G. SHDSL IP DSLAM User Manual

Document No.ZEUS-24S

NOTIFICATIONS

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. In addtion, it is also approved by the CE mark.

Warning: To avoid system damage and electric shock, do not unplug the transceiver module or open the case. No user-serviceable parts inside.

Caution:

1. Read this user manual before you operate the system.
2. Risk of explosion if the battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.
3. For SHDSL IP DSLAM AC model, fuse F101 on power module should be only replaced with fuse of rating: 3.15A/250V

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About This Guide

Audience

This book is a guide for those who will install, manage, and configure the SHDSL IP DSLAM via CID/RS-232 or Telnet/Ethernet CLI command interface.

You must have a basic understanding of SHDSL and be knowledgeable about data communications, and be familiar with VT-100s terminal emulation tools.

Purpose

This book describes how to install, manage, and configure SHDSL IP DSLAM via CLI command Line interface through CID/RS-232 or Telnet/Ethernet interface.

How This Guide is Organized

This book provides task-based instructions for installing and using the CLI interface to configure and administrate the SHDSL IP DSLAM System. The manual is organized as follows:

Chapter	Title & Description
1	**Introduction** Provides an overview of SHDSL IP DSLAM System, including features, fucntions, applications of the SHDSL IP DSLAM.
2	**Getting Started** Presents platform and system requirements as well as procedures and instructions for installing the SHDSL IP DSLAM.

3 **System Administration with EmWeb**
Provides all the instructions and procedures necessary for you to administer your SHDSL IP DSLAM with EmWeb interface.

4 **System Administration with CLI**
Provides all the instructions and procedures necessary for you to administer your SHDSL IP DSLAM with CLI interface.

5 **Configuration Back Up, Restore and Update**
Provides the procedures to back up configuration settings from SHDSL IP DSLAM and restore to SHDSL IP DSLAM.

6 **Troubleshooting**
Provides some potential problems and possible remedies and helps you diagnose and solve the problems.

7 **Pin Assignment**

Presents the pin assignment for SHDSL IP DSLAM

8 **Glossary**
Defines the key terms and acronyms mentioned in this maunal.

Document Conventions

Screen displays use these conventions:

#	Login with administrator privilege
%	Login with operator privilege
>	Login with guest privilege

Commands descriptions use these conventions:

[ ]	Elements in square brackets are optional
< >	Essential values
< x | y | z >	Alternative keywords are grouped in < > and separated by vertical bars

Others

Note	Means reader take note. Notes contain helpful suggestions.

Introduction

1

This chapter will help you understand the function and application of your SmardDSLAM.

SHDSL IP DSLAM Overview

Today's bandwidth requiremenrt applications, such as Internet access, remote LAN access, teleconferencing, workgroup and data sharing, telecommuting and numerous varieties of digital video services and the increasing volume of traditional data, are driving demand for high-speed data network access.

Employing the latest SHDSL technology, **SHDSL IP DSLAM** offers service providers the best cost-effective solution project for immediate implementation of multi-services in private and public networks.

Fig 1-1 SHDSL IP DSLAM Physical Entity Display

SHDSL IP DSLAM provides 24 G.SHDSL ports. With 2.3 Mbps symmetric transmission characteristics over single loop, SHDSL is best suited to data-only applications that need high upstream bit-rates. Though SHDSL does not carry voice like SHDSL, new voice-over-DSL techniques may be used to convey digitized voice and data via SHDSL. SHDSL is being deployed primarily for business customers to replace expensive T1/E1 leased line.

Moreover, SHDSL IP DSLAM also provides the following advanced features:

1. Support 2 ATM PVCs per SHDSL Line.
2. Tag-based VLAN, tagged / untagged service support simultaneously
3. Port filtering
4. Remote F/W download
5. Configuration batch file

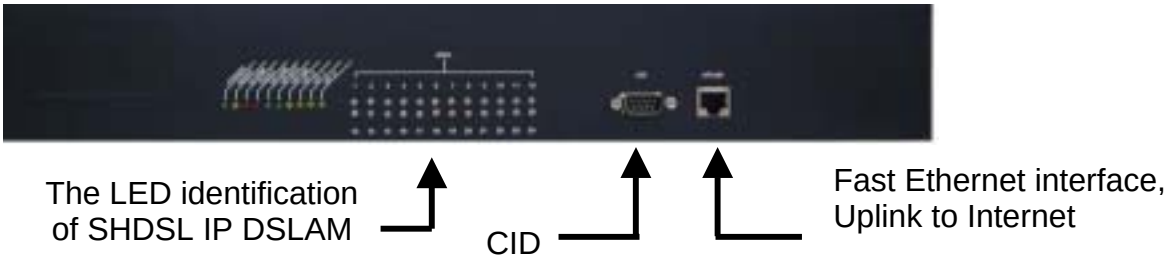


Fig 1-2 SHDSL IP DSLAM Front View

As Fig 1-2 displays, In the front view of SHDSL IP DSLAM, there are several LEDs to indicate current system and link status and one 100 Mega Ethernet interface for uplink.

Fig 1-3 displays the LED identification of SHDSL IP DSLAM, and Table 1-2 describes its color definition and status description.

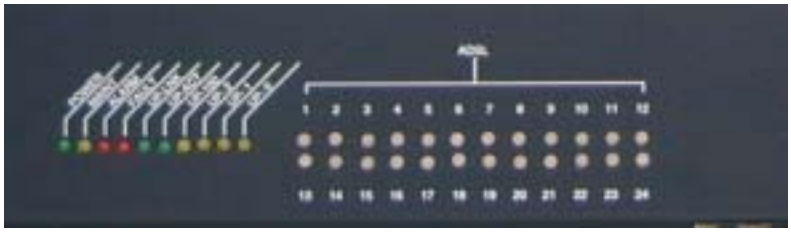


Fig 1-3 LED identification of SHDSL IP DSLAM

Table 1-2 SHDSL IP DSLAM LED Description

<LED ID>	**Color**	**Description**
POWER	Green	Lit when power on
MAINT	Yellow	Lit when maintance commands were issued
ALARM	Red	Lit when MJ/MN events happen
FAULT	Red	Lit when system error is detected
UP-LNK	Green	Lit when Uplink Ethernet interface was connected
UP-ACT	Green	Blink when information is transmitted through uplink Ethernet interface
UP-100	Green	Lit when Uplink is 100Mbps.
ID-2, ID-1& ID-0	Yellow	ID0, ID1,ID2 : off off off

SHDSL1 – SHDSL24	R/Y/G	Lit Red when no carrier is detected in the specified DSL link ; Lit Green when DSL link is in active state; Lit Yellow when the specified DSL link is in connection training state; LED off when DSL link is not in service

Fig 1-4 SHDSL IP DSLAM Rear View

As Fig 1-4 displays, in the rear-panel, there is one power adaptor, both -42V ~ -56V DC or 100V ~ 240V AC po wer module can be selected. There are one G.SHDSL module slot providing 24-port G.SHDSL module, totally 24 G.SHDSL CPE users being supported in one SHDSL IP DSLAM.

SHDSL IP DSLAM Application

As the following figure shown, G.SHDSL is the answer to quickly provide cost-effective, high speed network service to Enterprise and Small and Medium Enterprise (SME) users or SOHO users which need high-speed symmetrical transmission. By utilizing existing telephony infrastructure, the network installation is simple. With up to 2.304 Mbps full duplex payload rate various broadband services can be easily provisioned. SHDSL IP DSLAM could provide max 24 ports symmetric broadband servises to subscribers at the same time that highly reduce ISP's deploying cost.

SHDSL IP DSLAM Features

VLAN support

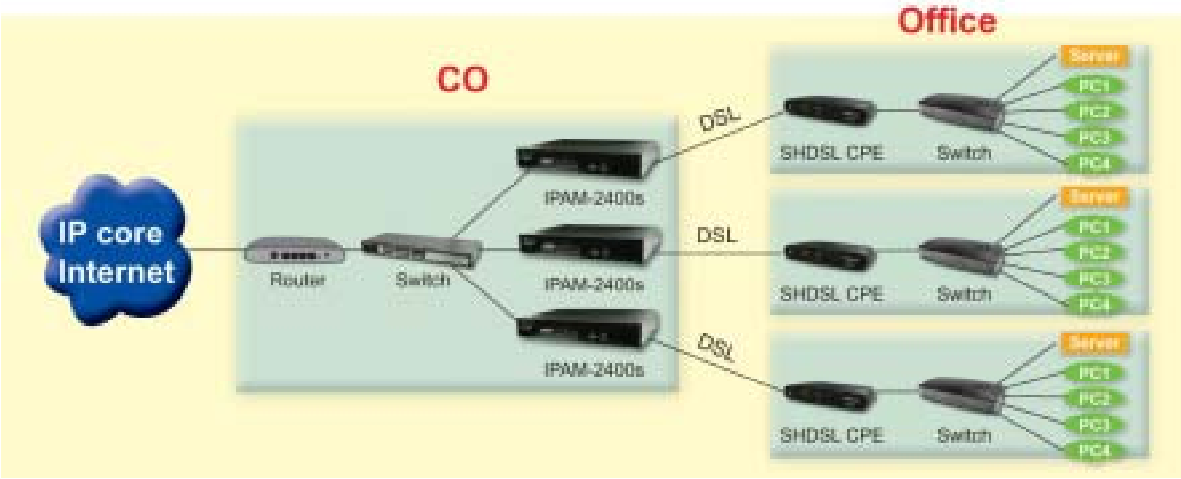
The SHDSL IP DSLAM supports mapping of Ethernet-VLAN to ATM-PVC feSTUre for security concern.

Compact design for limited space

SHDSL IP DSLAM occupies 1.5 U of standard Telco rack space. Its compactness is perfect designed for co-location and basement installation.

Best solution for SME’s broadband access

Deployment in nearly any symmetric application requiring bandwidths from 192kbps to 2.3Mbps, G.SHDSL is poised for the best cost-effective solution for business-based applications such as multiple voice line delivery, Internet access and remote LAN access. By adapting SHDSL IP DSLAM, Small to Medium Enterprises (SME) no longer afford the expensive enterprise data solutions such as T1/E1.



SHDSL IP DSLAM Specifications

Interface:

G.SHDSL module: support max 24 G.SHDSL CPE links

LAN Interface : 10/100TX Ethernet Ethernet

Power Supply: Built-in –48V DC~-56V DC or 100V-240V AC

Management

1. Local Console

2. Web-based GUI

4. Support SNMP v1 & v2

5. Support Telnet

6. Fault, performance, configuration, and security management provided

MIB

RFC 1213 MIB II

G.SHDSL Line MIB

Security

Support differentiation of user's priviledge

Secured hosts for Telnet/ FTP/ SNMP

Mechanical Features:

Dimension: 429mm(W) x 300mm(D) x 66mm(H)

Weight: 11lb

Operating position: Horizontal

Working Environment:

Operation TemperSTUre: 0℃ - +50℃

Storage TemperSTUre: -30℃- +70℃

Operating Relative Humidity (Non-Condensing): 0%-90%

Storage Relative Humidity (Non-Condensing): 0%-95%

Electrical:

Supply Voltage/Current: -42V ~ -56V DC or 90V-240V AC, 50-60Hz, 50s watts max.

Compliance

FCC Part 15, Class A

CE mark CE

Getting Started

2

This chapter provides the installation instruction for the hardware installation and system configuration of your SHDSL IP DSLAM so that you can start up quickly.

Unpacking your SHDSL IP DSLAM

This section describes how to unpack your SHDSL IP DSLAM.

Within the box of SHDSL IP DSLAM, there are following items:

Fig 2-1 SHDSL IP DSLAM Packing Content

As Fig 2-1 displays, the SHDSL IP DSLAM box packing contains as follows:

1. SHDSL IP DSLAM
2. Mounting bracket package
3. RJ-45 Ethernet cable

4. Customised telco cable according to your request

6. Power cord (AC power module only)

7. 50 pin centronic cable (option)

Note: Any other accessories should be requested at the time of ordering.

Installation

The SHDSL IP DSLAM can be installed in a standard 19-inch rack, by using the mounting brackets provided. Mount the shelf on the rack using the large screws provided.

Safety Instruction

The following is the safety instructions for SHDSL IP DSLAM before installation:

1. Read and follow all warnings and instructions of this user manual.

2. The maximum recommended operating temperSTUre for the SHDSL IP DSLAM is 50ºC. Sufficient air circulation or space between units is crucial when SHDSL IP DSLAM is installed inside a closed rack assembly and racks should safely support the weight of SHDSL IP DSLAM.

3. The power supply to SHDSL IP DSLAM should be capable of operating safely with the maximum power requirements of the SHDSL IP DSLAM. In case of power overload, the supply circuits and wiring should not cause hazardous.

4. The AC adapter must be plugged in to the right supply voltage. Make sure that the supplied AC voltage is correct and stable. If the input AC voltage is over 10% lower than the standard may cause malfunction to SHDSL IP DSLAM.

5. Do not allow anything to rest on the power cord of the AC adapter, and do not locate the product where anyone can walk on the power cord.

6. Generally, after the final configuration, the product must comply with the applicable safety standards and regulatory requirements of the country in which it is installed. If necessary, consult for technical support.

7. A rare condition can create a voltage potential between the earth grounds of two or more buildings. If products installed in separate building are interconnected, the voltage potential can cause a hazardous condition. Consult a qualified electrical consultant to determine whether or not this phenomenon exists and, if necessary, implement corrective action before interconnecting the products. If the equipment is to be used with telecommunications circuit, take the following precautions:

Hardware Installation

Describes how to connect SHDSL IP DSLAM to CPE. Hardware installation will be described in the following procedures.

SHDSL IP DSLAM Rear Panel Connection

The following figure shows the rear panel connection of SHDSL IP DSLAM:

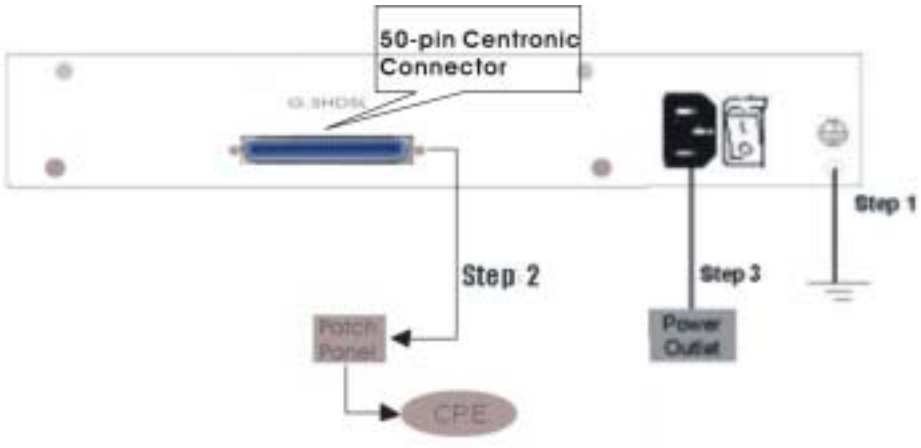


Fig 2-2 SHDSL IP DSLAM Rear Panel Connection

Step 1 Ground the SHDSL IP DSLAM by connecting a grounded wire

Step 2 Connect the SHDSL line connector, a 50-pin centronic connector, of SHDSL IP DSLAM to CPE by using the telco cable. The SHDSL line connector supports 24-ports of G.shdsl for Data path.

Step 3 Connect the power adapter and plug it into an outlet.

SHDSL IP DSLAM Front Panel Connection

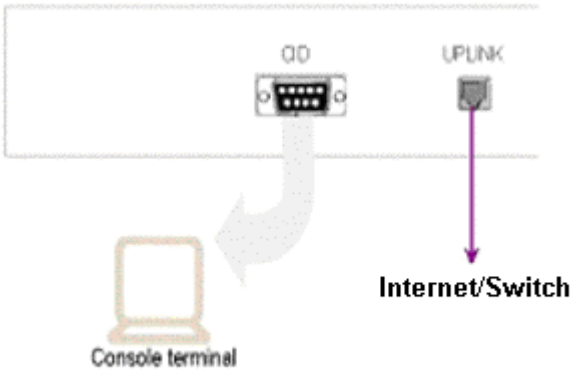


Fig 2-3 SHDSL IP DSLAM Front Panel Connection

As Fig 2-3 displays,

1. connect the unplink port to Internet or Switch by using RJ-45 cable.
2. Connect the CID port of to the console terminal by using the RS-232 cable(Null modem cable) in order to administer your SHDSL IP DSLAM through CLI.

Ways of Connection

Embedded Web Interface(EmWeb)

The embedded Web Interface (EmWeb), comprised of HTML files, is more user friendly than CLI for your configuring SHDSL IP DSLAM. The HTML files embedded in SHDSL IP DSLAM are dynamically linked to the system's functional command sets. You can access the EmWeb from any Web Browser.

