory
	<cbs>	Committed Burst Size Valid values: 1 ~ 1024 ms Default value: 80 bps

		Type: Mandatory
	<colorField>	Color Field Valid values: 1: vlan priority, 4: dscp Default value: 1 Type: Mandatory
	<green>	Green Value Valid values: 0 ~ 7 for vlan priority, 0 ~ 63 for dscp Default value: 7 Type: Mandatory
	<yellow>	Yellow Value Valid values: 0 ~ 7 for vlan priority, 0 ~ 63 for dscp Default value: 3 Type: Mandatory
	<red>	Red Value Valid values: 0 ~ 7 for vlan priority, 0 ~ 63 for dscp Default value: 1 Type: Mandatory
	<nonconf>	Action for nonconforming packets Valid values: 0:discard, 1: tag for vlan priority Default value: 0 Type: Mandatory
	<aware>	Color Aware Valid values: 0:color blind, 1:color aware Default value: 0 Type: Mandatory
	<eir>	Excess Information Rate for dual leaky bucket Valid values: 1536 ~ 1000000000 bps Default value: 1000000000 bps Type: Mandatory
	<ebs>	Excess Burst Size for dual leaky bucket Valid values: 1 ~ 1024 ms Default value: 80 bps Type: Mandatory

13.12.14 iwpolicer <index> delete

Description	Delete a rate limit profile	
Syntax	iwpolicer <index> delete	
Parameter		
	Name	Description
	<index>	Index Valid values: 2 ~ 128 Type: Mandatory

13.12.15 l4dstport <index> deny <bport> <port>

Description	Configure a L4 destination port deny access list entry	
Syntax	l4dstport <index> deny <bport> <port>	

Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 200 Type: Mandatory
	<bport>	Bridge Port Valid values: G1 - gigabit bridge port 1, G2 - gigabit bridge port 2, LA - gigabit bridge LA, XDSL/<port>/<bport> - XDSL/port 1 ~ 24/ bridge port 1 ~ 9 Input is not case sensitive Type: Mandatory
	<port>	L4 destination port number Valid values: 1 ~ 65535 Type: Mandatory

13.12.16 l4dstport <index> disable

Description	Disable a L4 destination port deny access list entry	
Syntax	l4dstport <index> disable	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 200 Type: Mandatory

13.12.17 l4srcport <index> deny <bport> <port>

Description	Configure a L4 source port deny access list entry	
Syntax	l4srcport <index> deny <bport> <port>	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 200 Type: Mandatory
	<bport>	Bridge Port Valid values: G1 - gigabit bridge port 1, G2 - gigabit bridge port 2, LA - gigabit bridge LA, XDSL/<port>/<bport> - XDSL/port 1 ~ 24/ bridge port 1 ~ 9 Input is not case sensitive Type: Mandatory
	<port>	L4 source port number

		Valid values: 1 ~ 65535 Type: Mandatory
--	--	--

13.12.18 l4srcport <index> disable

Description	Disable a L4 source port deny access list entry	
Syntax	l4srcport <index> disable	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 200 Type: Mandatory

13.12.19 mcflrate <vlanid> <cir> <cbs>

Description	Configure flooding rate limiting	
Syntax	mcflrate <vlanid> <cir> <cbs>	
Parameter		
	Name	Description
	<vlanid>	VLAN ID Valid values: 1 ~ 4094 Type: Mandatory
	<cir>	Committed Information Rate Valid values: 1536 ~ 1G bps Default value: 80000 (bps) Type: Mandatory
	<cbs>	Bucket size in time Valid values: 1 ~ 1024 ms Default value: 40 (ms) Type: Mandatory

13.12.20 mcflrate <vlanid> disable

Description	Disable multicast lbs (Leaky Bucket Size) rate limiting	
Syntax	mcflrate <vlanid> disable	
Parameter		
	Name	Description
	<vlanid>	VLAN ID Valid values: 1 ~ 4094 Type: Mandatory

13.12.21 netbios <bport> deny

Description	Configure a NetBIOS broadcast deny access list entry	
Syntax	netbios <bport> deny	

