



ZXDSL 9806H

ZTE Broadband Universal Access System

User Manual

Version 1.2

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About this Manual

Purpose

This manual provides functional characteristics, software and hardware structure, installation and provisioning of ZXDSL 9806H (V1.2) ZTE Broadband Universal Access System.

Intended Audience

This document is intended for engineers and technicians who perform operation activities on ZXDSL 9806H (V1.2) ZTE Broadband Universal Access System.

Prerequisite Skill and Knowledge

To use this document effectively, users should have a basic concept of ADSL, ADSL2+, VDSL and Access Network.

What is in This Manual

This manual contains the following chapters:

TABLE 1 – CHAPTER SUMMARY

Chapter	Summary
Chapter 1, System Overview	ZXDSL 9806H overview.
Chapter 2, Hardware Structure	Describes ZXDSL 9806H (V1.2) hardware details.
Chapter 3, System Installation	Describes ZXDSL 9806H (V1.2) hardware installation.
Chapter 4, Commands Usage and Operation	Describes commands usage and operation.
Chapter 5, System Operations	Describes the configurations related to ZXDSL 9806H.

Chapter	Summary
Chapter 6, Maintenance	Describes maintenance and troubleshooting of ZXDSL 9806H.
Chapter 7, Network Applications	Describes the network applications of ZXDSL 9806H.
Chapter 8, Technical Specifications	Describes the technical specification of ZXDSL 9806H.

Related Documentation

The following documentation is related to this manual:

ZXDSL 9806H (V1.2) ZTE Broadband Universal Access System Hardware Installation Manual

Conventions

Typographical Conventions

ZTE documents employ the following typographical conventions.

TABLE 2 – TYPOGRAPHICAL CONVENTIONS

Typeface	Meaning
<i>Italics</i>	References to other Manuals and documents.
"Quotes"	Links on screens.
Bold	Menus, menu options, function names, input fields, radio button names, check boxes, drop-down lists, dialog box names, window names.
CAPS	Keys on the keyboard and buttons on screens and company name.
Constant width	Text that you type, program code, files and directory names, and function names.
[]	Optional parameters.
{ }	Mandatory parameters.
	Select one of the parameters that are delimited by it.
	Note: Provides additional information about a certain topic.
	Checkpoint: Indicates that a particular step needs to be checked before proceeding further.
	Tip: Indicates a suggestion or hint to make things easier or more productive for the reader.

TABLE 3 – MOUSE OPERATION CONVENTIONS

**Mouse
Operation
Conventions**

Typeface	Meaning
Click	Refers to clicking the primary mouse button (usually the left mouse button) once.
Double-click	Refers to quickly clicking the primary mouse button (usually the left mouse button) twice.
Right-click	Refers to clicking the secondary mouse button (usually the right mouse button) once.
Drag	Refers to pressing and holding a mouse button and moving the mouse.

How to Get in Touch

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- Cadmium (Cd)
- Hexavalent Chromium (Cr (VI))
- PolyBrominated Biphenyls (PBB's)
- PolyBrominated Diphenyl Ethers (PBDE's)

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Chapter 1

Overview

This chapter covers the following topics:

- Overview
- Working Principle
- Functional Block Diagram
- Hardware Structure
- Software Structure
- Product Features
- External Interfaces

Overview

ZXDSL 9806H (V1.2) IP DSLAM is a new product of ZTE Corporation, which meet the demands of global customers. This IP DSLAM supports maximum 96 or 64 ADSL/ADSL2+ subscriber ports or 64 VDSL2 subscriber ports.