Following the following procedure to connect the embedded Web management interface:

1. Establish a connection to the internet

2. Open the Web browser

3. Enter the IP address of the SHDSL IP DSLAM (Default IP: 192.168.100.111)

4. Log in User account: **admin** and Password: **admin**

To access any menu item on EmWeb, simply click on the item you want. The corresponding work screen will then appear on the right side frame. By pressing the **Apply** button will allow you to achieve your configuration, whereas pressing **Cancel** button will clear all your changes without applying them. In some menus, there will be **Modify** item will allow you to modify the existing configuration.

Command Line Interface (CLI)

The Command Line Interface is the most primary character based configuration interface. Some of configurations not provided in EmWeb can be configured through CLI. You can access CLI from the terminal emulation software.

The procedure of connecting to the CLI is as follows:

1. Start up the terminal emulation software on the management station.

2. If necessary, reconfigure the terminal-emulation software to match the switch console port settings.

Bits per second	9600
Data bits	8
Parity	None
Stop bits	1
Flow control	None

5. Log in User account: **admin** and Password: **admin**

Telnet Client

SHDSL IP DSLAM supports only one Telnet client that you can use to

connect with. Telnet provides a simple terminal emulation that allows you to see and interact with the SHDSL IP DSLAM's CLI. As with any remote connection, the network interface IP address for the SHDSL IP DSLAM must be established.

System Administration with EmWeb

3

This chapter provides all the instruction and procedure necessary for you to administer your SHDSL IP DSLAM with EmWeb interface.

Log In with Embedded Web Interface

This section describes how to log into Embedded Web Interface.

1. Connect your computer with the uplink port of SHDSL IP DSLAM.

2. Open a web browser with the default IP address: http://192.168.100.111

3. The log in screen appears as follows:

4. Enter your user name. If it is an initial installation, enter **admin** for user name.

5. Enter your password. If it is an initial installation, enter **admin** for password.

Note: For safety concern, it is recommended to change the password. For changing the password, go to the **Changing Password** in the **System** menu. *See page 38.*

Embedded Web Interface Menu

This section describes the overview of the embedded Web interface menu, EmWeb. After your successfully logging into the EmWeb, the screen will appears as follows:

Default Setting

Display the information of default (factory) setting of your SHDSL IP DSLAM. *See page 29.*

System Information

Display the system time, system up time, system up period of your SHDSL IP DSLAM. It also provides you with the information of software version, hardware version and serial number. *See page 30.*

Save to Flash

Allow you to save your configuration in Flash. *See page 31.*

Current Event

Allow you to view the alarm and event status of your SHDSL IP DSLAM. *See page* 32.

System

Set Port Filter: Allow you configure the port filtering function. See page 33.

System IP / Location: Allow you to configure the IP address and location of your SHDSL IP DSLAM. See page 35.

System Date and Time: Allow you to configure the date and time of your SHDSL IP DSLAM. *See page 37.*

Changing Password: Allow you to change your password. *See page 38.*

DSL Profile Configuration

Create Line Profile: Allow you to create a SHDSL line profile. *See page 39.*

Create Alarm Profile: Allow you to create a SHDSL alarm profile. *See page 40.*

Current Line Profile: Allow you to view, modify, or delete existing SHDSL line profiles. *See page 41.*

Current Alarm Profile: Allow you to view, modify, or delete existing SHDSL alarm profiles. *See page 41.*

Port Configuration

DSL Port configuration: Allow you to display, modify and delete the status of the port. It provides the configuration of a port's status. *See page 43.*

PVC Configuration: Allow you to configure PVC and VID on a port and set the priority. It also provides the modification and delete function. *See page 45.*

List of Subscriber: Allow you to view the existing information of subscribers and modify them. *See page 48.*

Management

SNMP: Allow you to configure SNMP access parameters and trap IPs. *See page 50.*

Management IP: Allow you to configure the management IPs so that only with those configured management IPs can access to your SHDSL IP DSLAM remotely. *See page 51.*

SHDSL Maintenance

SHDSL Maintenance：Allow you to configure the maintenance operations on SHDSL units. *See page 52.*

DSL Port Performance

SHDSL

Span status：Allow you to view the configuration information of the SHDSL span on SHDSL IP DSLAM. *See page 54.*

Inventory：Allow you to view the overall status of a SHDSL span. *See page 55.*

Endpointcurr：Allow you to view current status and performance information for segment endpoints in SHDSL line. *See page 56.*

Pre-15 min PM：Allow you to view the performance statistics information collected from each SHDSL port within 1 day of a week interval. *See page 57.*

Pre-1 DAY PM：Allow you to view the performance statistics information collected from each SHDSL port within1 day of a week interval. *See page 58.*

Default (Factory) Configuration Settings *{Default Setting}*

This section describes how to get the information of the default setting of your SHDSL IP DSLAM.

1. Click on "**Default Setting**" from the SHDSL IP DSLAM Main Menu.

The **Default Setting** screen appears as follows:

Default Settings	
SNMP:	community : "public" no In-band management channel
IP	IP : 192.168.100.111 Mask: 255.255.255.0 Gateway: 192.168.100.1
System	Bridge — mode Port-Filter(Port-based VLAN) : Enable
ADSL Port	"up" for all ports
VCC connection	8/81(vpi/vci) for all ports VLAN — tag : disable
DSL profile	named "DEFAULT" 1) tx mode : "adaptAtStartup" 2) Line type : "Interleaved" 3) Target SNR margin : "6 dB" 4) min tx rate : "32 Kbps" 5) max tx rate at ATU-C : "8064 Kbps" 6) max tx rate at ATU-R : "1024 Kbps" 7) interleave delay : "16 milliseconds"
Alarm profile	named "DEFAULT" ATU-C side: Thresh1SMinLofs — 0 sec Thresh1SMinLoss — 0 sec Thresh1SMinLols — 0 sec Thresh1SMinLprs — 0 sec Thresh1SMinEss — 0 sec initial failure trap — Enable ATU-R side : Thresh1SMinLofs — 0 sec Thresh1SMinLoss — 0 sec Thresh1SMinLols — 0 sec Thresh1SMinLprs — 0 sec

Displaying your SHDSL IP DSLAM's System Information *{System Information}*

This section describes how to get the information of your SHDSL IP DSLAM.

1. Click on "**System Information**" from the SHDSL IP DSLAM Main Menu.

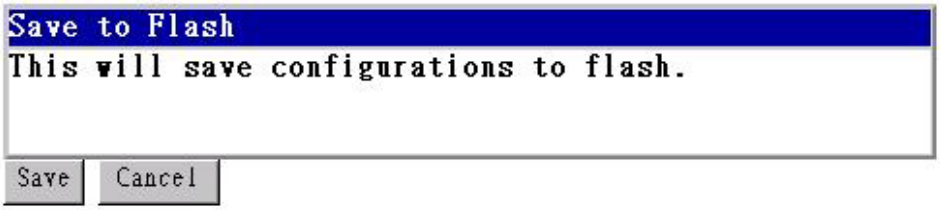
   The **System Information** screen appears as follows:

Save your Configuration to Flash *{Save to Flash}*

This section describes how to save the configuration you have configured to flash. This function will be needed whenever you want to restart your SHDSL IP DSLAM with the updated configuration.

1. Click on "**Save to Flash**" from the SHDSL IP DSLAM Main Menu.

The **Save to Flash** screen appears as follows:



2. Submit the **Save** button.

Displaying Current Event *{ Current Event }*

This section describes how to view the current alarm and event status.

1. Click on “**Current Event**” from the SHDSL IP DSLAM Main Menu.

   The **Current Event** screen appears as follows:

2. Click on **next page** item in order to view more events. The displayed data will be 20s items per page and it can display totally up to 960s items.

3. Click on **DELETE ALL** button in order to delete all events.

Configuring SHDSL IP DSLAM

This section describes how to configure your SHDSL IP DSLAM by selecting **System** from EmWeb Menu. This section will cover all the function from **System** Menu. It includes:

Configuring Port Filtering *{Set Port Filter}*

Allow you to configure the port filtering function.

1. Click on "**Set Port Filter**" from the System Menu.

   The **Set Port Filter** screen appears as follows:

2. Click on **Enabled** button to allow each SHDSL port to communicate back and forth with the uplink Ethernet port only.

   By selecting **Disabled** button you allow all SHDSL ports to communicate

with each other and also with the uplink Ethernet port.

3. Press **Apply** button in order to submit your configuration.

Note: Make sure to save all the configurations in flash by selecting **Save to Flash** from main menu when you want to restart your SHDSL IP DSLAM.

Configuring IP and Location *{System IP / Location}*

Allow you to configure the system IP address and location.

1. Click on "**System IP / Location**" from the System Menu.

   The **System IP / Location** screen appears with the default setting and can be configured as follows:

2. Configure the IP address you want to set, say *192.168.100.123*

3. Configure the subnet mask with reference to IP address, say *255.255.255.0*

4. Configure the gateway with reference to IP address, say *192.168.0.1*

5. Configure the system name you want to set, say *IP DSLAM*

6. Configure the site of location you want to set.

7. Configure the contact information for servicing SHDSL IP DSLAM.

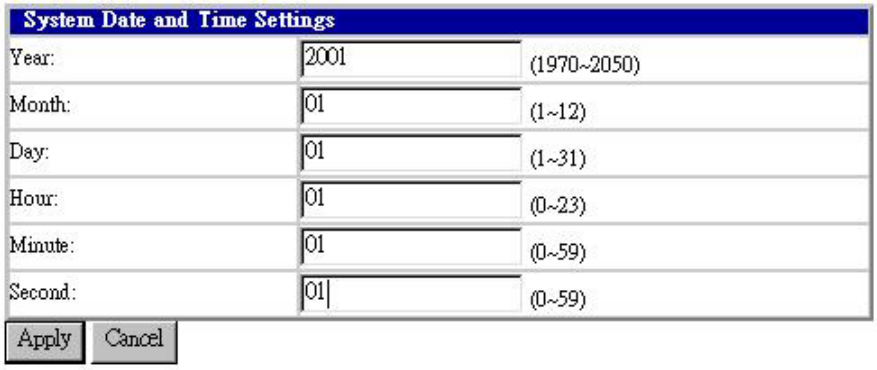
8. Click on the **Apply** button to submit your changes, or click on the **Cancel** button if you want to clear all the values you have configured.

Configuring Date and Time *{System Date and Time}*

Allow you to configure the date and time of the system.

1. Click on "**System Date and Time**" from the System Menu.

   The **System Date and Time** screen appears with the default setting and can be configured as follows:



2. Configure the year you want to set, say *2001*

3. Configure the month you want to set, say *01*

4. Configure the day you want to set, say *01*

5. Configure the hour you want to set, say *20*

6. Configure the minute you want to set, say *01*

7. Configure the second you want to set, say *01*

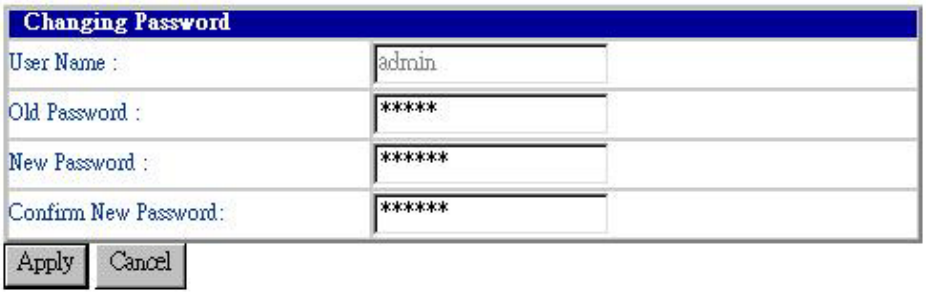
8. Click on the **Apply** button to submit your changes, or click on the **Cancel** button if you want to clear all the values you have configured.

Changing your Password *{Changing Password}*

Allow you to change your password.

1. Click on "**Changing Password**" from the System Menu.

   The **Changing Password** screen appears with your user name and your password can be changed as follows:



2. Enter your old password.

3. Enter your new password that you want to change.

4. Enter your new password again to confirm.

5. Click on the **Apply** button to submit your changes, or click on the **Cancel** button if you want to clear all the values you have configured.

DSL Line Configuration

This section covers how to create, display, modify, or delete the line profile and alarm profile by selecting **DSL Line Configuration** from EmWeb Menu. This section will cover all the function from **DSL Line Configuration** Menu.

Creating a SHDSL Line Profile *{Create Line Profile}*

This section describes how to create a SHDSL line profile.

1. Click on "**Create Line Profile**" of **G.SHDSL** from the **DSL Profile configuration** Menu.

   The **Create Line Profile** screen appears as follows:

2. Configure the name of line profile, say *service 1552K*.

3. Configure the line profile, for example,

   Configure the *WireInterface, Minimum Line Rate, Maximum Line Rate, PSD, TransmissionMode, RemoteEnabled, PowerFeeding, CurrCondTargetMarginDown, WorstCaseTargetMarginDown, CurrCondTargetMarginUp, WorstCaseTargetMarginUp, UsedTargetMargins, ReferenceClock,* and *LineProbeEnable* as *Two Wire, 1552 kbps, 1552 kbps*, *Symmetric, Region1, Disabled, NoPower, 0s dB, 0s dB, 0s dB, 0s dB, CurrCondDown, LocalClk and Disabled.*

4. Click on the **Apply** button to submit your changes, or click on the **Cancel** button if you want to clear all the values you have configured.

Note: Line profile can be created maximum up to 10s profiles.

Creating a SHDSL Alarm Profile *{Create Alarm Profile}*

This section describes how to create an SHDSL alarm profile.

1. Click on "**Create Alarm Profile**" of **G.SHDSL** from the DSL Profile configuration Menu.

   The **Create Alarm Profile** screen appears as follows:

2. Configure the name of alarm profile.

3. Configure the alarm profile. For example,

   Configure the *ThreshLoopAttenuation, ThreshSNRMargin, ThreshES, ThreshSES, ThreshCRCanomalies, and ThreshLOSWS* as *0s db, 0s db, 0, 0s ec, 0s ec*,

4. Click on the **Apply** button to submit your changes, or click on the **Cancel** button if you want to clear all the values you have configured.

Note: The alarm profile can be created maximum up to 10s profiles.

Displaying and Modifying a SHDSL Line Profile *{Current Line Profile}*

Allow you to view, modify, or delete existing SHDSL line profiles.

1. Click on "**Current Line Profile**" of **G.SHDSL** from the DSL Profile configuration Menu.

   The **Current Line Profile** screen appears as follows:

Profile Name	Wire Interface	Line Rate		PSD	Transmission Mode	Remote Enabled	Power Feeding	Used Target Margins				Used Target Margins	Reference Clock	Line Probe Enable	Action
		MIN	Max					CurrCond		WorstCase					
								Up	Down	Up	Down				
DEFAULT	Two Wire	1552	1552	Symmetric	region1	Disabled	NoPower	0	0	0	0	currCondDown	LocalClk	Disabled	
1024	Two Wire	192	1024	Symmetric	region1	Disabled	NoPower	0	0	0	0	worstCaseDown	LocalClk	Disabled	Modify Delete
1536	Two Wire	192	1536	Symmetric	region1	Disabled	NoPower	0	0	0	0	worstCaseDown	LocalClk	Disabled	Modify Delete

2. Click on **Modify** button to modify the specified profile.

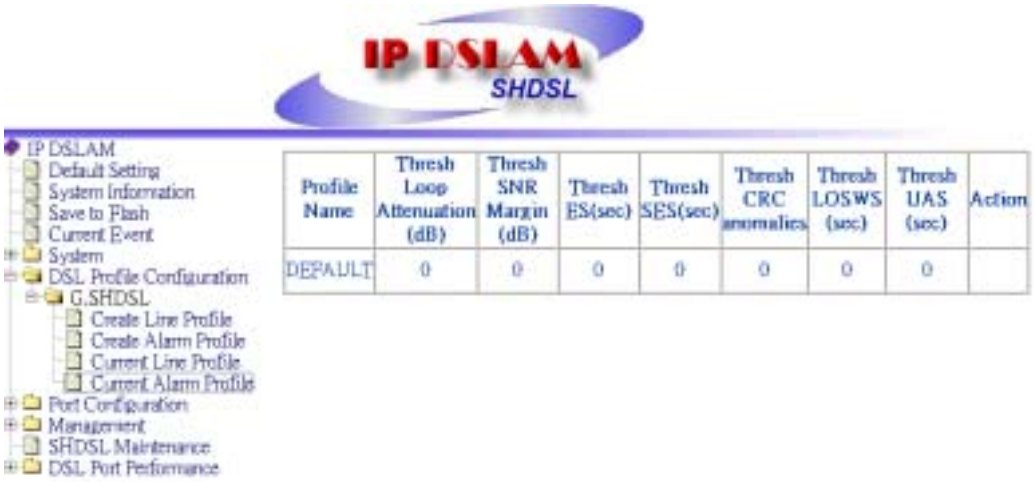
3. Click on **Delete** button to delete the specified profile.