Parameter		
Name		Description
<bport>		Bridge Port Valid values: G1 - gigabit bridge port 1, G2 - gigabit bridge port 2, LA - gigabit bridge LA, XDSL/<port>/<bport> - XDSL/port 1 ~ 24/ bridge port 1 ~ 9 Input is not case sensitive Type: Mandatory

13.12.22 netbios <bport> disable

Description		Disable a NetBIOS broadcast deny access list entry
Syntax		netbios <bport> disable
Parameter		
Name		Description
<bport>		Bridge Port Valid values: G1 - gigabit bridge port 1, G2 - gigabit bridge port 2, LA - gigabit bridge LA, XDSL/<port>/<bport> - XDSL/port 1 ~ 24/ bridge port 1 ~ 9 Input is not case sensitive Type: Mandatory

13.12.23 srcip <index> deny <bport> <ip> <netmask>

Description		Configure a source IP address deny access list entry
Syntax		srcip <index> deny <bport> <ip> <netmask>
Parameter		
Name		Description
<index>		Index Valid values: 1 ~ 200 Type: Mandatory
<bport>		Bridge Port Valid values: G1 - gigabit bridge port 1, G2 - gigabit bridge port 2, LA - gigabit bridge LA, XDSL/<port>/<bport> - XDSL/port 1 ~ 24/ bridge port 1 ~ 9 Input is not case sensitive Type: Mandatory
<ip>		Source IP address Type: Mandatory

	<netmask>	Netmask Type: Mandatory
--	-----------	-----------------------------------

13.12.24 srcip <index> disable

Description	Disable a source IP address deny access list entry	
Syntax	srcip <index> disable	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 200 Type: Mandatory

13.12.25 srcmac <index> deny <bport> <mac>

Description	Configure a source MAC address deny access list entry	
Syntax	srcmac <index> deny <bport> <mac>	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 200 Type: Mandatory
	<bport>	Bridge Port Valid values: G1 - gigabit bridge port 1, G2 - gigabit bridge port 2, LA - gigabit bridge LA, XDSL/<port>/<bport> - XDSL/port 1 ~ 24/ bridge port 1 ~ 9 Input is not case sensitive Type: Mandatory
	<mac>	Source MAC address Type: Mandatory

13.12.26 srcmac <index> disable

Description	Disable a source MAC address deny access list entry	
Syntax	srcmac <index> disable	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 200 Type: Mandatory

13.12.27 vlan-ratelimit

Description	Create or delete a per bridge port per VLAN rate limit entry	
Syntax	vlan-ratelimit <index> {create <bport> <vlanid> <egress> <ingress> delete}	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 200 Type: Mandatory
	<bport>	Bridge Port Valid values: G1 - gigabit bridge port 1, G2 - gigabit bridge port 2, LA - gigabit bridge LA, XDSL/<port>/<bport> - XDSL/port 1 ~ 24/ bridge port 1 ~ 9 Input is not case sensitive Type: Mandatory
	<vlanid>	VLAN ID Valid values: 1 ~ 4094 Default value: 1 Type: Mandatory
	<egress>	Rate limit policer index for egress direction Valid values: 1 ~ 128 Default value: 1 Type: Mandatory
	<ingress>	Rate limit policer index for ingress direction Valid values: 1 ~ 128 Default value: 1 Type: Mandatory

13.13 Traffic Descriptor Mode Commands

Commands that can be executed under Traffic Descriptor Mode include the commands in section 0, section 0 (except “configure” command), and the commands in this section.