ZXDSL 9806H (V1.2) supports the following services:

- Internet access and Video-on-Demand (VOD) for residential customers
- High QoS such as video conferencing, enterprise interconnections and Virtual Private Network (VPN)
- SELT and DELT test
- Remote MODEM management

Working Principle

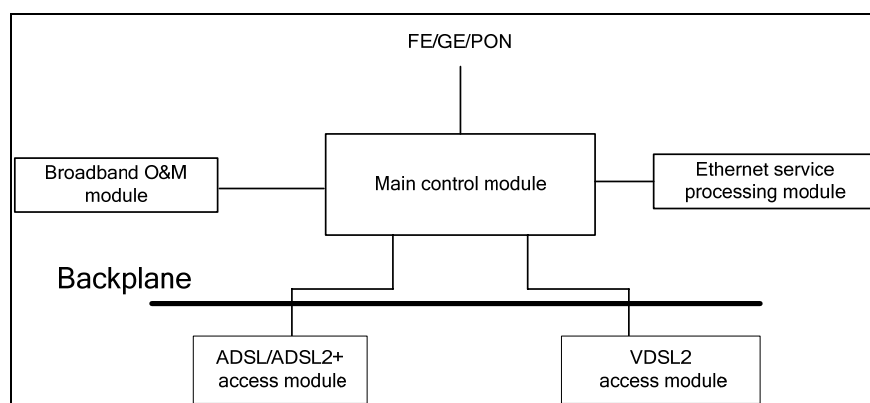
ZXDSL 9806H (V1.2) IP DSLAM is based on the Ethernet technology. It converts ATM cells to Ethernet frames. In ZXDSL 9806H, subscriber information is received in ATM cell from xDSL

MODEM to the line cards. Line card converts ATM cell into Ethernet frames and forward it to control and switch card.

Functional Block Diagram

ZXDSL 9806H (V1.2) IP DSLAM provides standard and independent modular structure that makes the system easy to upgrade, expand functions and services. Figure 1 shows ZXDSL 9806H (V1.2) functional block diagram.

FIGURE 1 – ZXDSL 9806H (V1.2) FUNCTIONAL BLOCK DIAGRAM



This section includes the following:

- Control and Switching Module
- ADSL/ADSL2+ Access Module
- VDSL2 Access Module
- Broadband Operation & Maintenance Module

Control and Switching Module

Control and switching module is divided into two types:

- Main Control module
- Ethernet Service Processing Module

Main Control Module

The main control module contains control and switch card and the relevant software.

Main control module supports the following functions:

- Control and manage the system
- Implement service exchange

**Ethernet
Service
Processing
Module**

- External network interfaces, such as FE Ethernet, FE single-mode/multi-mode optical, GE Ethernet and GE single-mode/multi mode optical and GPON/EPON
- Maintenance and network interface for maintenance terminal and Network Management (NM) work station to login to 9806H

Ethernet service-processing module contains control and switch card and the relevant software.

ZXDSL 9806H (V1.2) FE/GE interface provides an uplink interface for uplink service, or a service interface to provide Ethernet service.

Ethernet processing module supports the following functions:

- IGMP proxy, router and snooping function
- 1024 multicast groups
- Implement cascade via FE/GE interface
- SVLAN provides the point-to-point Metropolitan Area Network (MAN) interconnection.
- STP/RSTP for uplink interfaces redundancy

ADSL/ADSL2+ Access Module

ADSL/ADSL2+ access module supports 24 or 16 ADSL/ADSL2+ subscriber ports. This module provides ADSL/ADSL2+ over POTS access service to subscribers by working with the remote ATU-R. The built-in splitter card separates POTS signals from ADSL/ADSL2+ signals.

VDSL2 Access Module

VDSL2 access module supports 16 VDSL2 subscriber ports. This module provides VDSL2 over POTS access service to subscribers by working with the remote VTU-R. The built-in splitter card separates POTS signals from VDSL signals.

Broadband Operation and Maintenance Module

ZXDSL 9806H (V1.2) broadband operation and maintenance module provides SELT/DELT test and ADSL MODEM remote management.