Displaying and Modifying a SHDSL Alarm Profile *{Current Alarm Profile}*

Allow you to view, modify, or delete existing SHDSL alarm profiles.

1. Click on "**Current Alarm Profile**" of **G.SHDSL** from the DSL Profile configuration Menu.

   The **Current Alarm Profile** screen appears as follows:



2. Click on **Modify** button to modify the specified profile.

3. Click on **Delete** button to delete the specified profile.

Port Configuration

This section covers how to configure a port and subscriber information by selecting **Port Configuration** from EmWeb Menu. This chapter will cover all the function from **Port Configuration** Menu.

DSL Port Configuration*{DSL Port Configuration}*

Allow you to display, modify and delete the status of the port. It also provides the configuration of enabling or disabling a port and attaching the specific line profile and alarm profile to a port. The procedures are as follows:

1. Click on "**DSL Port Configuration**" from the Port configuration Menu.

For first time configuration, the **DSL Port Configuration** screen appears with the default setting as follows:

2. Click on the **Port No** to select the port you want to configure or view.

3. The screen will apears as follows:

4.Configure the adminstration status as “Up” or “Down”. Here in example , “Up” is configured.

5. Attach the line profile, says “DEFAULT”

6. Attach the alarm profile, says “DEFAULT”

7. Click on the **Apply** button to submit your changes, or click on the **Cancel** button if you want to clear all the values you have configured.

PVC Configuration*{PVC Configuration}*

Allow you to configure PVC (Permanent Virtual Connection) and VID (VLAN ID) on a port and setting the priority. It also provides the modification and delete function. The procedures are as follows:

1. Click on "**PVC Configuration**" from the Port configuration Menu.

   For the first time configuration, the **PVC Configuration** screen appears with the default setting as follows:

PVC Settings:

Port No.	PVC					Action
	VPI	VCI	Connection Status	VID	Priority	
1	8	81	up	-	-	Modify Delete
1	-	-	-	-	-	Modify
2	8	81	up	-	-	Modify Delete
2	-	-	-	-	-	Modify
3	8	81	up	-	-	Modify Delete
3	-	-	-	-	-	Modify
4	8	81	up	-	-	Modify Delete
4	-	-	-	-	-	Modify
5	8	81	up	-	-	Modify Delete
5	-	-	-	-	-	Modify
6	8	81	up	-	-	Modify Delete
6	-	-	-	-	-	Modify
7	8	81	up	-	-	Modify Delete
7	-	-	-	-	-	Modify
8	8	81	up	-	-	Modify Delete
8	-	-	-	-	-	Modify
9	8	81	up	-	-	Modify Delete
9	-	-	-	-	-	Modify
10	8	81	up	-	-	Modify Delete
10	-	-	-	-	-	Modify
11	8	81	up	-	-	Modify Delete
11	-	-	-	-	-	Modify
12	8	81	up	-	-	Modify Delete
12	-	-	-	-	-	Modify
13	8	81	up	-	-	Modify Delete
13	-	-	-	-	-	Modify

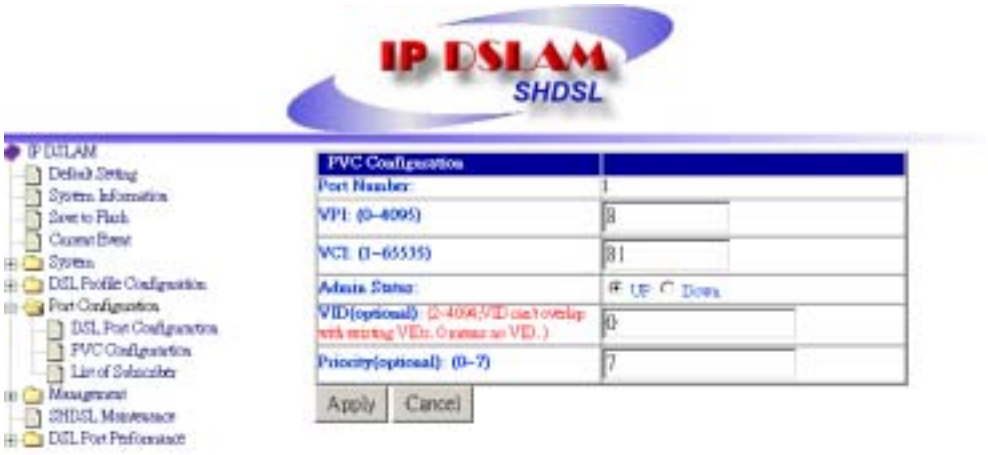
14	8	81	up	-	-	Modify Delete
14	-	-	-	-	-	Modify
15	8	81	up	-	-	Modify Delete
15	-	-	-	-	-	Modify
16	8	81	up	-	-	Modify Delete
16	-	-	-	-	-	Modify
17	8	81	up	-	-	Modify Delete
17	-	-	-	-	-	Modify
18	8	81	up	-	-	Modify Delete
18	-	-	-	-	-	Modify
19	8	81	up	-	-	Modify Delete
19	-	-	-	-	-	Modify
20	8	81	up	-	-	Modify Delete
20	-	-	-	-	-	Modify
21	8	81	up	-	-	Modify Delete
21	-	-	-	-	-	Modify
22	8	81	up	-	-	Modify Delete
22	-	-	-	-	-	Modify
23	8	81	up	-	-	Modify Delete
23	-	-	-	-	-	Modify
24	8	81	up	-	-	Modify Delete
24	-	-	-	-	-	Modify

2. Click on the **Port No** you want to configure or view.

3. Click on the **Apply** button to sumit your choice.

4. Click on **Delete** button to delete the settings.

5. Click on **Modify** button to configure the specific port, says port1. The screen will apears as follows:



6. Configure the VPI, says 8

7. Configure the VCI, says 81

8. Configure the administration status of PVC “Up” or “Down”, says “Up.

9. Configure the VID of the port.

10. Configure the priority of PVC, says 7. The priority of 0s to 7 is from the lowest to the highest.

11. Click on the **Apply** button to submit your changes, or click on the **Cancel** button if you want to clear all the values you have configured.

List of Subscriber *{List of Subscriber}*

Allow you to view the existing information of subscribers and modify them. The procedures are as follows:

1. Click on "**List of Subscriber**" from the Port configuration Menu.

   For the first time configuration, the **List of Subscriber** screen appears with the default setting as follows:

2. Click on the **Port No** you want to configure or view.

3. Click on the **Apply** button to sumit your choice.

4. Click on **Delete** button to delete the settings.

5. Click on **Modify** button to configure the specific port, says port1. The screen will apears as follows:

6. Configure the subscriber name as you want, says Pantagon.

7. Configure the telephone number of subscriber, says 42361258

8. Write Note for your reference if you need.

9. Click on the **Apply** button to submit your changes, or click on the **Cancel** button if you want to clear all the values you have configured.

Management Configuration

This section covers how to configure SNMP access parameters and management IP by selecting **Management** from EmWeb Menu. This section will cover all the function from **Management** Menu. It includes:

Configuring SNMP Access Parameters and Trap IPs *{SNMP}*

Allow you to configure the SNMP access parameters and trap IPs. The procedures are as follows:

1. Click on "**SNMP**" from the Management Menu.

   For the first time configuration, the **SNMP** screen appears with the default setting of the community string" public" as follows:

2. Configure the VID (VLAN ID) of the system

3. Configure the trap IP Addresss as you want. The trap IP can be created maximum up to 5.

4. Click on the **Apply** button to submit your changes, or click on the **Cancel** button if you want to clear all the values you have configured.

Configuring Management IP *{Management IP}*

Allow you to configure the management IPs so that only with those configured management IPs can access to your SHDSL IP DSLAM remotely. The procedures are as follows:

1. Click on "**Management IP**" from the Management Menu.

The **Management IP** screen appears as follows:

2. Configure the management group as you want. The management IP group can be created maximum up to 5 groups.

3. Click on the **Update** button to submit your changes, or click on the **Cancel** button if you want to clear all the values you have configured.

SHDSL Maintenance

Allow you to configure the maintenance operations on SHDSL units. The procedures are as follows:

1. Click on "**SHDSL Maintenance**" from the **Main** Menu.

The **SHDSL Maintenance** screen appears as follows:

Show SHDSL Maintenance:

Port No	CO /RT	Loopback Config	TipRing Reversal	Power BackOff	Soft Restart	Loopback Timeout	UnitPower Source	Action
1	CO	noLoopback		default	ready	-		MODIFY
	RT	noLoopback		default	ready	-		
2	CO	noLoopback		default	ready	-		MODIFY
	RT	noLoopback		default	ready	-		
3	CO	noLoopback		default	ready	-		MODIFY
	RT	noLoopback		default	ready	-		
4	CO	noLoopback		default	ready	-		MODIFY
	RT	noLoopback		default	ready	-		
5	CO	noLoopback		default	ready	-		MODIFY
	RT	noLoopback		default	ready	-		
6	CO	noLoopback		default	ready	-		MODIFY
	RT	noLoopback		default	ready	-		
7	CO	noLoopback		default	ready	-		MODIFY
	RT	noLoopback		default	ready	-		
8	CO	noLoopback		default	ready	-		MODIFY
	RT	noLoopback		default	ready	-		
9	CO	noLoopback		default	ready	-		MODIFY
	RT	noLoopback		default	ready	-		
10	CO	noLoopback		default	ready	-		MODIFY
	RT	noLoopback		default	ready	-		
11	CO	noLoopback		default	ready	-		MODIFY
	RT	noLoopback		default	ready	-		
12	CO	noLoopback		default	ready	-		MODIFY
	RT	noLoopback		default	ready	-		
13	CO	noLoopback		default	ready	-		MODIFY
	RT	noLoopback		default	ready	-		
14	CO	noLoopback		default	ready	-		

	RT	noLoopback		default	ready	-		MODIFY
15	CO	noLoopback		default	ready	-		MODIFY
	RT	noLoopback		default	ready	-		
16	CO	noLoopback		default	ready	-		MODIFY
	RT	noLoopback		default	ready	-		
17	CO	noLoopback		default	ready	-		MODIFY
	RT	noLoopback		default	ready	-		
18	CO	noLoopback		default	ready	-		MODIFY
	RT	noLoopback		default	ready	-		
19	CO	noLoopback		default	ready	-		MODIFY
	RT	noLoopback		default	ready	-		
20	CO	noLoopback		default	ready	-		MODIFY
	RT	noLoopback		default	ready	-		
21	CO	noLoopback		default	ready	-		MODIFY
	RT	noLoopback		default	ready	-		
22	CO	noLoopback		default	ready	-		MODIFY
	RT	noLoopback		default	ready	-		
23	CO	noLoopback		default	ready	-		MODIFY
	RT	noLoopback		default	ready	-		
24	CO	noLoopback		default	ready	-		MODIFY
	RT	noLoopback		default	ready	-		

4. if you want to config the setting of a specified port, click on the **Modify** of the Action field, and an embadded hyperlink will help you modify the port's setting. The screen apprears as follows.

5. Click on the **Apply** button to sumit your configuration.

Performance Monitor

This section covers performance monitor by selecting **DSL Port Performance** from EmWeb Menu. It includes:

Show SHDSL Span Status *{ Span Status }*

Allow you to view the configuration information of the SHDSL span on SHDSL IP DSLAM.

1. Click on **"Span Status"** of **G.SHDSL** from the DSL Port Performance Menu.

The **Span Status** screen appears as follows:

Show Span Status:

Show Span Status:

Port No.	NumAvail Repeaters	Max Attainable Rate(Kbps)	Actual Line Rate(Kbps)	Current Trans Mode
1	0	0	0	region1/region2
2	0	0	0	region1/region2
3	0	0	0	region1/region2
4	0	0	0	region1/region2
5	0	0	0	region1/region2
6	0	0	0	region1/region2
7	0	0	0	region1/region2
8	0	0	0	region1/region2
9	0	0	0	region1/region2
10	0	0	0	region1/region2
11	0	0	0	region1/region2
12	0	0	0	region1/region2

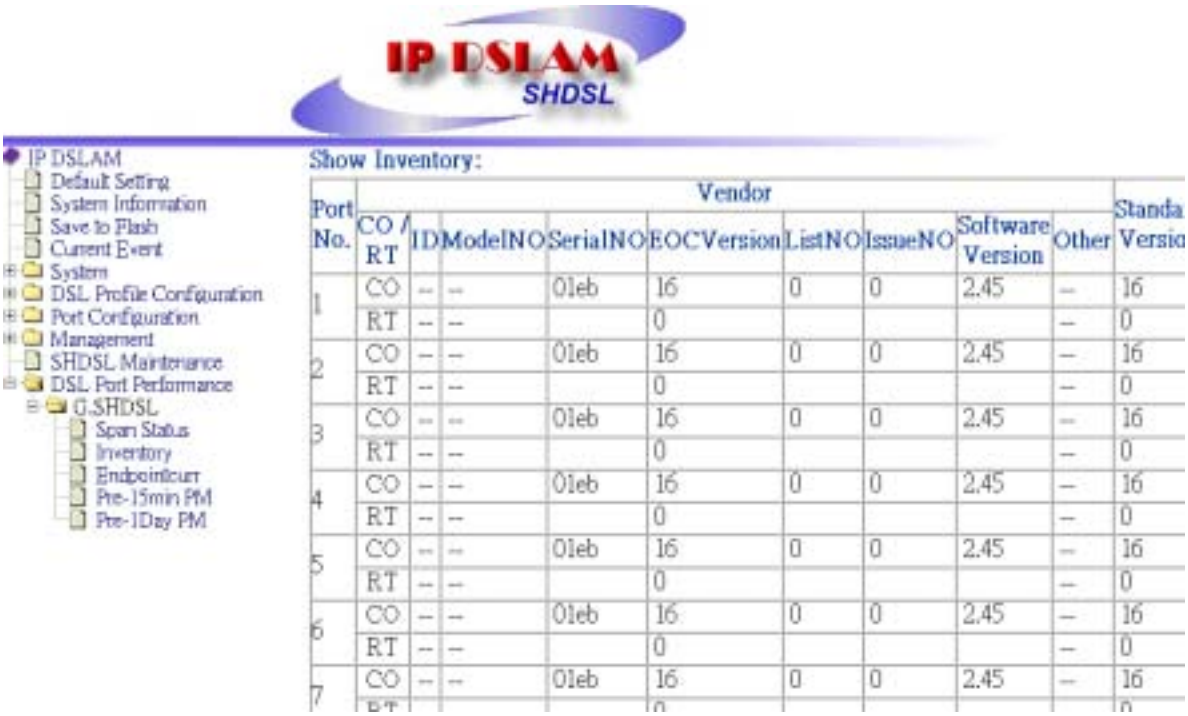
13	0	0	0	region1/region2
14	0	0	0	region1/region2
15	0	0	0	region1/region2
16	0	0	0	region1/region2
17	0	0	0	region1/region2
18	0	0	0	region1/region2
19	0	0	0	region1/region2
20	0	0	0	region1/region2
21	0	0	0	region1/region2
22	0	0	0	region1/region2
23	0	0	0	region1/region2
24	0	0	0	region1/region2

Show Inventory *{ Inventory }*

Allow you to view to view the inventory information of a SHDSL span.

1. Click on **“Inventory”** of **G.SHDSL** from the DSL Port Performance Menu.

The **Inventory** screen appears as follows:



Show Endpointcurr*{ Endpointcurr }*

Allow you to view current status and performance information for segment endpoints in SHDSL line.

1. Click on **"Endpointcurr"** of **G.SHDSL** from the DSL Port Performance Menu.

The **Endpointcurr** screen appears as follows:

Port No.	CO/RT	CurrAtn	CurrSatMgn	CurrStatus	Total /Curr15Min /Curr1Day	Time Elapsed	ES	SES	
1	CO	0	0	loswFailureAlarm	Total		0	0	0
					Curr15Min	492	0	0	0
					Curr1Day	25692	0	0	0
	RT	0	0	loswFailureAlarm	Total		0	0	0
					Curr15Min	492	0	0	0
					Curr1Day	25692	0	0	0
2	CO	0	0	loswFailureAlarm	Total		0	0	0
					Curr15Min	492	0	0	0
					Curr1Day	25692	0	0	0
	RT	0	0	loswFailureAlarm	Total		0	0	0
					Curr15Min	492	0	0	0
					Curr1Day	25692	0	0	0

SHDSL Previous 15-MIN Performance Management *{Pre-15min PM}*

Allow you to view the SHDSL information of Previous 15-MIN Performance Management.