13.13.1 cir <index> <cir> <polling> <cbs>

Description	Create a CIR Ethernet Traffic Descriptor	
Syntax	cir <index> <cir> <polling> <cbs>	
Parameter		
	Name	Description
	<index>	Index Valid values: 2 ~ 16 Type: Mandatory
	<cir>	Committed Information Rate Valid values: 1000000 ~ 100000000 / units:bps Default value: 0 Type: Mandatory
	<polling>	Polling Mode/Speed Valid values: 1000000 ~ 100000000 / 0x80000000:auto / units:bps Default value: NA Type: Mandatory
	<cbs>	Committed Burst Size Valid values: 0 ~ 0xFFFFFFFF / units:bps Default value: 0 Type: Mandatory

13.13.2 cireir <index> <cir> <cir_polling> <cbs> <eir> <ebs>

Description	Create a CIR&EIR Ethernet Traffic Descriptor	
Syntax	cireir <index> <cir> <cir_polling> <cbs> <eir> <ebs>	
Parameter		
	Name	Description
	<index>	Index Valid values: 2 ~ 16 Type: Mandatory
	<cir>	Committed Information Rate Valid values: 1000000 ~ 100000000 / units:bps Default value: 0 Type: Mandatory
	<cir_polling>	CIR Polling Mode/Speed Valid values: 1000000 ~ 100000000 / units:bps Default value: NA Type: Mandatory
	<cbs>	Committed Burst Size

		Valid values: 0 ~ 0xFFFFFFFF / units:bps Default value: 0 Type: Mandatory
	<eir>	Excess Information Rate Valid values: 1000000 ~ 100000000 / units:bps Default value: 0 Type: Mandatory
	<ebs>	Excess Burst Size Valid values: 0 ~ 0xFFFFFFFF / units:bps Default value: 0 Type: Mandatory

13.13.3 delete <index>

Description	Delete an Ethernet traffic descriptor	
Syntax	delete <index>	
Parameter		
	Name	Description
	<index>	Index Valid values: 2 ~ 16 Type: Mandatory

13.13.4 ppr <index> <ppr> <polling>

Description	Create a PPR Ethernet Traffic Descriptor	
Syntax	ppr <index> <ppr> <polling>	
Parameter		
	Name	Description
	<index>	Index Valid values: 2 ~ 16 Type: Mandatory
	<ppr>	Peak Packet Rate Valid values: 1000000 ~ 100000000 / units:bps Default value: 0 Type: Mandatory
	<polling>	Polling Mode/Speed Valid values: 1000000 ~ 100000000 / 0x80000000:auto / units:bps Default value: NA Type: Mandatory

13.13.5 wfq <index> <weight>

Description	Create a WFQ Ethernet Traffic Descriptor	
Syntax	wfq <index> <weight>	
Parameter		

	Name	Description
	<index>	Index Valid values: 2 ~ 16 Type: Mandatory
	<weight>	Weight Valid values: 1 ~ 42 Default value: 1 Type: Mandatory

13.13.6 cbr

Description	Create or set a Traffic Descriptor to CBR	
Syntax	cbr <index> <pcr>	
Parameter		
	Name	Description
	<index>	Index Valid values: 2 ~ 16 Type: Mandatory
	<pcr>	Peek Cell Rate Valid values: 3000 ~ 65536 / units: cells/s Default value: 65536 Type: Mandatory

13.13.7 ubr

Description	Create or set a Traffic Descriptor to UBR	
Syntax	ubr <index>	
Parameter		
	Name	Description
	<index>	Index Valid values: 2 ~ 16 Type: Mandatory

13.14 Priority List Mode Commands

Commands that can be executed under Priority List Mode include the commands in section 0, section 0 (except “configure” command), and the commands in this section.