Hardware Structure

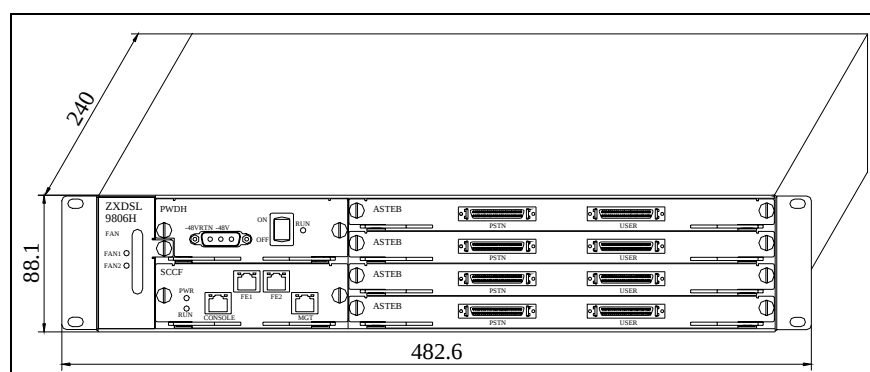
ZXDSL 9806H (V1.2) hardware includes the following:

- Shelf
- Cards

Shelf

ZXDSL 9806H (V1.2) shelf is a standard 19-inch shelf with 2U height. It contains backplane, four subscriber cards (ASTEB or ASTDE or VSTD), one control and switch card (SCCF), one power card (220 V/110 V AC or -48 V DC) and one fan module. The shelf structure is same for the two power modes, 220 V/110 V AC and -48 V DC. The difference for the two power modes lies in the power module on the front panel. Figure 2 shows 9806H (V1.2) shelf structure.

FIGURE 2 – ZXDSL 9806H (V1.2) SHELF STRUCTURE



Cards

The cards used in ZXDSL 9806H (V1.2) include control and switch card, subscriber card and power card as required.

Table 4 lists the control and switch cards.

TABLE 4 – ZXDSL 9806H (V1.2) CONTROL AND SWITCH CARDS

Card	Name	Function	External Interface
SCCFA	Control and switch card	System control and switch	2 FE (electrical) interface for uplink, 1 console interface and 1 FE for out-of-band NM

Card	Name	Function	External Interface
SCCFB	Control and switch card	System control and switch	1 FE (electrical), 1 FE (Optical) interface for uplink, 1 console interface and 1 FE for out-of-band NM
SCCFC	Control and switch card	System control and switch	2 FE (optical) interfaces for uplink, 1 console interface and 1 FE for out-of-band NM
SCCFD	Control and switch card	System control and switch	2 GE (electrical) interfaces for uplink, 1 console interface and 1 FE for out-of-band NM
SCCFE	Control and switch card	System control and switch	1 GE (electrical) + 1 GE (optical) interfaces for uplink, 1 console interface and 1 FE for out-of-band NM
SCCFF	Control and switch card	System control and switch	2 GE (optical) interfaces for uplink, 1 console interface and 1 FE for out-of-band NM
SCCFG	Control and switch card	System control and switch	1 GPON interfaces for uplink, 1 console interface and 1 FE for out-of-band NM
SCCFH	Control and switch card	System control and switch	1 EPON interfaces for uplink, 1 console interface and 1 FE for out-of-band NM

Table 5 lists subscriber and power cards.

TABLE 5 – ZXDSL 9806H (V1.2) POWER AND SUBSCRIBER CARDS

Card	Name	Function	External Interface
ASTEB	ADSL2/2+ subscriber card	ADSL2/ADSL2 subscriber access	24 subscriber cable socket and 24 PSTN cable socket
ASTDE	ADSL2/2+ subscriber card	ADSL2/ADSL2 subscriber access	16 subscriber cable socket and 16 PSTN cable socket
VSTDC	VDSL2 subscriber card	VDSL2 subscriber access	16 subscriber cable socket and PSTN cable socket
PWDH	-48 V DC power card	-48 V DC power Supply	3 pin power plug
PWAH	220/110 V AC power card	220/110 V AC power supply	3 pin power plug