1. Click on **"Pre-15min PM"** of **G.SHDSL** from the DSL Port Performance Menu.

The **Pre-15min PM** screen appears as follows:

Previous Period	CO					RT				
	ES	SES	CRC anomalies	LOSWS	UAS	ES	SES	CRC anomalies	LOSWS	
1	0	0	0	811	0	0	0	0	0	0
2	0	0	0	809	0	0	0	0	0	0
3	0	0	0	809	0	0	0	0	0	0
4	0	0	0	811	0	0	0	0	0	0
5	0	0	0	809	0	0	0	0	0	0
6	0	0	0	811	0	0	0	0	0	0
7	0	0	0	809	0	0	0	0	0	0
8	0	0	0	810	0	0	0	0	0	0

SHDSL Previous 1 Day Performance Management *{Pre-1Day PM}*

Allow you to view the SHDSL information of Previous 1 Day Performance Management.

1. Click on **"Pre-1Day PM"** of **G.SHDSL** from the DSL Port Performance Menu.

The **Pre-1Day PM** screen appears as follows:

System Administration with CLI

4

Command Line Interface (CLI) is the primary user interface to administrate the system. CLI can be accessed either from the CID port or telnet session. All CLI commands are simple strings designed for the administrator to manage your SHDSL IP DSLAM easily.

Command Structure

CLI is three-level command structure used in the system. All commands have the following general format:

IPDSLAM/SHDSL# <action> Identifier parameters

Action	Identify the specific function to be acted. For example, users type "*show port 16*" to view information of SHDSL 16th port. "*show*" is the <action>.
Identifier	***:*** Indicate the object of the specific function to be acted. For example, users type "*show port 16*" to view information of SHDSL 16th port. "*port*" is the <identifier>.
Parameter	Users need to enter the specific parameters for "configuring"," indicating"…etc. For example, users type "*show port 16*" to view information of SHDSL 16th port. *"16"* is the <parameters>. It indicates SHDSL 16th port.

Table 4-1 CLI Command - Action List

<action>	Description
show	This is used to view information by the identifier and parameters selected.
add	This is used to add configuration of objects according to the identifier and parameters. Parameters are used for selecting specific facility and arguments. For example, “16” is SHDSL 16th port.
config	This is used to set or modify existent configuration of objects corresponding by the identifier and parameters. The user must use the action to set or modify any existent configuration. But some important configuration was restricted for config, such as the content of line profile “default” and alarm profile “default”. It means if the line profile is occupied by SHDSL span, the user can’t config it exactly.
delete	This is used to delete configuration of objects corresponding by the identifier and parameters. If the user confirms the delete action, the configuration of objects will no longer exist.
help	This is used to view the detailed usage of CLI commands.
history	This is used to view the list of commands that the user used.
reset	This is used to reset a port of system.
restart	This is used to restart the system.
save	This is used to save the configuration to Flash.
default	This is used to restore the default setting to system.
upgrade	This is used to enable/disable system upgrade function.
exit	This is used to logout current user.

Table 4-2 CLI Command – Identifier List

<identifier>	Description
sysinfo	Allow users to view or config the whole system information of SHDSL IP DSLAM.
sysip	Allow users to view or config IP of system.
snmp	Allow users to view or config VID and community for SNMP.
time	Allow users to view or config the current system date and time.
user	Allow users to view, add, delete or config the users’ information of system.
password	Allow users to modify him (herself) password.

subscriber	Allow users to view, add, delete or config the basic information of the subscriber of each port.
event	Allow users to view the events of system.
trapdest	Allow users to view, add or delete the trap destination.
manip	Allow users to view, add, or delete management IP groups.
portfilter	Allow users to view or config port-filter status.
port	Allow users to view or config status and information of each port, or allow users to enable/disable port.
connection	Allow users to view or config the connection information of each port sorting by port id.
vid	Allow users to view the vid information sorting by VLAN ID.
lineprof	Allow users to view, add, delete or config SHDSL line profile/SHDSL line profile.
alarmprof	Allow users to view, add, delete or config the alarm threshold values in an SHDSL/SHDSL line.
span	Allow users to view or config the overall configuration of a SHDSL span.
spanstatus	Allow users to view the overall status of a SHDSL span.
inventory	Allow users to view the invented information of units in the SHDSL span.
endpointconf	Allow users to view, config the configuration of SHDSL segment endpoint.
endpointcurr	Allow users to view the current sof unit in the SHDSL span.
pmintl	Allow users to view the performance statistics collected on SHDSL span with 15-minutes or 1-day interval.
maint	Allow users to view or config for units in a SHDSL line.

Table 4-3 CLI Command –parameters list

<action>	<parameter>	Description
show <identifier>	all	Allow users to view all information.
	port no.	Allow users to view the information by selecting unit no (1 ~ 7)/ port no (1 ~ 24).
	<port no.> <c/r>	Allow users to view the CO or Remote side information by selecting port no (1 ~ 24).
	<port no.> <15min/1day> <c/r>	Allow users to view the PM by selecting port no (1 ~ 24), time interval (15min/1day) and CO/Remote side.
	< port no.> <15min/1day> <c/r>	Allow users to view SHDSL PM by selecting port no (1 ~ 24), time interval (15min/1day), UnitID (stuc/stur).

add user	<user name> <privilege>	Allow users to add the detail user information.

add trapdest	IP address	Allow users to add trap destination.
add manip	<IP Address> [submask]	Add management IP groups.
add connection	< port no.> <vpi/vci> <Adminstatus> [VID] [Priority]	Allow users to add the PVC by selecting and port no (1 ~ 24).
add lineprof	<profile name>	enter the selecting parameter of every item.
	WireInterface : twoWire MinLineRate(0…2312 Kbps)# MaxLineRate(0…2312 Kbps)# PSD(1 = symmetric,2 = asymmetric)# TransmissionMode(1 = region1,2 = region2)# RemoteEnabled : disabled PowerFeeding : noPower CurrCondTargetMarginDown(-10…21 dB)# WorstCaseTargetMarginDown(-10…21 dB)# CurrCondTargetMarginUp(-10…21 dB)# WorstCaseTargetMarginUp(-10…21 dB)# UsedTargetMargins(1 = currCondDown,2 = worstCaseDown,3 = currCondUp,4 = worstCaseUp(Multi-selection))# ReferenceClock(1 = localClk,2 = networkClk)# LineProbeEnable(1 = disable,2 = enable)#	
add alarmprof	<profile name>	enter the selecting parameter of every item.
	ThreshLoopAttenuation (-127…128 dB)# ThreshSNRMargin (-127…128 dB)# ThreshES(0…900s seconds)# ThreshSES(0…900s seconds)# ThreshCRCanomalies (0…150000)# ThreshLOSWS(0…900s seconds)# ThreshUAS(0…900s seconds)#	

config sysinfo	<system name> <location> <console name>	Modify the information of system.
config sysip	<IP> <Submask> <Gateway>	Modify the IP arguments of system.
config snmp	<community> [VID]	Modify the SNMP community and VID.
config time	<date> <time>	Modify current day and time.
config user	<user name> <privilege>	Modify user information by arguments.
config subscriber	port no.	Enter into the next degree (subscriber) by selecting port no.
(subscriber)#	<subscriber name> <telephone number> <Note>	Modify subscriber information by arguments.

config portfilter	<enable/disable>	Modify port filter status
config port	<destination> <port state>	Set the state of the port.
config connection	< port no.> <PVC1> <PVC2> <AdminStatus> [VID] [Priority]	Modify PVC (VPI/VCI) and VLAN ID by selecting port no.
config lineprof	<profile name>	enter the selecting parameter of every item.
	The same with “add lineprof”	
config alarmprof	<profile name>	enter the selecting parameter of every item.
	The same with “add alarmprof”	
config password	none	Modify current user’s password.
config span	<port no.> <lineprof name> <alarmprof name>	Modify SHDSL line configuration by arguments. The lineprof must be SHDSL line profile and alarmprof must be SHDSL alarm profile.
config endpointconf	<unit no./port no.> <c/r> <alarmprof name>	Modify the configuration parameters for segment endpoints in a SHDSL line by assigning UnitID and SHDSL alarm profile name.
config maint	< port no.> <c/r>	Configure the maintenance for units in a SHDSL line.
	LoopbackConfig : noLoopback PowerBackOff (1 = default, 2 = enhanced)# SoftRestart(1 = ready,2 = restart)# LoopbackTimeout : -	

delete user	<user name>	Delete user information by selecting user name.
delete event	none	Delete all event information.
delete trapdest	<IP address>	Delete Trap destination IP.
delete manip	<IP Address> [Submask]	Delete management IP groups.
delete connection	<port no.> <vpi/vci>	Delete pvc by selecting (vpi/vci) and port no.
delete lineprof	<profile name>	Delete SHDSL line profile by selecting profile name.
delete alarmprof	<alarm profile name>	Delete SHDSL alarm profile by selecting alarm profile name.
help	add, delete…..	Show usage of commands.
history	none	The used command.
reset port	<port no.>	Reset Port

restart	none	Restart system
save	none	Save configuration to Flash Ram.
default	none	Restore the default setting to system.
upgrade	<enable / disable>	Enable / disable upgrade function.
exit	none	Restore the default setting.

Table 4-4 Relation between <action> and <identifier>

<action>	**<identifier>**				
show	moduletype	sysinfo	sysip	snmp	time
	user	subscriber	event	trapdest	manip
	portfilter	port	connection	vid	lineprof
	alarmprof	inventory	endpointcurr	pmint	maint
	span	spanstatus			
add	user	trapdest	manip	connection	lineprof
	alarmprof				
config	sysinfo	sysip	snmp	time	maint
	user	subscriber	portfilter	port	connection
	lineprof	alarmprof	endpointconf	password	span
delete	user	event	trapdest	manip	connection
	lineprof	alarmprof			
help	show/add/config/delete/…… /show sysinfo/config time/……..				
history	None				
reset	port				
restart	None				
save	None				
default	None				
upgrade	enable/disable				
exit	None				

Calling Commands

To recall commands from the history buffer, perform one of these tasks.

Command	Task
The up arrow key	Recall commands in the history buffer, beginning with the most recent command. Repeat the key sequence to recall successively older commands.
The down arrow key	Return to more recent commands in the history buffer after recalling commands with “the up arrow key”. Repeat the key sequence to recall successively more recent commands.

General Configuration

Help Command

"Help" command can be used to get help specific to a command mode by entering help <command> or help <command> <parameter>.

Command: help

History Command

"History" command is used for tracing the command that all users have entered.

Command: history

Saving the System

Describes how to save system configuration you have defined to Flash RAM.

Command: save

Note: Before you restart the system, remember to save the system by entering the command "save" or the system will restart at the previous settings.

Displaying Module type

Viewing the module type of every unit

Command: show moduletype

Example:

This example shows how to display the moduletype of every unit.

```
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
IPDSLAM/SHDSL# show moduletype

This unit is SHDSL

IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
```

Event Viewing and Deleting

Displaying the Current Event

Describes how to display events of system.

Command: show event

Example:

```
IPDSLAM/SHDSL#
IPDSLAM/SHDSL# show event
-------------------------------------------------------------------------------
  No          Time        Source     Severity Description
-------------------------------------------------------------------------------
   1 2067/02/18 22:28:57  system     inform   user admin login
   2 2067/02/16 22:26:40  p-24 stu-r major    losw failure
   3 2067/02/16 22:26:40  p-24 stu-c major    losw failure
   4 2067/02/16 22:26:40  p-23 stu-r major    losw failure
   5 2067/02/16 22:26:40  p-23 stu-c major    losw failure
   6 2067/02/16 22:26:40  p-22 stu-r major    losw failure
   7 2067/02/16 22:26:40  p-22 stu-c major    losw failure
   8 2067/02/16 22:26:40  p-21 stu-r major    losw failure
   9 2067/02/16 22:26:40  p-21 stu-c major    losw failure
  10 2067/02/16 22:26:40  p-20 stu-r major    losw failure
  11 2067/02/16 22:26:40  p-20 stu-c major    losw failure
  12 2067/02/16 22:26:40  p-19 stu-r major    losw failure
  13 2067/02/16 22:26:40  p-19 stu-c major    losw failure
  14 2067/02/16 22:26:40  p-18 stu-r major    losw failure
  15 2067/02/16 22:26:40  p-18 stu-c major    losw failure
  16 2067/02/16 22:26:40  p-17 stu-r major    losw failure
  17 2067/02/16 22:26:40  p-17 stu-c major    losw failure
  18 2067/02/16 22:26:40  p-16 stu-r major    losw failure
  19 2067/02/16 22:26:40  p-16 stu-c major    losw failure
  20 2067/02/16 22:26:40  p-15 stu-r major    losw failure
Press 'y' to continue, 'n' to break and press Enter.
```

Table 4-6 event Field Definition

Field	Definition
No	Index of each event.
Time	The time when the event occurs.
Source	The location where the event occurs.
Severity	Priority of event (major/minor/inform)
Description	Description of the event information.

Deleting the Event of SHDSL IP DSLAM

Describes how to delete the event of system.

Command: delete event

Example:

```
IPDSLAM/SHDSL# delete event

Yes or No <y/n>? y
IPDSLAM/SHDSL#
```

Reset Port

Reset port

Describes how to reset the specific port.

Command: reset port <port no>

Example: This example shows how to reset the port 1.

```
IPDSLAM/SHDSL#
IPDSLAM/SHDSL# reset port 1

Yes or No <y/n>? y
IPDSLAM/SHDSL#
```

Restart the SHDSL IP DSLAM

Describes how to restart the system without turning on/off power.

Command: restart

Example: This example shows how to restart the system.

```
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
IPDSLAM/SHDSL# restart

Yes or No <y/n>? y
System is restarting now. Please Wait...
```

Note: Before you restart the system, be sure that you save all the configurations by entering the command “save” or the system will start with the previous settings.

Resetting all Configurations to Default Setting

Describes how to reset all configurations to default.

Command: default

Note: The system will return to the original default settings.

Example:

```
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
IPDSLAM/SHDSL# default

Warning: All subscriber information will be cleared, and system
configuration and management parameters will be reset.
Yes or No <y/n>?
```

System Upgrade

Describes how to enable or disable download without in-band management channel (VLAN).

Command: upgrade <enable | disable>

Argument List:

Parameter type	Description
Enable / disable	Enable / disable upgrade mode

Example:This example shows how to enable download without in-band management channel.

```
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
IPDSLAM/SHDSL# upgrade enable

Yes or No <y/n>? y
System is in the "upgrade" mode now. You could start to upgrade the system file.
IPDSLAM/SHDSL#
```

Logging Out your SHDSL IP DSLAM

Describes how to log out the system.

Command: exit

```
IPDSLAM/SHDSL#
IPDSLAM/SHDSL# exit

Yes or No <y/n>?
```

Note:

Before you log out the system, be sure that you save all the configurations by entering the command “save” or the system will start with the previous settings.

Configuring Your SHDSL IP DSLAM

System Configuration

Displaying Hardware and Software Information

Describes how to view the identification information of SHDSL IP DSLAM.

Command: show sysinfo

Example: This example shows how to display the hardware and software information of SHDSL IP DSLAM. The following descriptions are default setting, of which system name, location, contact and console name can be modified.

```
IPDSLAM/SHDSL#
IPDSLAM/SHDSL# show sysinfo
System name: IPDSLAM
Location:
Contact:
Console name: IPDSLAM

IPAM2400s:
1.Hardware version: 2.0-0-Infineon1.0-NA
2.Software version: 2.45
3.Serial number: 06-00-36
4.Description: IPAM 2400s
5.Temperature: Normal

IPDSLAM/SHDSL#
```

Table 4-7 sysinfo field definition

Field	Definition
System name	Alias name of SHDSL IP DSLAM
Location	Location of system
Contact	Contact person for service and how to contact.
Console name	Console name of the system.
Hardware version	Hardware version of system.
Software version	Software version of system.
Serial number	Serial number of system.
Description	Description of system.
FAN Status	Normal/Alarm

Modifying System Information

Describes how to modify the system information of system name, location, contact and console name.

Command: config sysinfo

Argument List:

Parameter type	Parameter data-type and field	Description
System name	String, <= 32	Name of SHDSL IP DSLAM.
Location	String, <=32	Location of system
Contact	String, <= 32	Contact person and how to contact
Console name	String, <=16 (default: SHDSL IP DSLAM)	Name of console title. (Empty for default)

Example: This example shows how to modify the name of system as ZTE 123, console name as SHDSL IP DSLAM and location of system as For North Area

Service.

```
IPDSLAM/SHDSL#
IPDSLAM/SHDSL# config sysinfo
(sysinfo-name)# Smart
(sysinfo-location)# Paris
(sysinfo-contact)# Bush
(sysinfo-console name)# Pantagon
System name: Smart
Location: Paris
Contact: Bush
Console name: Pantagon
Yes or No <y/n>? y
Pantagon/SHDSL#
Pantagon/SHDSL#
Pantagon/SHDSL#
```

Port-Filtering Configuration

Displaying Port-Filtering

Describes how to display the status of port-based VLAN.

Command: show portfilter

Example: This example shows how to view the status of port-based VLAN

```
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
IPDSLAM/SHDSL# show portfilter

Port filter: enable

IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
```

Table 4-8 portfilter Filed Definition

Items	Description
Enable/ disable	Enable: Allow each DSL port to communicate back and forth with the uplink Ethernet port only. Disable: Allow all DSL ports to communicate with each other and also with the uplink Ethernet port.