13.14.1 ds

Description	Configure a Differentiate Service VLAN priority remark entry	
Syntax	ds <index> <priority> <bport> default ds <index> <priority> <bport> af11 ds <index> <priority> <bport> af12 ds <index> <priority> <bport> af13 ds <index> <priority> <bport> af21 ds <index> <priority> <bport> af22 ds <index> <priority> <bport> af23 ds <index> <priority> <bport> af31 ds <index> <priority> <bport> af32 ds <index> <priority> <bport> af33 ds <index> <priority> <bport> af41 ds <index> <priority> <bport> af42 ds <index> <priority> <bport> af43 ds <index> <priority> <bport> ef	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 256 Type: Mandatory
	<priority>	Priority Valid values: 0 ~ 7 Type: Mandatory
	<bport>	Bridge Port Valid values: G1 - gigabit bridge port 1, G2 - gigabit bridge port 2, LA - gigabit bridge LA, XDSL/<port>/<bport> - XDSL/port 1 ~ 24/ bridge port 1 ~ 9 Input is not case sensitive Type: Mandatory
	default	Default Value Type: Mandatory
	af11	Assured Forwarding Class 1: Low Drop Type: Mandatory
	af12	Assured Forwarding Class 1: Medium Drop Type: Mandatory
	af13	Assured Forwarding Class 1: High Drop Type: Mandatory
	af21	Assured Forwarding Class 2: Low Drop

		Type: Mandatory
af22	Assured Forwarding Class 2: Medium Drop	Type: Mandatory
af23	Assured Forwarding Class 2: High Drop	Type: Mandatory
af31	Assured Forwarding Class 3: Low Drop	Type: Mandatory
af32	Assured Forwarding Class 3: Medium Drop	Type: Mandatory
af33	Assured Forwarding Class 3: High Drop	Type: Mandatory
af41	Assured Forwarding Class 4: Low Drop	Type: Mandatory
af42	Assured Forwarding Class 4: Medium Drop	Type: Mandatory
af43	Assured Forwarding Class 4: High Drop	Type: Mandatory
ef	Expedited Forwarding	Type: Mandatory

13.14.2 ds <index> disable

Description	Disable a Differentiate Service VLAN priority remark entry	
Syntax	ds <index> disable	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 256 Type: Mandatory

13.14.3 dstip <index> <prio> <bport> <ip> <netmask>

Description	Configure a destination IP address VLAN priority remark entry	
Syntax	dstip <index> <prio> <bport> <ip> <netmask>	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 256 Type: Mandatory
	<prio>	Remark VLAN priority Valid values: 0 ~ 7 Type: Mandatory
	<bport>	Bridge Port Valid values: G1 - gigabit bridge port 1, G2 - gigabit bridge port 2, LA - gigabit bridge LA,

		XDSL/<port>/<bport> - XDSL/port 1 ~ 24/ bridge port 1 ~ 9 Input is not case sensitive Type: Mandatory
	<ip>	Destination IP address Type: Mandatory
	<netmask>	Netmask Type: Mandatory

13.14.4 dstip <index> disable

Description	Disable a destination IP address VLAN priority remark entry	
Syntax	dstip <index> disable	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 256 Type: Mandatory

13.14.5 dstmac <index> <prio> <bport> <mac>

Description	Configure a destination MAC address VLAN priority remark entry	
Syntax	dstmac <index> <prio> <bport> <mac>	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 256 Type: Mandatory
	<prio>	Remark VLAN priority Valid values: 0 ~ 7 Type: Mandatory
	<bport>	Bridge Port Valid values: G1 - gigabit bridge port 1, G2 - gigabit bridge port 2, LA - gigabit bridge LA, XDSL/<port>/<bport> - XDSL/port 1 ~ 24/ bridge port 1 ~ 9 Input is not case sensitive Type: Mandatory
	<mac>	Destination MAC address Type: Mandatory

13.14.6 dstmac <index> disable

Description	Disable a destination MAC address VLAN priority remark entry
--------------------	--

Syntax	dstmac <index> disable	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 256 Type: Mandatory

13.14.7 srcip <index> <prio> <bport> <ip> <netmask>

Description	Configure a source IP address VLAN priority remark entry	
Syntax	srcip <index> <prio> <bport> <ip> <netmask>	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 256 Type: Mandatory
	<prio>	Remark VLAN priority Valid values: 0 ~ 7 Type: Mandatory
	<bport>	Bridge Port Valid values: G1 - gigabit bridge port 1, G2 - gigabit bridge port 2, LA - gigabit bridge LA, XDSL/<port>/<bport> - XDSL/port 1 ~ 24/ bridge port 1 ~ 9 Input is not case sensitive Type: Mandatory
	<ip>	Source IP address Type: Mandatory
	<netmask>	Netmask Type: Mandatory