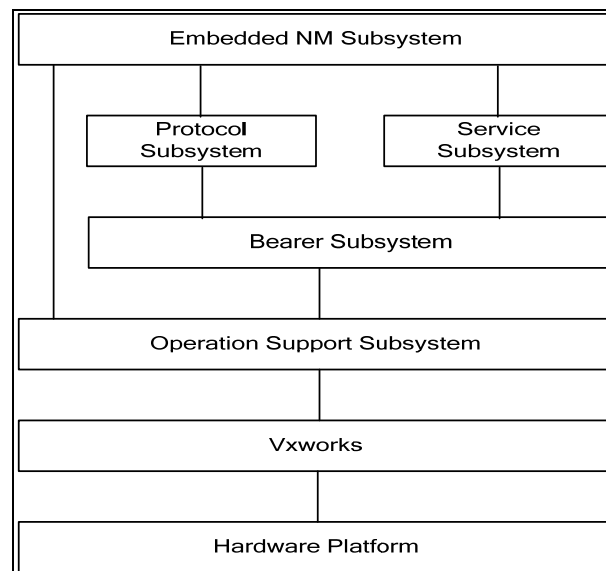
Software Architecture

ZXDSL 9806H software includes the following:

- Embedded Network management (NM) Subsystem
- Protocol Subsystem
- Service Subsystem
- Bearer Subsystem
- Operation Support Subsystem

Figure 3 shows ZXDSL 9806H software architecture.

FIGURE 3 – ZXDSL 9806H (V1.2) SOFTWARE ARCHITECTURE



Embedded NM Subsystem

The embedded NM subsystem provides command line interface to users. User manages the network function through serial port or through telnet. It also offers SNMP AGENT interface for remote management. User manages the network function through standard SNMP protocol. The embedded NM subsystem implements cascade management on the equipment through SNMP PROXY/TELNET.

The embedded NM subsystem implements the following functions:

- Configuration management
- Fault alarm management
- Performance management
- Security management

Protocol Subsystem

The protocol subsystem includes the following:

- TCP/IP protocol
- EAPS protocol
- STP/RSTP protocol
- Controllable multicast, including IGMP V1/V2/V3, MVLAN, CAC, CDR, PRV
- Trunking protocol
- SubEnds, including MUX, swEnd, agEnd, append, hwEnd

Service Subsystem

The service subsystem provides data access and service access interfaces. All configurations including global and card configuration are saved in the service subsystem.

Bearer Subsystem

The bearer subsystem implements switching function. It provides standard access interface for different modules.

Operation Support Subsystem

Operation support subsystem is a uniform platform based on BSP, drivers, and real-time operating system VxWorks. It is responsible for process management, inter-card communications, as well as version download.

Product Features

ZXDSL 9806H (V1.2) provides DSL (Digital Subscriber Line) access service, multicast service and dedicated line connection service. It supports QoS function, with reliable operation and management function.

ZXDSL 9806H (V1.2) is a mini-capacity IP-DSLAM. It provides maximum 96 or 64 ADSL/ADSL2+ or 64 VDSL2 subscribers ports. Product features includes the following:

- Multicast Service

- Interface Types
- High QoS
- User Management
- Flexible Networking
- High Reliability
- Security Characteristics
- Maintenance and Management

Multicast Service

ZXDSL 9806H (V1.2) supports the following multicast services:

- IGMP snooping, proxy and router modes
- Maximum 1024 multicast groups
- Single and MPVC multicast
- Channel preview setting, the maximum preview times each day as needed.
- Audience statistics function
- IGMP pre-add on, fast leave and IGMP high performance processing, suitable for developing IPTV over xDSL service.
- Controllable multicast function controls the multicast group for subscriber to join.
- Multicast set

Interface Types

ZXDSL 9806H (V1.2) provides various network, services and maintenance type interfaces. Table 6 lists ZXDSL 9806H (V1.2) interfaces.

TABLE 6 – ZXDSL 9806H (V1.2) INTERFACE

Interface type	Interface	Remarks
Network Interface	FE Optical/Ethernet Interface	Ethernet interface provides RJ-45 connector. The optical interface provides SFP (Small Form-Factor Pluggable) optical module, including single-mode module and multi-mode module.
	GE Optical/Ethernet Interface	
	EPON	Upstream and downstream rate is up to 1.25 Gbps. The maximum transmission distance is 20 km.