Modifying Port-Filter

Describes how to configure port-filtering function whether to allow each port communicate with the uplink Ethernet port only or communicate with each other and so do with the Ethernet port.

Command: config portfilter <enable|disable>

Argument List:

Parameter type	Parameter data-type and field	Description
Status	Enable/disable	Enable or disable status

Example: This example shows how to enable the portfilter and allow each DSL port to communicate with the uplink Ethernet port only.

```
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
IPDSLAM/SHDSL# config portfilter enable

Yes or No <y/n>? y
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
```

IP Configuration

Displaying System IP

Describes how to view the system IP.

Command: show sysip

Example: This example shows how to display the system IP. The following descriptions are default setting.

```
IPDSLAM/SHDSL#
IPDSLAM/SHDSL# show sysip
1.IP: 192.168.100.111
2.Submask: 255.255.255.0
3.Gateway: 192.168.100.1

IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
```

Table 4-9 sysip Field Definition

Field	Definition
IP	IP of System
Submask	Submask of system.
Gateway	Gateway IP

Modifying System IP

Describes how to modify the system IP.

Command: config sysip <IP> <Submask> <Gateway>

Argument List:

Parameter type	Parameter data-type and field	Description
IP	A.B.C.D	IP of SHDSL IP DSLAM
Submask	A.B.C.D	Submask of SHDSL IP DSLAM
Gateway	A.B.C.D	Gateway of SHDSL IP DSLAM

Example: This example shows how to modify the system IP as 192.168.100.123, submask as 255.255.255.0 and gateway as 192.168.100.1.

```
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
IPDSLAM/SHDSL# config sysip 192.168.100.123 255.255.255.0 192.168.100.1
IP: 192.168.100.123
Submask: 255.255.255.0
Gateway: 192.168.100.1

Yes or No <y/n>? y
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
```

Time Configuration

Displaying Time

Describes how to display the current system time, system up time and period

Command: show time

Example: This example shows how to display the time of SHDSL IP DSLAM.

```
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
IPDSLAM/SHDSL# show time
1.Current time: 2067/02/16 23:16:34
2.System up time: 2067/02/16 22:26:25
3.System up period: 0 day 00:50:09

IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
```

Table 4-10 time Field Definition

Field	Definition
Current Time	Current system time.
System up time	System up time.
System up period	System up period.

Modifying Time

Describes how to modify the date and time of system.

Command: config time <date> <time>

Argument List:

Parameter type	Parameter data-type and field	Description
date	yyyy/mm/dd	Example: 2001/07/13
time	hh:mm:ss	Example: 20:25:30

Example: This example shows how to modify the system time to date:2003/06/26, time: 11:50:25.

```
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
IPDSLAM/SHDSL# config time 2003/06/26 11:50:25
Date:2003/06/26
Time:11:50:25

Yes or No <y/n>? y
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
```

Changing the Password

This section describes how to change own password regardless of user's privilege.

Command: config password

Argument List:

Parameter type	Parameter data-type and field	Description
<password>	String, <= 8	The user's password

Example: This example shows how the user changes his own password.

```
IPDSLAM/SHDSL#
IPDSLAM/SHDSL# config password
Enter new password: *****
Confirm password: *****

Yes or No <y/n>? y
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
```

Configuring DSL

Creating Line Profile and Alarm Profile

Creating Line Profile

Describes how to add the content of SHDSL profile on SHDSL IP DSLAM.

Command: add lineprof <profile name>

Argument List:

Parameter type	Parameter data-type and field	Description
<lineprof name>	String, <= 32	The name of SHDSL line profile.
WireInterface	1=twoWire	The two-wire or optional four-wire operation for SHDSL Lines.(read-only
MinLineRate	0…2312 Kbps	The minimum transmission rate for the associated SHDSL Line in bits-per-second.
MaxLineRate	0…2312 Kbps	The maximum transmission rate for the associated SHDSL Line in bits-per-second.

PSD	1 = symmetric 2 = asymmetric	Symmetric/asymmetric PSD (Power Spectral Density) Mask for the associated SHDSL Line.
TransmissionMode	1 = region1 2 = region2	The regional setting for the SHDSL line.
RemoteEnabled	disabled	Enables/disables support for remote management of the units in a SHDSL line from the STU-R via the EOC.(read only)
PowerFeeding	noPower	Enables/disables support for optional power feeding in a SHDSL line.(read-only)
CurrCondTargetMarginDown	-10…21 dB	The downstream current condition target SNR margin for a SHDSL line.
WorstCaseTargetMarginDown	-10…21 dB	The downstream worst case target SNR margin for a SHDSL line.
CurrCondTargetMarginUp	-10…21 dB	The upstream current condition target SNR margin for a SHDSL line.
WorstCaseTargetMarginUp	-10…21 dB	The upstream worst case target SNR margin for a SHDSL line.
UsedTargetMargins (Multi-selection)	1 = currCondDown 2 = worstCaseDown 3 = currCondUp 4 = worstCaseUp (Multi-selection)	Whether a target SNR margin is enabled or disabled.
ReferenceClock	1 = localClk 2 = networkClk	The clock reference for the STU-C in a SHDSL Line.
LineProbeEnable	1 = disable 2 = enable	Enables/disables support for Line Probe of the units in a SHDSL line.

Example:

```
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
IPDSLAM/SHDSL# add lineprof test
WireInterface: twoWire
MinLineRate(192...2312Kbps)# 2312
MaxLineRate(192...2312Kbps)# 2312
PSD: symmetric
TransmissionMode(1 = region1,2 = region2,3 = region1/region2)# 1
RemoteEnabled: disabled
PowerFeeding: noPower
CurrCondTargetMarginDown(-10...21dB)# 5
WorstCaseTargetMarginDown(-10...21dB)# 3
CurrCondTargetMarginUp(-10...21dB)# 0
WorstCaseTargetMarginUp(-10...21dB)# 4
UsedTargetMargins(1 = currCondDown,2 = worstCaseDown,3 = currCondUp,4 = worstCas
eUp(Multi-selection))# 1
ReferenceClock(1 = localClk,2 = networkClk)# 1
LineProbeEnable(1 = disable,2 = enable)# 2

SHDSL Line Profile "TEST" content:
WireInterface: twoWire
MinLineRate: 2312 Kbps
MaxLineRate: 2312 Kbps
PSD: symmetric
TransmissionMode: region1
RemoteEnabled: disabled
PowerFeeding: noPower
CurrCondTargetMarginDown: 5 dB
WorstCaseTargetMarginDown: 3 dB
CurrCondTargetMarginUp: 0 dB
WorstCaseTargetMarginUp: 4 dB
UsedTargetMargins: currCondDown
ReferenceClock: localClk
LineProbeEnable: enable

Yes or No <y/n>? y
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
IPDSLAM/SHDSL# ■
```

Creating Alarm Profile

This section describes how to add the content of SHDSL alarm profile on SHDSL IP DSLAM.

Command: add alarmprof <profile name>

Argument List:

Parameter type	Parameter data-type and field	Description
<alarmprof name>	String, <= 32	The name of SHDSL alarm profile.
ThreshLoopAttenuation	-127…128 dB	The loop attenuation alarm threshold.
ThreshSNRMargin	-127…128 dB	The SNR margin alarm threshold.
ThreshES	0s ~ 900s seconds	The threshold for the number of error seconds (ES) within any given 15-minute performance data collection interval.

ThreshSES	0s ~ 900s seconds	The threshold for the number of severely error seconds (SES) within any given 15-minute performance data collection interval.
ThreshCRCanomalies	0s ~ 150000	Threshold for the number of CRC anomalies within any given 15-minute performance data collection interval.
ThreshLOSWS	0s ~ 900s seconds	The threshold for the number of Loss of Sync Word (LOSW) Seconds within any given 15-minute performance data collection interval.
ThreshUAS	0s ~ 900s seconds	The threshold for the number of unavailable seconds (UAS) within any given 15-minute performance data collection interval.

Example:

```
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
IPDSLAM/SHDSL# add alarmprof
add: Too few parameters.
IPDSLAM/SHDSL# add alarmprof money
ThreshLoopAttenuation(-127...128dB)# 3
ThreshSNRMargin(-127...128dB)# 6
ThreshES(0...900seconds)# 10
ThreshSES(0...900seconds)# 20
ThreshCRCanomalies(0...150000)# 100
ThreshLOSWS(0...900seconds)# 20
ThreshUAS(0...900seconds)# 20

SHDSL Alarm Profile "MONEY" content:
ThreshLoopAttenuation: 3 dB
ThreshSNRMargin: 6 dB
ThreshES: 10 seconds
ThreshSES: 20 seconds
ThreshCRCanomalies: 100
ThreshLOSWS: 20 seconds
ThreshUAS: 20 seconds

Yes or No <y/n>? y
IPDSLAM/SHDSL#
```

Modifying Line Profile and Alarm Profile

Modifying Line Profile

Describes how to modify the content of SHDSL profile on SHDSL IP DSLAM.

Command: config lineprof <profile name>

Argument List: The same as Creating DSL Profile. See page 78

Example:

```
IPDSLAM/SHDSL#
IPDSLAM/SHDSL# config lineprof test
WireInterface: twoWire
MinxLineRate(192...2312Kbps)[2312]# 2034
MaxLineRate(192...2312Kbps)[2312]# 2034
PSD: symmetric
TransmissionMode(1 = region1,2 = region2,3 = region1/region2)[1]# 2
RemoteEnabled: disabled
PowerFeeding: noPower
CurrCondTargetMarginDown(-10...21dB)[5]# 2
WorstCaseTargetMarginDown(-10...21dB)[3]# 3
CurrCondTargetMarginUp(-10...21dB)[0]# 3
WorstCaseTargetMarginUp(-10...21dB)[4]# 4
UsedTargetMargins(1 = currCondDown,2 = worstCaseDown,3 = currCondUp,4 = worstCas
eUp(Multi-selection))[1]# 2
ReferenceClock(1 = localClk,2 = networkClk)[1]# 1
LineProbeEnable(1 = disable,2 = enable)[2]# 1

SHDSL Line Profile "TEST" content:
WireInterface: twoWire
MinLineRate: 2034 Kbps
MaxLineRate: 2034 Kbps
PSD: asymmetric
TransmissionMode: region2
RemoteEnabled: disabled
PowerFeeding: noPower
CurrCondTargetMarginDown: 2 dB
WorstCaseTargetMarginDown: 3 dB
CurrCondTargetMarginUp: 3 dB
WorstCaseTargetMarginUp: 4 dB
UsedTargetMargins: worstCaseDown
ReferenceClock: localClk
LineProbeEnable: disable

Yes or No <y/n>? y
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
```

Modifying Alarm Profile

Describes how to modify the content of SHDSL alarm profile on SHDSL IP DSLAM.

Command: config alarmprof <profile name>

Argument List:

Parameter type	Parameter data-type and field	Description
<alarmprof name>	String, <= 32	The name of SHDSL alarm profile.
ThreshLoopAttenuation	-127…128 dB	The loop attenuation alarm threshold.
ThreshSNRMargin	-127…128 dB	The SNR margin alarm threshold.
ThreshES	0s ~ 900s seconds	The threshold for the number of error seconds (ES) within any given 15-minute performance data collection interval.
ThreshSES	0s ~ 900s seconds	The threshold for the number of severely error seconds (SES) within any given 15-minute performance data collection interval.
ThreshCRCanomalies	0s ~ 150000	Threshold for the number of CRC anomalies within any given 15-minute performance data collection interval.
ThreshLOSWS	0s ~ 900s seconds	The threshold for the number of Loss of Sync Word (LOSW) Seconds within any given 15-minute performance data collection interval.
ThreshUAS	0s ~ 900s seconds	The threshold for the number of unavailable seconds (UAS) within any given 15-minute performance data collection interval.

Example:

```
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
IPDSLAM/SHDSL# config alarmprof money
ThreshLoopAttenuation(-127...128dB)[3]# 4
ThreshSNRMargin(-127...128dB)[6]# 5
ThreshES(0...900seconds)[10]# 6
ThreshSES(0...900seconds)[20]# 5
ThreshCRCanomalies(0...150000)[100]# 200
ThreshLOSWS(0...900seconds)[20]# 10
ThreshUAS(0...900seconds)[20]# 5

SHDSL Alarm Profile "MONEY" content:
ThreshLoopAttenuation: 4 dB
ThreshSNRMargin: 5 dB
ThreshES: 6 seconds
ThreshSES: 5 seconds
ThreshCRCCanomalies: 200
ThreshLOSWS: 10 seconds
ThreshUAS: 5 seconds

Yes or No <y/n>? y
IPDSLAM/SHDSL#
```

Deleting a Line Profile and Alarm Profile

Deleting Line Profile

show how to delete the content of SHDSL line profile by selecting the profile name.

Command: delete lineprof <profile name>

Example:This example shows how to delete existing line profile test.

```
IPDSLAM/SHDSL#
IPDSLAM/SHDSL# delete lineprof test

Yes or No <y/n>? y
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
```

Deleting Alarm Profile

Describes how to delete the content of SHDSL alarm profile by selecting the profile name..

Command: delete alarmprof <profile name>

Example:This example shows how to delete existing alarm profile money.

```
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
IPDSLAM/SHDSL# delete alarmprof money

Yes or No <y/n>?
Yes or No <y/n>?
Yes or No <y/n>?
```

Displying a Line Profile and Alarm Profile

Displaying Line Profile

This section describes how to view the information of SHDSL line profile.

Command: show lineprof <all | line profile name>

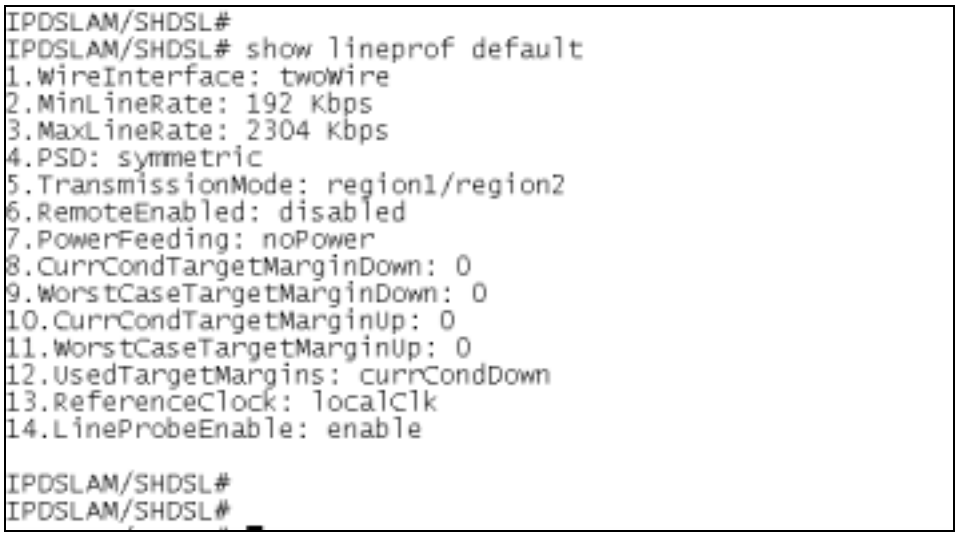
Argument List:

Parameter	Description
all	Show all information.
Line profile name	SHDSL line profile name.

Table 4-12 lineprof SHDSL Field Definition

Field	Definition
WireInterface	The two-wire or optional four-wire operation for SHDSL Lines.
MinLineRate	The minimum transmission rate for the associated SHDSL Line in bits-per-second. (bps)
MaxLineRate	The maximum transmission rate for the associated SHDSL Line in bits-per-second. (bps)
PSD	Symmetric/asymmetric PSD (Power Spectral Density) Mask for the associated SHDSL Line.
TransmissionMode	The regional setting for the SHDSL line.
RemoteEnabled	Enables/disables support for remote management of the units in a SHDSL line from the STU-R via the EOC.
PowerFeeding	Enables/disables support for optional power feeding in a SHDSL line.
CurrCondTargetMarginDown	The downstream current condition target SNR margin for a SHDSL line. (dB)
WorstCaseTargetMarginDown	The downstream worst case target SNR margin for a SHDSL line. (dB)
CurrCondTargetMarginUp	The upstream current condition target SNR margin for a SHDSL line. (dB)
WorstCaseTargetMarginUp	The upstream worst case target SNR margin for a SHDSL line. (dB)
UsedTargetMargins	Whether a target SNR margin is enabled or disabled.
ReferenceClock	The clock reference for the STU-C in a SHDSL Line.
LineProbeEnable	Enable/disable support for Line Probe of the units in a SHDSL line.

Example:



Displaying Alarm Profile

Describes how to view the information of SHDSL alarm profile.

Command: show alarmprof <all | alarm profile name>

Argument List:

Parameter	Description
all	Show all information.
Alarm profile name	SHDSL alarm profile name.