13.14.8 srcip <index> disable

Description	Disable a source IP address VLAN priority remark entry	
Syntax	srcip <index> disable	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 256 Type: Mandatory

13.14.9 srcmac <index> <prio> <bport> <mac>

Description	Configure a source MAC address VLAN priority remark entry	
--------------------	---	--

Syntax	srcmac <index> <prio> <bport> <mac>	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 256 Type: Mandatory
	<prio>	Remark VLAN priority Valid values: 0 ~ 7 Type: Mandatory
	<bport>	Bridge Port Valid values: G1 - gigabit bridge port 1, G2 - gigabit bridge port 2, LA - gigabit bridge LA, XDSL/<port>/<bport> - XDSL/port 1 ~ 24/ bridge port 1 ~ 9 Input is not case sensitive Type: Mandatory
	<mac>	Source MAC address Type: Mandatory

13.14.10 srcmac <index> disable

Description	Disable a source MAC address VLAN priority remark entry	
Syntax	srcmac <index> disable	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 256 Type: Mandatory

13.14.11 tos <index> <prio> <bport> <precedence>

Description	Configure a ToS (IP Precedence) VLAN priority remark entry	
Syntax	tos <index> <prio> <bport> <precedence>	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 256 Type: Mandatory
	<prio>	Remark VLAN priority Valid values: 0 ~ 7 Type: Mandatory
	<bport>	Bridge Port Valid values: G1 - gigabit bridge port 1, G2 - gigabit bridge port 2,

		LA - gigabit bridge LA, XDSL/<port>/<bport> - XDSL/port 1 ~ 24/ bridge port 1 ~ 9 Input is not case sensitive Type: Mandatory
	<precedence>	IP Precedence Valid values: 0 ~ 7 Type: Mandatory

13.14.12 tos <index> disable

Description	Disable a ToS (IP Precedence) VLAN priority remark entry	
Syntax	tos <index> disable	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 256 Type: Mandatory

13.14.13 vlanid <index> <prio> <bport> <vlanid>

Description	Configure a VLAN ID VLAN priority remark entry	
Syntax	vlanid <index> <prio> <bport> <vlanid>	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 256 Type: Mandatory
	<prio>	Remark VLAN priority Valid values: 0 ~ 7 Type: Mandatory
	<bport>	Bridge Port Valid values: G1 - gigabit bridge port 1, G2 - gigabit bridge port 2, LA - gigabit bridge LA, XDSL/<port>/<bport> - XDSL/port 1 ~ 24/ bridge port 1 ~ 9 Input is not case sensitive Type: Mandatory
	<vlanid>	VLAN ID Valid values: 0 ~ 4094 Type: Mandatory

13.14.14 vlanid <index> disable

Description	Disable a VLAN ID VLAN priority remark entry	
Syntax	vlanid <index> disable	
Parameter		
	Name	Description
	<index>	Index Valid values: 1 ~ 256 Type: Mandatory

13.15 Alarm Profile Config Mode Commands

Commands that can be executed under Alarm Profile Config Mode include the commands in section 0, section 0 (except “configure” command), and the commands in this section.

13.15.1 alarm

Description	Configure a alarm profile entry (default setting for each alarm is unmask and minor)	
Syntax	alarm <alarmid> mask alarm <alarmid> unmask alarm <alarmid> major alarm <alarmid> minor	
Parameter		
	Name	Description
	<alarmid>	Alarm ID Valid values: please see “13.1.4 list alarm table” Type: Mandatory
	mask	Mask this alarm Type: Mandatory
	unmask	Unmask this alarm Type: Mandatory
	major	Set alarm level to major Type: Mandatory
	minor	Set alarm level to minor Type: Mandatory