Table 4-14 alarmprof SHDSL Field Definition

Field	Definition
ThreshLoopAttenuation	The loop attenuation alarm threshold. (dB)
ThreshSNRMargin	The SNR margin alarm threshold. (dB)
ThreshES	The threshold for the number of error seconds (ES) within any given 15-minute performance data collection interval. (seconds)
ThreshSES	The threshold for the number of severely error seconds (SES) within any given 15-minute performance data collection interval. (seconds)
ThreshCRCanomalies	Threshold for the number of CRC anomalies within any given 15-minute performance data collection interval.
ThreshLOSWS	The threshold for the number of Loss of Sync Word (LOSW) Seconds within any given 15-

	minute performance data collection interval. (seconds)
ThreshUAS	The threshold for the number of unavailable seconds (UAS) within any given 15-minute performance data collection interval. (seconds)

Example:

```
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
IPDSLAM/SHDSL# show alarmprof default
1.ThreshLoopAttenuation: 0 dB
2.ThreshSNRMargin: 0 dB
3.ThreshES: 0 second
4.ThreshSES: 0 second
5.ThreshCRCCanomalies: 0
6.ThreshLOSWS: 0 second
7.ThreshUAS: 0 second

IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
```

Port Configuration

Enabling and Disabling a port

Describes how to to set the state of ports.

Command: config port <all | port no.> <up | down>

Argument List:

Parameter type	Parameter data-type and field	Description
<destination>	(port no.) (all)	Select destination
<port state>	up/down	up/down port.

Example: Those 2 example shows how to set the port 8 and all ports enable.

```
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
IPDSLAM/SHDSL# config port 8 up

Yes or No <y/n>? y
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
```

```
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
IPDSLAM/SHDSL# config port all down

Yes or No <y/n>? y
IPDSLAM/SHDSL#
```

Displaying the Current Status and Information of SHDSL Line

Displaying the Current Status of Line

Describes how to view the information of ports on SHDSL IP DSLAM

Command: show port <all | port no.>

Argument List:

Parameter	Description
all	Show all information.
(port no.)	1 ~ 24. Indicate the SHDSL IP DSLAM port no.

Table 4-15 port Field Definition

Field	Definition
Port ID	(1 ~ 24). Indicate the SHDSL IP DSLAM port no.
Admin Status	up/down.
Operating Status	up/down.
Alarm Status	Alarm Status: “noDefect”, ”powerBackoff”, “deviceFault”, “dcContinuityFault”, “snrMarginAlarm”, “loopAttenuationAlarm”, “loswFailureAlarm”, “configInitFailure”, “protocolInitFailure”, ”noNeighborPresent”, ”loopbackActive”
Trap	enable/disable.

Example 1:

```
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
IPDSLAM/SHDSL# show port 4
1.Port ID: 4
2.Admin Status: down
3.Operating Status: down
4.Alarm Status: noDefect
5.Trap: enable

IPDSLAM/SHDSL#
```

Example 2:

```
IPDSLAM/SHDSL# show port all

PortID   Admin-Status   Operating-Status   Alarm-Status      Trap
-------------------------------------------------------------------
     1          down               down              0    enable
     2          down               down              0    enable
     3          down               down              0    enable
     4          down               down              0    enable
     5          down               down              0    enable
     6          down               down              0    enable
     7          down               down              0    enable
     8          down               down              0    enable
     9          down               down              0    enable
    10          down               down              0    enable
    11          down               down              0    enable
    12          down               down              0    enable
    13          down               down              0    enable
Note:
*-------------------------------------------------------------------------*
|Alarm-Status.0:noDefect 1:powerBackoff 2:deviceFault 3:dcContinuityFault|
|           4:snrMarginAlarm 5:loopAttenuationAlarm 6:loswFailureAlarm    |
|           7:configInitFailure 8:protocolInitFailure 9:noNeighborPresent|
|           10:loopbackActive                                             |
*-------------------------------------------------------------------------*
Press 'y' to continue, 'n' to break and press Enter.
```

PVC Configuration

Creating PVC

Describes how to add the connection information and config Admin Status on SHDSL IP DSLAM.

Command: add connection < port no.> <vpi/vci> <up|down> [2~4094] [priority]

Argument List:

Parameter type	Parameter data-type and field	Description
port no.	(1 ~ 24)	Indicated SHDSL IP DSLAM port no.
PVC	(0 ~ 4095) / (1 ~ 65535)	VPI/VCI
Admin Status	up/down	Used to up/down connection.
VID ***(optional)***	2 ~ 4094	Virtual LAN ID
Priority ***(optional)***	0 ~ 7 (Max: 7, Min: 0)	Connection priority

E

```
IPDSLAM/SHDSL# add connection 15 5/31 up 2304 5
Connection information:
port 15:
PVC: 5/31
AdminStatus: up
VID: 2304
Priority: 5

Yes or No <y/n>?
Yes or No <y/n>?
Yes or No <y/n>? y
```

Modifying PVC

Describes how to modify the PVC connection (vpi/vci) by selecting a SHDSL IP DSLAM port no.

Command: config connection <port no.> <vpi_old/vci_old> <vpi_new/vci_new> <AdminStatus> <VID> <Priority>

Argument List:

Parameter type	Parameter data-type and field	Description
< port no.>	(1 ~ 24)	Indicated SHDSL IP DSLAM port no.
<vpi_old/vci_old>	0 ~ 4095(VPI) / 1 ~ 65535(VCI)	Old ATM PVC
<vpi_new/vci_new>	0s ~ 4095(VPI) / 1 ~ 65535(VCI)	New ATM PVC
<AdminStatus>	up / down	up/down the connection
[VID] ***(optional)***	2 ~ 4094	The Virtual LAN ID wants to set.
[Priority] ***(optional)***	0 ~ 7 (Max: 7, Min: 0)	Connection priority

Example:

```
IPDSLAM/SHDSL# config connection 8 8/81 0/81 up
port 8:
PVC: 8/81 -> 0/81
AdminStatus: up
VID: -
Priority: -

Yes or No <y/n>? y
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
```

Deleting PVC

Describes how to delete the connection on SHDSL IP DSLAM.

Command: delete connection < port no.> <vpi/vci>

Argument List:

Parameter type	Parameter data-type and field	Description
port no.	1 ~ 24	Indicated SHDSL IP DSLAM port no.
PVC	(0 ~ 4095) / (1 ~ 65535)	VPI/VCI

Example:

```
IPDSLAM/SHDSL# delete connection 8 8/81

Yes or No <y/n>? y
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
```

Displying PVC

Sorted by Port ID

Describes how to view the information of connections sorting by Port ID on SHDSL IP DSLAM.

Command: show connection <all | port no.>

Argument List:

Parameter	Description
all	Show all information.
port no.	1 ~ 24. Indicate the SHDSL IP DSLAM port no.

Table 4-17 connection Field Definition

Field	Definition
Port ID	Show the SHDSL IP DSLAM port no.
PVC	Show vpi/vci.
VID	Show VID.
Priority	Show the priority of this connection. (Max:7 / Min:0)
Admin Status	Show the admin status of each connection (up/down).
Operating status	Show the operating status of each connection (up/down).

Example:.

```
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
IPDSLAM/SHDSL# show connection 5

PortID      PVC        VID   Priority   Admin Status   Operating Status
-------------------------------------------------------------------------
     5      8/81         -          -             up               down
-------------------------------------------------------------------------

IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
```

```
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
IPDSLAM/SHDSL# show connection all

PortID      PVC        VID   Priority   Admin Status   Operating Status
-------------------------------------------------------------------------
     1      8/81         -          -             up               down
     2      8/81         -          -             up               down
     3      8/81         -          -             up               down
     4      8/81         -          -             up               down
     5      8/81         -          -             up               down
     6      8/81         -          -             up               down
     7      8/81         -          -             up               down
     9      8/81         -          -             up               down
    10      8/81         -          -             up               down
    11      8/81         -          -             up               down
    12      8/81         -          -             up               down
    13      8/81         -          -             up               down
    14      8/81         -          -             up               down
    15      5/31      2304          5             up               down
    15      8/81         -          -             up               down
    16      8/81         -          -             up               down
    17      8/81         -          -             up               down
    18      8/81         -          -             up               down
-------------------------------------------------------------------------

Press 'y' to continue, 'n' to break and press Enter.
```

Sorted by VID

Describes how to view the information of connections sorting by VID on SHDSL IP DSLAM.

Command: show vid <all | port no.>

Argument List:

Parameter	Description
all	Show all information.
port no.	1 ~ 24. Indicate the SHDSL IP DSLAM port no.

Table 4-18 vid Field Definition

Field	Definition
VID	Show VID.
Admin Status	Show the admin status of each connection (up/down).
Operating Status	Show the status of each connection (up/down).
Port ID	Show the SHDSL IP DSLAM port no.
PVC	Show vpi/vci.
Priority	Show the priority of this connection. (Max: 7 / Min:0)

Example:

```
IPDSLAM/SHDSL# show vid all
------------------------------------------------------------------------
 VID   PortID      PVC       Priority   Admin Status    Operating Status
------------------------------------------------------------------------
   -        1      8/81             -             up                down
   -        2      8/81             -             up                down
   -        3      8/81             -             up                down
   -        4      8/81             -             up                down
   -        5      8/81             -             up                down
   -        6      8/81             -             up                down
   -        7      8/81             -             up                down
   -        8      8/81             -             up                down
   -        9      8/81             -             up                down
   -       10      8/81             -             up                down
   -       11      8/81             -             up                down
   -       12      8/81             -             up                down
   -       13      8/81             -             up                down
   -       14      8/81             -             up                down
   -       15      8/81             -             up                down
   -       16      8/81             -             up                down
------------------------------------------------------------------------

Press 'y' to continue, 'n' to break and press Enter.
```

Subscriber Configuration

Displaying the Information of Subscriber

Describes how to view the information of subscriber of each port.

Command: show subscriber <all | port no.>

Argument List:

Parameter	Description
all	Show all information.
port no.	1 ~ 24. Indicate the SHDSL IP DSLAM port no.

Table 4-19 subscriber Field Definition

Field	Definition
Port ID	Show the SHDSL IP DSLAM port no.
Subscriber name	Subscriber name of this port.
Telephone number	Telephone number of this port.
Note	The description of subscriber of this port.

Example:

```
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
IPDSLAM/SHDSL# show subscriber 9
1.Subscriber name: Jordan
2.Telephone number: 035770747
3.Note: test]

IPDSLAM/SHDSL#
```

Modifying the Information of Subscriber

Describes how to modify the information of subscriber by selecting SHDSL IP DSLAM port no.

Typing the command, it will enter the next degree (subscriber). After finished, it will be back the root degree.

Command: config subscriber < port no.>

Argument List:

Parameter type	Parameter data-type and field	Description
port no.	1 ~ 24	Indicated SHDSL IP DSLAM port no.
<Subscriber name>	String, <= 15	Subscriber really full name
<Telephone number>	String, <= 11	Subscriber telephone number
<Note>	String, <= 20	Some description of the subscriber

Example:

```
IPDSLAM/SHDSL# config subscriber 9
(subscriber)# Jordan 035770747 test]

Yes or No <y/n>? y
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
```

Management Configuration

Configuring SNMP Access Parameters

Displaying SNMP

Describes how view the information about SNMP of SHDSL IP DSLAM.

Command: show snmp

Argument List:

None

Table 4-20 snmp Field Definition

Field	Definition
Community	SNMP community.
VID	SNMP VID. (“-” means no-VID.)

Example:This example shows how to display the information of SNMP.

```
IPDSLAM/SHDSL#
IPDSLAM/SHDSL# show snmp
1.Community: public
2.VID: -

IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
```

Modifying SNMP

Describes how to configure the information about SNMP of SHDSL IP DSLAM.

Command: config snmp <community> [VID]

Argument List:

Parameter type	Parameter data-type and field	Description
<community>	String, < 32	SNMP community.

[VID]	2 ~ 4094 or ”-” for no VID.	VID for SNMP.

Argument List:

Parameter type	Parameter data-type and field	Description
<community>	String, < 32	SNMP community.
[VID]	2 ~ 4094 or ”-” for no VID.	VID for SNMP.

Example:

```
IPDSLAM/SHDSL# config snmp public 4025
community: public
VID: 4025

Yes or No <y/n>? y
IPDSLAM/SHDSL#
```

```
IPDSLAM/SHDSL#
IPDSLAM/SHDSL# config snmp public
community: public
VID: -

Yes or No <y/n>? y
IPDSLAM/SHDSL#
```

Configuring Trap IP

Creating Trap IP

Describes how to create the destination of trap IP.

Command: add trapdest <IP>

Argument List:

Parameter type	Parameter data-type and field	Description
IP	A.B.C.D	IP address

Example:

```
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
IPDSLAM/SHDSL# add trapdest 192.168.0.125

Yes or No <y/n>? y
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
```

Displaying SNMP Trap

Describes how to display the IP of destination that SNMP trap reached.

Command: show trapdest

Table 4-21 trapdest Field Definition

Field	Definition
IP	A.B.C.D (Max: 5 trap IP)

Example:

```
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
IPDSLAM/SHDSL# show trapdest
SNMP trap destinations:
192.168.0.125

IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
```

Deleting SNMP Trap

Describes how to delete the destination IP of trap.

Command: delete trapdest <IP address>

Example: This example shows how to delete the trap IP 192.168.0.125.

```
IPDSLAM/SHDSL#
IPDSLAM/SHDSL# delete trapdest 192.168.0.125

Yes or No <y/n>? y
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
```

Configuring Management IP

Creating Management IP

Describes how to create the management IP groups.

Command: add manip <IP address> <mask>

Argument List:

Parameter type	Parameter data-type and field	Description
IP	A.B.C.D	IP address
Submask	A.B.C.D	Submask

Example:

```
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
IPDSLAM/SHDSL# add manip 192.168.0.100 255.255.255.0

Yes or No <y/n>? y
IPDSLAM/SHDSL#
```

Displaying Management IP

Describes how to view the IP groups that can manage SHDSL IP DSLAM.

Command: show manip

Table 4-22 manip Field Definition

Field	Definition
IP	A.B.C.D (Max: 5 IP groups)
Submask	The submask of management group.

Example: This example shows how to display existing management IP.

```
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
IPDSLAM/SHDSL# show manip
     IP Address           Submask
---------------------------------
  192.168.0.100     255.255.255.0
---------------------------------

IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
```

Deleting Management IP

Describes how to delete the management IP groups.

Command: delete manip <IP address>

Example:

```
IPDSLAM/SHDSL#
IPDSLAM/SHDSL# delete manip 192.168.0.100

Yes or No <y/n>? y
IPDSLAM/SHDSL#
```

Performance Monitor

Displaying span

Describes how to view the configuration information of the SHDSL span on SHDSL IP DSLAM.

Command; show span<all>< port no.>

Argument List:

Parameter	Description
<all>	Show all information.
< port no.>	1 ~ 24. Indicate the SHDSL IP DSLAM port no.

Table 4-29 span Field Definition

Field	Definition
Port ID	Show the SHDSL IP DSLAM port no.
LineProfile	Assigned SHDSL line profile name.
AlarmProfile	Assigned SHDSL alarm profile name. The alarm threshold configuration in the referenced profile will be used by all segment endpoints in this span.

Example:

```
IPDSLAM/SHDSL# show span 5
1.LineProfile: DEFAULT
2.AlarmProfile: DEFAULT

IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
```

```
IPDSLAM/SHDSL#
IPDSLAM/SHDSL# show span all
PortID                    LineProfile                    AlarmProfile
-------------------------------------------------------------------
     1                         DEFAULT                         DEFAULT
     2                         DEFAULT                         DEFAULT
     3                         DEFAULT                         DEFAULT
     4                         DEFAULT                         DEFAULT
     5                         DEFAULT                         DEFAULT
     6                         DEFAULT                         DEFAULT
     7                         DEFAULT                         DEFAULT
     8                         DEFAULT                         DEFAULT
     9                         DEFAULT                         DEFAULT
    10                         DEFAULT                         DEFAULT
    11                         DEFAULT                         DEFAULT
    12                         DEFAULT                         DEFAULT
    13                         DEFAULT                         DEFAULT
    14                         DEFAULT                         DEFAULT
    15                         DEFAULT                         DEFAULT
    16                         DEFAULT                         DEFAULT
    17                         DEFAULT                         DEFAULT
    18                         DEFAULT                         DEFAULT
    19                         DEFAULT                         DEFAULT
    20                         DEFAULT                         DEFAULT
-------------------------------------------------------------------
Press 'y' to continue, 'n' to break and press Enter.
```

Config span

Command: config span < port no.> <lineprof name> <alarmprof name>

Describes how to configure the configuration of SHDSL span by selecting SHDSL IP DSLAM port.

Argument List:

Parameter type	Parameter data-type and field	Description
port no.	1 ~ 24	Indicated SHDSL IP DSLAM port no.
<lineprof name>	String, <=32	Specifies a SHDSL line profile name.
<alarmprof name>	String, <=32	Specifies a SHDSL alarm profile name.

Example:

```
IPDSLAM/SHDSL#
IPDSLAM/SHDSL# config span 7 default test
LineProfile: DEFAULT
AlarmProfile: TEST

Yes or No <y/n>? y
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
```

Displaying spanstatus

Describe how to view the overall spanstatus of a SHDSL span.

Command: show spanstatus<all><port no.>

Argument List:

Parameter	Description
<all>	Show all information.
< port no.>	1 ~ 24. Indicate the SHDSL IP DSLAM port no.

Table 4-30 spanstatus Field Definition

Field	Definition
Port ID	Show the SHDSL IP DSLAM port no.
NumAvailRepeaters	The actual number of repeaters.
MaxAttainableRate	Maximum attainable line rate (capable of achieving) in this SHDSL span. (Kbps)
ActualLineRate	The actual line rate in the SHDSL span. (Kbps)
CurrentTransMode	(Current Transmission Mode) The current Power Spectral Density (PSD) regional setting of the span.

Example:

```
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
IPDSLAM/SHDSL# show spanstatus 7
1.NumAvailRepeaters: 0
2.MaxAttainableRate: 0 Kbps
3.ActualLineRate: 0 Kbps
4.CurrentTransMode:

IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
```

```
IPOSLAM/SHDSL#
IPOSLAM/SHDSL# show spanstatus all
PortID  NumAvailRepeaters  MaxAttainableRate  ActualLineRate  CurrentTransMode
------------------------------------------------------------------------------
     1                  0                  0               0
     2                  0                  0               0
     3                  0                  0               0
     4                  0                  0               0
     5                  0                  0               0
     6                  0                  0               0
     7                  0                  0               0
     8                  0                  0               0
     9                  0                  0               0
    10                  0                  0               0
    11                  0                  0               0
    12                  0                  0               0
    13                  0                  0               0
    14                  0                  0               0
    15                  0                  0               0
    16                  0                  0               0
    17                  0                  0               0
    18                  0                  0               0
    19                  0                  0               0
    20                  0                  0               0
------------------------------------------------------------------------------
Press 'y' to continue, 'n' to break and press Enter.
```

Displaying inventory

Describe how to view the inventory information of a SHDSL span.

Command: show inventory<all><port no.> <c/r>

Argument List:

Parameter	Description
<all>	Show all information.
< port no.>	1 ~ 24. Indicate the SHDSL IP DSLAM port no.
<c/r>	(stuc/stur) , UnitID of SHDSL span.

Table 4-31 inventory Field Definition

Field	Definition
Port ID	Show the SHDSL IP DSLAM port no (unit no.)/(port no.).
VendorID	Vendor ID.
VendorModelNO	Vendor model number.
VendorSerialNO	Vendor serial number.
VendorEOCVersion	Vendor EOC version.
StandardVersion	Version of the SHDSL standard implemented.
VendorListNO	Vendor list number.
VendorIssueNO	Vendor issue number.

VendorSoftwareVersion	Vendor software version.
EquipmentCode	Equipment code conforming to ANSI T1.213, Coded Identification of Equipment Entities.
VendorOther	Other vendor information.
TransModeCapability	The transmission mode capability of the SHDSL unit.

Example:

```
IPDSLAM/SHDSL#
IPDSLAM/SHDSL# show inventory all
Port: 1
STU-C:
1.VendorID: --
2.VendorModelNO: --
3.VendorSerialNO: 01eb
4.VendorEOCVersion: 16
5.StandardVersion: 16
6.VendorListNO: 0
7.VendorIssueNO: 0
8.VendorSoftwareVersion: 2.45
9.EquipmentCode: 0
10.VendorOther: --
11.TransModeCapability: region1/region2
STU-R:
1.VendorID: --
2.VendorModelNO: --
3.VendorSerialNO:
4.VendorEOCVersion: 0
5.StandardVersion: 0
6.VendorListNO:
7.VendorIssueNO:
8.VendorSoftwareVersion:
9.EquipmentCode:
10.VendorOther: --
11.TransModeCapability: region1/region2
Press 'y' to continue, 'n' to break and press Enter.
```

Displaying endpointcurr

Describe how to view current status and performance information for segment endpoints in SHDSL line.

Command: show endpointcurr<all><port no.> <c/r>

Argument List:

Parameter	Description
<all>	Show all information.
<port no.>	1 ~ 24. Indicate the SHDSL IP DSLAM port no.
<c/r>	(stuc/stur) , UnitID of SHDSL span.

Table 4-32 endpointcurr Field Definition

Field	Definition	
Port ID	Show the SHDSL IP DSLAM port no (unit no.)/(port no.).	
CurrAtn	The current loop attenuation for this endpoint as reported in a Network or Customer Side Performance status message. (dB)	
CurrSnrMgn	The current SNR margin for this endpoint as reported in a status Response/SNR message. (dB)	
CurrStatus	The current state of the endpoint.	
	noDefect	There's no defect on the line.
	powerBackoff	Indicates enhanced Power Backoff.
	deviceFault	Indicates a vendor-dependent diagnostic or self-test fault has been detected.
	dcContinuityFault	Indicates vendor-dependent conditions that interfere with span powering such as short and open circuits.
	snrMarginAlarm	Indicates that the SNR margin has dropped below the alarm threshold.
	loopAttenuationAlarm	Indicates that the loop attenuation exceeds the alarm threshold.
	loswFailureAlarm	Indicates a forward LOSW alarm.
	configInitFailure	Endpoint failure during initialization due to paired endpoint not able to support requested configuration.
	protocolInitFailure	Endpoint failure during initialization due to incompatible protocol used by the paired endpoint.
	noNeighborPresent	Endpoint failure during initialization due to no activation sequence detected from paired endpoint.
	loopbackActive	A loopback is currently active at this Segment Endpoint.
ES	Count of Errored Seconds (ES) on this endpoint since	

	the xU was last restarted. (seconds)
SES	Count of Severely Errored Seconds (SES) on this endpoint since the xU was last restarted. (seconds)
CRCanomalies	Count of CRC anomalies on this endpoint since the xU was last restarted.
LOSWS	Count of Loss of Sync Word (LOSW) Seconds on this endpoint since the xU was last restarted. (seconds)
UAS	Count of Unavailable Seconds (UAS) on this endpoint since the xU was last restarted. (seconds)
Curr15MinTimeElapsed	Total elapsed seconds in the current 15-minute interval. (seconds)
Curr15MinES	Count of Errored Seconds (ES) in the current 15-minute interval. (seconds)
Curr15MinSES	Count of Severely Errored Seconds (SES) in the current 15-minute interval. (seconds)
Curr15MinCRCanomalies	Count of CRC anomalies in the current 15-minute interval.
Curr15MinLOSWS	Count of Loss of Sync Word (LOSW) Seconds in the current 15-minute interval. (seconds)
Curr15MinUAS	Count of Unavailable Seconds (UAS) in the current 15-minute interval. (seconds)
Curr1DayTimeElapsed	Number of seconds that have elapsed since the beginning of the current 1-day interval. (seconds)
Curr1DayES	Count of Errored Seconds (ES) in the current 1-day interval. (seconds)
Curr1DaySES	Count of Severely Errored Seconds (SES) in the current 1-day interval. (seconds)
Curr1DayCRCanomalies	Count of CRC anomalies in the current 1-day interval.
Curr1DayLOSWS	Count of Loss of Sync Word (LOSW) Seconds in the current 1-day interval. (seconds)
Curr1DayUAS	Count of Unavailable Seconds (UAS) in the current 1-day interval. (seconds)

Example:

```
IPDSLAM/SHDSL#
IPDSLAM/SHDSL# show endpointcurr 7 c
STU-C:
1.CurrAtn: 0 dB
2.CurrSnrMgn: 0 dB
3.CurrStatus: loswFailureAlarm
4.ES: 0 second
5.SES: 0 second
6.CRCanomalies: 0
7.LOSWS: 262159 second
8.UAS: 0 second
9.Curr15MinTimeElapsed: 160 second
10.Curr15MinES: 0 second
11.Curr15MinSES: 0 second
12.Curr15MinCRCanomalies: 0
13.Curr15MinLOSWS: 143 second
14.Curr15MinUAS: 0 second
15.Curr1DayTimeElapsed: 68560 second
16.Curr1DayES: 0 second
17.Curr1DaySES: 0 second
18.Curr1DayCRCanomalies: 0
19.Curr1DayLOSWS: 61694 second
20.Curr1DayUAS: 0 second

IPDSLAM/SHDSL#
```

Displaying pmintl

Describe how to view the performance statistics information collected within 15 minutes of 1 day (15*96) or 1day of 30s days (1*30) interval in a SHDSL line.

Command: show pmintl<port no.> <15min/1day><c/r>

Argument List:

Parameter	Description
<all>	Show all information.
<port no.>	1 ~ 24. Indicate the SHDSL IP DSLAM port no.
<15min/1day>	Selected 15min or 1day interval.
<c/r>	(stuc/stur) , UnitID of SHDSL span.

Table 4-33 pmintl Field Definition

Field	Definition
Port ID	Show the SHDSL IP DSLAM port no.
MoniSecs	The amount of time in the 1-day interval which the performance monitoring information is actually counted. (There is no this item if selected “15min”.)
ES	Count of Errored Seconds (ES) on this endpoint since the

	xU was last restarted. (seconds)
SES	Count of Severely Errored Seconds (SES) on this endpoint since the xU was last restarted. (seconds)
CRCanomalies	Count of CRC anomalies on this endpoint since the xU was last restarted.
LOSWS	Count of Loss of Sync Word (LOSW) Seconds on this endpoint since the xU was last restarted. (seconds)
UAS	Count of Unavailable Seconds (UAS) on this endpoint since the xU was last restarted. (seconds)

Example:

```
IPDSLAM/SHDSL# show pmintl 8 15min c
Port 8
STU-C side(blocks):
-----------------------------------------
 NO   ES   SES   CRCanomalies   LOSWS   UAS
-----------------------------------------
  1    0     0              0     809     0
  2    0     0              0     811     0
  3    0     0              0     809     0
  4    0     0              0     811     0
  5    0     0              0     809     0
  6    0     0              0     810     0
  7    0     0              0     809     0
  8    0     0              0     811     0
  9    0     0              0     809     0
 10    0     0              0     810     0
 11    0     0              0     810     0
 12    0     0              0     811     0
 13    0     0              0     809     0
 14    0     0              0     811     0
 15    0     0              0     809     0
 16    0     0              0     810     0
 17    0     0              0     809     0
 18    0     0              0     811     0
 19    0     0              0     809     0
-----------------------------------------
Press 'y' to continue, 'n' to break and press Enter.
```

Displaying maint

Describe how to view maintenance operations to be performed in a SHDSL line.

Command: show maint<all><port no.> <c/r>

Argument List:

Parameter	Description
<all>	Show all information.
< port no.>	1 ~ 24. Indicate the SHDSL IP DSLAM port no.
<c/r>	(stuc/stur) , UnitID of SHDSL span.

Table 4-34 maint Field Definition

Field	Definition
Port ID	Show the SHDSL IP DSLAM port no.
LoopbackConfig	Configuration of loopbacks for the associated segment endpoint.
TipRingReversal	The state of the tip/ring pair at the associated segment endpoint.
PowerBackOff	The receiver at the associated segment endpoint to operate in default or enhanced powerbackoff mode.
SoftRestart	To trigger a soft restart of the modem at the associated segment endpoint.
LoopbackTimeout	The timeout value for loopbacks initiated at segments endpoints contained in the associated unit. (minutes)
UnitPowerSource	The DC power source being used by the associated unit.

Example:

```
IPDSLAM/SHDSL#
IPDSLAM/SHDSL# show maint 7
STU-C:
1.LoopbackConfig: noLoopback
2.TipRingReversal:
3.PowerBackOff: default
4.SoftRestart: ready
5.LoopbackTimeout: -
6.UnitPowerSource:

STU-R:
1.LoopbackConfig: noLoopback
2.TipRingReversal:
3.PowerBackOff: default
4.SoftRestart: ready
5.LoopbackTimeout: -
6.UnitPowerSource:

IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
```

Configuring maint

Describe how to configure the maintenance operations on SHDSL IP DSLAM.

Command: config maint <port no.> <c/r>

Argument List:

Parameter type	Parameter data-type and field	Description
<port no.>	1 ~ 24	Indicated SHDSL IP DSLAM port no.
<c/r>	STU-C or STU-R	UnitID of SHDSL span.
PowerBackOff	1 = default 2 = enhanced	The receiver at the associated segment endpoint to operate in default or enhanced powerbackoff mode.
SoftRestart	1 = ready 2 = restart	To trigger a soft restart of the modem at the associated segment endpoint.

Example:

```
IPDSLAM/SHDSL# config maint 7 c
LoopbackConfig: noLoopback
PowerBackOff(1 = default,2 = enhanced)# 1
SoftRestart(1 = ready,2 = restart)# 1
LoopbackTimeout: -

LoopbackConfig: noLoopback
PowerBackOff: default
SoftRestart: ready
LoopbackTimeout: -

Yes or No <y/n>? y
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
```

Configuring User Account

Creating User Account

Describes how to create a user account and setting his privilege.

Command: add user <user name> <administrator | operator | guest>

Argument List:

Parameter type	Parameter data-type and field	Description
<user name>	String, <= 16	User name (Login account)
<privilege>	administrator/operator/guest	User privilege
<password>	String, <= 8	The user's password

Note: There are three privilege levels.

administrator: own the strongest power of system.

operator: could configure SHDSL setting and read system configuration, but can't change system settings, such as user accounts, time…

guest: Read-only.

E

```
IPDSLAM/SHDSL#
IPDSLAM/SHDSL# add user mike administrator
Password: *******
Confirm: *******

Yes or No <y/n>? y
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
```

:

Modifying User Account

Describes how to modify the privilege and password of user.

Command: config user <user name> <administrator | operator | guest>

Argument List:

Parameter type	Parameter data-type and field	Description
<user name>	String, <= 16	User name (Login name)
<privilege>	administrator/operator/guest	User privilege
<password>	String, <= 8	The user password.

Note: There are three privilege levels.

administrator: own the strongest power of system.

operator: could configure SHDSL setting and read system configuration, but can't change system settings, such as user accounts, time…

guest: Read-only.

Example:This example shows how to modify Bill's privilege of administrator to guest.

```
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
IPDSLAM/SHDSL# config user mike guest
New password: *******
Confirm password: *******

Yes or No <y/n>? y
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
```

Displaying the Information of User Account

Describes how to view the information of existing user account.

Command: show user

Table 4-38 user Field Definition

Field	Definition
User name	User name (System login name).
Privilege	User privilege.

Note: There are three privilege levels.

administrator: own the strongest power of system.

operator: could configure SHDSL/SHDSL setting and read system configuration, but

can't change system settings, such as user accounts, time…
guest: Read-only.

Example:

```
IPDSLAM/SHDSL#
IPDSLAM/SHDSL# show user
------------------------------------------------------------
NO                            User name         Privilege
------------------------------------------------------------
 1                                 admin     administrator
 2                                  mike          operator
------------------------------------------------------------

IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
```

Deleting User Account

Describes how to delete a user account.

Command: delete user <user name>

Argument List:

Parameter type	Parameter data-type and field	Description
User name	None	User account

Example:

```
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
IPDSLAM/SHDSL# delete user mike

Yes or No <y/n>? y
IPDSLAM/SHDSL#
IPDSLAM/SHDSL#
```

Configuration Backup and Restore

6

This chapter describes how to back up your user configuration from SHDSL IP DSLAM onto your computer and restore them from computer to SHDSL IP DSLAM using configuration file “sf_user.cfg”. This chapter will cover the description of control files used in TFTP operation and process of backing up and restoring:

Configuration File “sf_user.cfg”

The configuration “sf_user.cfg” is for SHL ports, bridge and SNMP settings. As soon as you restore it in SHDSL IP DSLAM, it can be applied the next time SHDSL IP DSLAM is booted.

Control Files used in TFTP Operation

In TFTP operation, you may require some specific files to achieve authentication functions. They will be provided with a CD in packing. Listed bellows are the control files used in TFTP operation:

tftplock.key : The file contains the SNMP write community string (password)

tftputil.bat : The utility file designed for user to back up and restore easily.

tftp.exe It's used to activate t tftputil.bat

Note:

(1) You can follow the following procedures of configuration backup and configuration restore in Windows 2000s and Windows NT system, whereas you should have tftp.exe in other Windows system.

(2) Before you back up or restore the configuration file "sf_user.cfg", make sure if those two control files and configuration file are in same directory.

Configuration Backup

This section describes how to back up your configuration settings form SHDSL IP DSLAM to computer. The following procedures will help you to back up configuration:

Step 1: Open a terminal emulation interface in order to execute CLI.