Appendix

A. Alarm Table

B. Event Table

A. Alarm Table

Table A-1 Alarm Table

Alarm ID	Alarm Name	Description
101	SYS_HOUSEKEEP1	House Keeping 1
102	SYS_HOUSEKEEP2	House Keeping 2
103	SYS_HOUSEKEEP3	House Keeping 3
104	SYS_HOUSEKEEP4	House Keeping 4
105	SYS_FAN	Fan Error
106	SYS_SELFTESTFAILED	Self Test Failed
107	SYS_ABOVETEMP	Temperature Above Threshold
108	SYS_BELOWTEMP	Temperature Below Threshold
109	SYS_PIV	Product Identification Violation
201	GBE_LOS	Gigabit Ethernet Loss of Signal
301	Cluster_MasterDuplication	Cluster has duplicate Master (two Masters exist)
302	Cluster_MasterOutOfCapacity	Cluster is out of capacity
303	Cluster_HostUnmanaged	Cluster node enter unmanaged state
601	XDSL_LOF	XDSL Loss Of Framing
602	XDSL_LOS	XDSL Loss Of Signal
603	XDSL_LOSQ	XDSL Loss Of Signal Quality
604	XDSL_LOL	XDSL Loss Of Link
605	XDSL_INIT_FAILURE	XDSL Init Failure
608	XDSL_ESE	XDSL Excessive Severely Errored Seconds
609	XDSL_NCD_SLOW	XDSL No Cell Delineation on the slow channel
610	XDSL_LCD_SLOW	XDSL Loss of Cell Delineation on the slow channel
611	XDSL_NCD_FAST	XDSL No Cell Delineation on the fast channel
612	XDSL_LCD_FAST	XDSL Loss of Cell Delineation on the fast channel
613	XDSL_LOF_FE	XDSL FE Loss Of Framing
614	XDSL_LOS_FE	XDSL FE Loss Of Signal
615	XDSL_LPR_FE	XDSL FE Loss Of Power Failure
616	XDSL_LOM_FE	XDSL FE Loss Of Margin
617	XDSL_NO_PEER_VTU_PRESENT_FE	XDSL FE No Peer VTU Present
618	XDSL_ESE_FE	XDSL FE Excessive Severely Errored Seconds
619	XDSL_NCD_SLOW_FE	XDSL FE No Cell Delineation on the slow channel

620	XDSL_LCD_SLOW_FE	XDSL FE Loss of Cell Delineation on the slow channel
621	XDSL_NCD_FAST_FE	XDSL FE No Cell Delineation on the fast channel
622	XDSL_LCD_FAST_FE	XDSL FE Loss of Cell Delineation on the fast channel

B. Event Table

Table B-1 Event Table

Event ID	Event Name	Description
1	SYSTEMRESTART	System Restart
2	SYSTEMDOWNLOADBEGIN	Download Begin
3	SYSTEMDOWNLOADSUCCESS	Download Success
4	SYSTEMDOWNLOADFAIL	Download Failed
5	SYSTEMPROVISIONDATAEXPORT	Provision Data Exported
6	SYSTEMPROVISIONDATAIMPORT	Provision Data Imported
7	SYSTEMPROVISIONDATASETDEFAULT	Provision Data Set To Default
8	SYSTEMSRAMTEST	SRAM Testing
9	SYSTEMALARMLOGCLEAR	Alarm Log Cleared
10	SYSTEMEVENTLOGCLEAR	Event Log Cleared
11	SYSTEMRTCDATETIMECHANGE	RTC date/time changed
12	SYSTEMSOFTWAREACOBUTTONSET	Software ACO Set
13	SYSTEMSOFTWAREACOBUTTONCLEAR	Software ACO Cleared
14	SYSTEMALARMLEVELMASKFLAGCHANGE	Alarm Profile changed
15	SYSTEMSNMPAUTHFAIL	SNMP Auth Failed
17	SYSTEMFTPRECEPTIONSTART	FTP Reception Started
18	SYSTEMFTPRECEPTIONCOMPLETE	FTP Reception Completed
19	SYSTEMFTPRECEPTIONINCOMPLETE	FTP Reception Incomplete
20	SYSTEMDATABASECONVERTED	Database Converted
21	SYSTEMSNTPTIMEZONECHANGE	SNTP Time zone Changed
23	SYSTEMSNTPPROVISIONCHANGED	SNTP Provision Changed
24	SYSTEMSNTPDATETIMESYNCHRONIZED	SNTP Date and Time Synchronized
25	SYSTEMDATABASESAVINGFAILED	Database Saving Failed