Step 2: Enter the command "upgrade enable" in Command Line Interface for executing TFTP to SHDSL IP DSLAM.

Example

```
IPDSLAM/SHDSL# upgrade enable
Yes or No <y/n>? y
System is in the "upgrade" mode now. You could start to upgrade
the system file.
```

Note: This step can be skipped, in case of without Ethernet-VLAN on each port.

Step 3: Enter the command " show sysip" to get the <IP address> of SHDSL IP DSLAM. If you already know the IP address, you can skip this step.

Example

```
IPDSLAM/SHDSL# show sysip
IP: 192.168.10.2
Submask: 255.255.255.0
```

```
Gateway: 192.168.10.1
```

Note: Make sure that the system IP and your computer is in the same subnet.

Step 4: Open another window interface, e.g., MS-DOS interface.

Step 5: Enter the command "tftputil <IP address> <get> <sf_user.cfg>" under the directory of configuration file and control files.

Example:

```
c:\> tftputil 192.168.10.2 get sf_user.cfg
```

When uploading, three LEDs, "MAINT" "ALARM" and "FAULT", will blink. Unless you finish uploaded, do not shut down and unlink cat 5 cable.

Step 6: Restart the system in terminal emulation interface. The system will restart according to your "sf_user.cfg".

Example

```
IPDSLAM/SHDSL# restart
Yes or No <y/n>?
System is restarting now.Wait…..
```

Configuration Restore

Describes how to restore your configuration settings from computer to SHDSL IP DSLAM. The following procedures will help you to restore configuration:

Step 1: Open the hyber terminal interface in order to execute CLI.

Step 2: Enter the command "upgrade enable" in Command Line Interface for executing TFTP to SHDSL IP DSLAM.

Example

```
IPDSLAM/SHDSL # upgrade enable
Yes or No <y/n>? y
System is in the "upgrade" mode now. You could start to upgrade
the system file.
```

Note: This step can be skipped, in case of without Ethernet-VLAN on each port.

Step 3: Enter the command " show sysip" to get the <IP address> of SHDSL IP DSLAM. If you already know the IP address, you can skip this step.

Example

```
IPDSLA/SHDSL M# show sysip
IP: 192.168.10.2
Submask: 255.255.255.0
Gateway: 192.168.10.1
```

Note: Make sure that the system IP and your computer is in the same subnet.

Step 4: Open another window interface, e.g., MS-DOS interface

Step 5: Enter the command "tftputil <IP address> <put> <sf_user.cfg>" under the directory of configuration file and control files.

Example:

```
c:\> tftputil 192.168.10.2 put sf_user.cfg
```

When uploading, three LEDs, "MAINT" "ALARM" and "FAULT", will blink. Unless you finish uploaded, do not shut down and unlink cat 5 cable.

Step 6: Restart the system in the hyber terminal interface. The system will restart according to your "sf_user.cfg".

Example

```
IPDSLAM/SHDSL # restart

Yes or No <y/n>?

System is restarting now.Wait…..
```

SHDSL IP DSLAM upgrade

This section dsescribes how to upgrade the software of your SHDSL IP DSLAM.

Step 1: Let your PC connect with the UPLINK port of SHDSL IP DSLAM by using an Ethernet cable.

Step 2: Prepare an new SHDSL software (filename, IP24s_TFTP_ V243_NoBrand.BIN, is taken as an example here) and the TFTP utility.

Step 3: Extract the TFTP utility, “tftp.zip”, into one directory of your PC.

Step 4: Rename the filename “IP24s_TFTP_ V243_NoBrand.BIN” as “shdsl” and put into the same directory with TFTP.

Step 5: Log in CLI by using a RS-232 cable and type the command” sysip” to access the IP adress of SHDSL IP DSLAM. (this step can be skipped if the IP adress of SHDSL IP DSLAM has been available).

Step 6: Activate the “MS-DOS mode” and enter the directory that you made for TFTP utility.

Step 7: Key in the following command to upgrade your SHDSL IP DSLAM:
C:\TFTP\tftputil 192.168.100.111 put shdsl

```
C:\TFTP \tftputil 192.168.100.111 put shdsl
Transfer successful: 8 bytes in 1 second, 8 byte/s
Transfer successful: 2097152 bytes in 91 seconds, 23045 byte/s
C:\TFTP\tftputil
C:\TFTP\tftputil
```

Step 8: After entering this command, SHDSL IP DSLAM will be upgraded immediately. When SHDSL IP DSLAM is upgrading, LED, “MAINT” “ALARM” and “FAULT”, will be blinked. It takes 20 seconds to complete upgrade if there is no power off during the procedure.

Step 9: Once those 3 LEDs stop blinking, the software upgrade is completed and SHDSL IP DSLAM will restart automatically.

Step 10: Enter SHDSL IP DSLAM CLI again and type the command, “show sysinfo” to verify the software version. The version shall be “2.43”

Troubleshooting

7

This chapter describes some potential problems and possible remedies and helps you diagnose and solve the problems.

Problems with Starting up SHDSL IP DSLAM

Describes the corrective actions of the problems with LED(s), data transmission and console port.

Table 7-1 Troubleshooting the Start-up your SHDSL IP DSLAM

表格 1

Problems	Steps to Take
None of the LED(s) are on	Check all cables connection. If the LEDs remain off, contact for technical support.
The LED(s) are on, but data can not be transmitted	Check if all cables are well connected. Check the PVC (vpi/vci) settings in CPE side. *See page* 91 for default settings. Ping the SHDSL IP DSLAM from the user's computer. If you cannot ping, connect the SHDSL modem or router to another port on SHDSL IP DSLAM. If the SHDSL modem or router works with a different port, then there may be a problem with the original port. Contact for technical support. If connecting with different port does not work, try a different SHDSL modem or router with the original port. If the problem still remains unsolved, contact for technical support.

You cannot access the SHDSL IP DSLAM via the console port	Check if the SHDSL IP DSLAM is connected to your computer's serial port. Check if the communication program is configured correctly. If the problem remains unsolved, contact for technical support.

Problems with Configuration

Describes how to solve the problems of your SHDSL IP DSLAM doesn't work with configured settings.

Table 7-2 Troubleshooting the SHDSL IP DSLAM configured setting

Problems	Steps to Take
Your configuration settings do not take effect at restart	Use the command: save to save your configuration before you restart the SHDSL IP DSLAM. (See "Saving the system" section on page 67) If the above corrective action doesn't work, contact for technical support.

Problems with SNMP

Describes how to solve the problem of getting information from SHDSL IP DSLAM to SNMP manager server.

Table 7-3 Troubleshooting the SNMP server

Problems	Steps to Take
The SNMP manager server can not get information from SHDSL IP DSLAM	Check to see that the community in the SHDSL IP DSLAM matches the SNMP server's community. Check to see if VLAN ID is set If the above corrective action doesn't work, contact for technical support.

Problems with Telnet

Describes how to solve the problem of being unable to telnet to your SHDSL IP DSLAM.

Table 7-4 Troubleshooting Telnet

Problems	Steps to Take
You cannot telnet into the SHDSL IP DSLAM	Make sure that telnet session is not already operating. The SHDSL IP DSLAM will only accept one telnet session at a time. Ping the SHDSL IP DSLAM from your computer. If you are able to ping the SHDSL IP DSLAM but are still unable to telnet, contact the distributor. If you cannot ping the SHDSL IP DSLAM, check the IP address in the SHDSL IP DSLAM and your computer. Make sure that both IP addresses are located in the same subnet. If the above corrective actions don't work, contact for technical support.

Problems with Password

Describes how to solve the problem of forgetting password.

Table 7-5 Troubleshooting the password

Problems	Steps to Take
You forgot the password	Restore the configuration file "sf_user.cfg". All settings will return to the configuration as "sf_user.cfg", so any configuration you have made in CLI will be lost. If the above corrective actions don't work, contact for technical support.

Pin Assignment

CID Pin Assignment

The CID port is configured as DCE. The connection for such link is given below:

Table A-1 SHDSL CID port pin assignment

Pin no.	Usage
1	----------
2	RD
3	TD
4	DTR
5	GND
6	DSR
7	RTS
8	----------
9	----------

Note: Connector type is DB9 male

Table A-2 Null modem cable pin assignment (for PC to CID port connection)

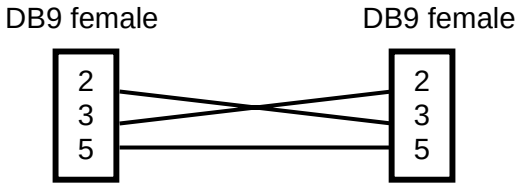


Table A-3 SHDSL IP DSLAM uplink port pin assignment

Pin no.	Usage
1	TX+
2	TX-
3	RX+
4	---------
5	---------
6	RX-
7	---------
8	----------

Note: Connector type is RJ 45

Table A-4 Uplink and downlink port (Xn) pin assignment

Pin no.	Usage
1	TX+
2	TX-
3	RX+

4	---------
5	---------
6	RX-
7	---------
8	----------

Note:

(1) Ports are auto-crossover

(2) Connector type is RJ 45

Transceiver connector pin assignment

Table A-5 24 ports SHDSL LINE Connector pin assignment

PIN #	Usage	PIN#	Usage
1	SHDSL loop#1-T	26	SHDSL loop#1-R
2	SHDSL loop#2-T	27	SHDSL loop#2-R
3	SHDSL loop#3-T	28	SHDSL loop#3-R
4	SHDSL loop#4-T	29	SHDSL loop#4-R
5	SHDSL loop#5-T	30	SHDSL loop#5-R
6	SHDSL loop#6-T	31	SHDSL loop#6-R
7	SHDSL loop#7-T	32	SHDSL loop#7-R
8	SHDSL loop#8-T	33	SHDSL loop#8-R
9	SHDSL loop#9-T	34	SHDSL loop#9-R
10	SHDSL loop#10-T	35	SHDSL loop#10-R
11	SHDSL loop#11-T	36	SHDSL loop#11-R
12	SHDSL loop#12-T	37	SHDSL loop#12-R
13	SHDSL loop#13-T	38	SHDSL loop#13-R
14	SHDSL loop#14-T	39	SHDSL loop#14-R
15	SHDSL loop#15-T	40	SHDSL loop#15-R
16	SHDSL loop#16-T	41	SHDSL loop#16-R
17	SHDSL loop#17-T	42	SHDSL loop#17-R
18	SHDSL loop#18-T	43	SHDSL loop#18-R
19	SHDSL loop#19-T	44	SHDSL loop#19-R
20	SHDSL loop#20-T	45	SHDSL loop#20-R
21	SHDSL loop#21-T	46	SHDSL loop#21-R
22	SHDSL loop#22-T	47	SHDSL loop#22-R
23	SHDSL loop#23-T	48	SHDSL loop#23-R
24	SHDSL loop#24-T	49	SHDSL loop#24-R
25		50	

Note: Connector type is 50s pin teleco-champ female

Glossary

STU-C

SHDSL Transmission Unit—central office.

STU-R

SHDSL Transmission Unit—remote.

BRAS

Broadband Remote Access Server. Device that terminates remote users at the corporate network or Internet users at the Internet Service Provider (ISP) network, such as the NetSpeed FireRunner product that provides firewall, authentication, and routing services for remote users.

Community Name

An identification used by an SNMP manager to grant an SNMP server access rights to a MIB.

CPE

Customer premises equipment. Terminating equipment at the subscriber's side of the local telephone loop. CPE is often supplied by the telephone company and is always connected to the telephone company's network. Examples of CPE include telephones, POTS splitters, terminals, modems, and the Cisco 676 router.

DSL

Digital subscriber line. A public network technology that delivers high bandwidth over conventional copper wiring (such as telephone lines) at limited distances. There are five types of DSL: SHDSL, HDSL, IDSL, SHDSL, and VDSL. All are provisioned through modem pairs, with one modem located at a central office and the other at the customer site. Because most DSL technologies do not use the whole bandwidth of the twisted pair, there is room left for a voice channel. See also *SHDSL*.

DSLAM

Digital Subscriber Line Access Multiplexer. A device that concentrates traffic in DSL implementations through a process of time-division multiplexing (TDM) at the CO or remote line shelf. This device is usually located in the CO for termination of multiple customer DSL devices.

ESS (Error Seconds)

ESS is a generic term with various meanings depending on the signal standards domain in which it's being used.

Ethernet

One of the most popular baseband LANs in widespread use. It is a carrier service multiple access collision detect (CSMA/CD) system using coaxial cable and developed by Xerox, Intel, and Digital Equipment Corporation. Introduced in 1979. Ethernet Version II is compatible with the IEEE 802.3 CSMA/CD standard.

G.SHDSL

G.SHDSL is a standards-based, multirate version of HDSL-2 and offers symmetrical service. The advantage of HDSL-2, which was developed to serve as a standard by which different vendors' equipment could interoperate, is that it is designed not to interfere with other services. However, the HDSL-2 standard addresses only services at 1.5 Mbps. Multirate HDSL-2 is part of Issue 2 of the standard known as G.SHDSL, and is ratified by the ITU. G.SHDSL builds upon the benefits of HDSL-2 by offering symmetrical rates of 2.3 Mbps.

IP

Internet Protocol. Network layer protocol in the TCP/IP stack offering a connectionless internetwork service. IP provides features for addressing, type-of-service specification, fragmentation and reassembly, and security. Defined in RFC 791.

ISP

Internet Service Provider. A company that offers individual customers or corporations dialup or leased-line connections to the Internet for a fee.

LAN (Local Area Network)

A non-public data network in which serial transmission is used without store and

forward techniques for direct data communication among data stations located on the user's premises.

Lofs (Loss of Frames)

Lofs is a generic term with various meanings depending on the signal standards domain in which it's being used.

Lols (Loss of Links)

Lols is a generic term with various meanings depending on the signal standards domain in which it's being used.

Loss (Loss of Signals)

A loss of signal occurs when *n* consecutive zeros is detected on an incoming signal.

Lprs (Loss of Power failures)

Lprs is a generic term with various meanings depending on the signal standards domain in which it's being used.

MDF (Main Distribution Frame)

Hardware component in the CO, which provides an interface between outside lines (subscriber lines and trunks) and the switching equipment. The vertical side of the mainframe where the outside plant cables are terminated on connectors/protectors. Also known as mainframe.

MTU/MHU

MTU is Multi-Tenant Unit whereas MHU is Multi-Hotel Unit.

PPP (Point to Point Protocol)

A successor to Serial Line IP (SLIP), PPP provides router-to-router and host-to-network connections over synchronous and asynchronous circuits.

PPPoE

PPP over Ethernet. The transport of PPP frames over Ethernet.

PSTN (Public Switched Telephone Network)

General term referring to the variety of telephone networks and services in place worldwide. Sometimes called *POTS*.

PVC (Permanent Virtual Circuit, or connection)

Virtual circuit that is permanently established. PVCs save bandwidth associated with circuit establishment and tear down in situations where certain virtual circuits must exist all the time. In ATM terminology, called a permanent virtual connection.

Rack mount

A structure that houses shelves (usually a maximum of four). The unit or container that houses the internal modular circuitry. The shelf consists of slots that hold each module and a backplane that interconnects all modules.

SAR

Segmentation and reassembly. One of the two sub-layers of the AAL CPCS, responsible for dividing (at the source) and reassembling (at the destination) the PDUs passed from the CS. The SAR sub-layer takes the PDUs processed by the CS and, after dividing them into 48-byte pieces of payload data, passes them to the ATM layer for further processing. See also *AAL* and *ATM*.

SDU (Service Data Unit)

Unit of information from an upper-layer protocol that defines a service request to a lower-layer protocol.

Signal Noise Ratio (SNR)

This is a DSL transmission parameter, measured in dB, which indicates the Signal-to-Noise (S/N) ratio at a receiver point.

SNAP

Subnetwork Access Protocol. Internet protocol that operates between a network entity in the subnetwork and a network entity in the end system. SNAP specifies a standard method of encapsulating IP datagrams and ARP messages on IEEE networks. The

SNAP entity in the end system makes use of the services of the subnetwork and performs three key functions: data transfer, connection management, and QoS selection.

SNMP (Simple Network Management Protocol)

Simple Network Management Protocol. The network management protocol used almost exclusively in TCP/IP networks. SNMP provides a means to monitor and control network devices, and to manage configurations, statistics collection, performance, and security.

VC

Logical circuit created to ensure reliable communication between two network devices. A virtual circuit is defined by a VPI/VCI pair, and can be either permanent (PVC) or switched (SVC). Virtual circuits are used in Frame Relay and X.25. In ATM, a virtual circuit is called a *virtual channel*.

VID

VLAN ID. The identification of the VLAN, which is used by the standard 802.1Q. Being on 12 bits, it allows the identification of 4096 VLANs.

VLAN

Virtual LAN. Group of devices on one or more LANs that are configured (using management software) so that they can communicate as if they were attached to the same wire, when in fact they are located on a number of different LAN segments. Because VLANs are based on logical instead of physical connections, they are extremely flexible.