101	ATMTRAFFICDESCRIPTIONCHANGE	ATM Traffic Description Changed
102	ATMCREATEVCL	ATM VCL Created
103	ATMMODIFYVCL	ATM VCL Modified
104	ATMDELETEVCL	ATM VCL Deleted
105	ATMOAMCREATELOOPBACK	ATM OAM Loopback Created
106	ATMOAMDELETELOOPBACK	ATM OAM Loopback Deleted
501	XDSL_PORT_INFO_CHANGED	XDSL Port Info Changed
601	XDSL_PORT_BINDING_CHANGED	XDSL Port Binding Changed
602	XDSL_PORT_ENABLED	XDSL Port Enabled
603	XDSL_PORT_DISABLED	XDSL Port Disabled
604	XDSL_PORT_REENABLED	XDSL Port Re-enabled
605	XDSL_PORT_LINKUP	XDSL Port Link Up
606	XDSL_PORT_LINKDOWN	XDSL Port Link Down
607	XDSL_LINE_CONF_PROFILE_CREATE D	XDSL Line Configuration Profile Created
608	XDSL_LINE_CONF_PROFILE_DELETE D	XDSL Line Configuration Profile Deleted
609	XDSL_LINE_CONF_PROFILE_CHANG ED	XDSL Line Configuration Profile Changed
610	XDSL_LINE_ALARM_CONF_PROFILE _CREATED	XDSL Line Alarm Configuration Profile Created
611	XDSL_LINE_ALARM_CONF_PROFILE _DELETED	XDSL Line Alarm Configuration Profile Deleted
612	XDSL_LINE_ALARM_CONF_PROFILE _CHANGED	XDSL Line Alarm Configuration Profile Changed
613	XDSL_PORT_PROFILE_TRANSFER_FA ILED	XDSL Port Profile Transfer Failed
614	XDSL_LOOPBACK_SET	XDSL Loopback Set
615	XDSL_DELT_SET	XDSL DELT Set
616	XDSL_DELT_DONE	XDSL DELT Done
651	XDSL_PERF_NE_ES	XDSL_PERF_NE_ES
652	XDSL_PERF_NE_SES	XDSL_PERF_NE_SES
653	XDSL_PERF_NE_UAS	XDSL_PERF_NE_UAS
654	XDSL_PERF_FE_ES	XDSL_PERF_FE_ES
655	XDSL_PERF_FE_SES	XDSL_PERF_FE_SES

656	XDSL_PERF_FE_UAS	XDSL_PERF_FE_UAS
657	XDSL_PERF_NE_DAY_ES	XDSL_PERF_NE_DAY_ES
658	XDSL_PERF_NE_DAY_SES	XDSL_PERF_NE_DAY_SES
659	XDSL_PERF_NE_DAY_UAS	XDSL_PERF_NE_DAY_UAS
660	XDSL_PERF_FE_DAY_ES	XDSL_PERF_FE_DAY_ES
661	XDSL_PERF_FE_DAY_SES	XDSL_PERF_FE_DAY_SES
662	XDSL_PERF_FE_DAY_UAS	XDSL_PERF_FE_DAY_UAS
663	XDSL_DOWN_MAX_SNR_MGN	XDSL_DOWN_MAX_SNR_MGN
664	XDSL_DOWN_MIN_SNR_MGN	XDSL_DOWN_MIN_SNR_MGN
665	XDSL_UP_MAX_SNR_MGN	XDSL_UP_MAX_SNR_MGN
666	XDSL_UP_MIN_SNR_MGN	XDSL_UP_MIN_SNR_MGN
667	XDSL_INIT_FAILURE_TRAP	XDSL_INIT_FAILURE_TRAP