Interface type	Interface	Remarks
	GPON	Upstream rate up to 1.244 Gbps and downstream rate is up to 2.488 Gbps. The maximum transmission distance is 20 km.
Service Interface	ADSL	Asymmetric data transmission mode. The upstream rate is 1 Mbps and the downstream rate is 8 Mbps. The transmission distance is 6 km.
	ADSL2+	ADSL2+ is compatible with ADSL. Compare with ADSL, ADSL2+. The upstream rate is 1 Mbps and the downstream rate is 24 Mbps. The maximum transmission distance is 6.5 km.
	VDSL2	VDSL2 provides downstream rate up to 85 Mbps and upstream rate up to 50 Mbps, with maximum transmission distance 2.5 km.
	Ethernet	100 Mbps broadband access
Maintenance Interface	Maintenance Serial Port	Local maintenance
	Maintenance Network Interface	Remote maintenance

High QoS

ZXDSL 9806H (V1.2) provides the following QoS:

- Data flow rule-based packet filter, re-location, flow mirror, flow statistics, flow monitoring, port queue scheduling, port rate restriction and VLAN modification policy.
- CoS (Class of Service, 802.1p), flow priority
- Queue scheduling, such as SP (Strict Priority) and WRR (Weighted Round Robin)
- Bandwidth control function distinguished by multicast service

Flexible Networking

ZXDSL 9806H (V1.2) supports various networking modes as follows:

- IP DSLAM networking for xDSL access
- Cascade networking via Ethernet port
- SVLAN networking, providing dedicated line interconnection and VLAN function

High Reliability

ZXDSL 9806H (V1.2) supports highly reliable services and ensures the equipment security and reliability.

- All cards are hot pluggable.
- Uplink port redundancy
- Fault resumption function
- Alarm report function, facilitating the user to locate the fault according to alarm information.

Security Characteristics

ZXDSL 9806H (V1.2) guarantees user validity and network security.

- Authority classification management and Layer-2 isolation
- Restrict the number of multicast groups on each port.
- Restrict the number of connected computers on each port.
- Port based MAC address binding
- Port based IP address binding
- Port location to enhance security

Maintenance and Management

ZXDSL 9806H (V1.2) supports maintenance and management, monitoring and testing, which makes fault diagnosis easy.

ZXDSL 9806H (V1.2) supports the following maintenance and management functions:

- Local, remote and other maintenance features
- Command line and NM maintenance modes
- In-band and out-of-band NM
- Client management function, including client information query and status monitoring, client data configuration, client binding and software upgrade.
- Centralized management and maintenance to the Client

- Alarm function, test, diagnosis, and trace facilitating daily maintenance and management on the IP DSLAM.
- Enhance the network operation reliability
- Ensure the network operation service quality
- Environment monitoring interface is connected to the environment monitoring module via dedicate cable that collects various environment information sent from the environment monitoring module.
- Fan plug-in box for heat dissipation

External Interfaces

ZXDSL 9806H (V1.2) provides multiple external interfaces including subscriber, network and management interfaces. This topic includes the following:

- Subscriber Interfaces
- Network Interfaces
- Management Interfaces

Subscriber Interfaces

ZXDSL 9806H (V1.2) subscriber provides the following subscriber interfaces:

- ADSL interface
- ADSL2+ interface
- VDSL2 interface

ADSL Interface ADSL interface complies with ITU-T G.992.1 (G.dmt), G.992.2 (G.Lite) and ANSI T1.413 standards. ADSL interface provides twisted pair-based ADSL broadband access service.

ADSL2+ Interface ADSL2+ interface is compatible with the ADSL standards interface; ADSL2+ interface complies with ITU-T G.992.3 and G.992.5 standards.

VDSL2 Interface VDSL2 interface complies with ITU-T G.993.2, G.992.1, G.992.3 and G.992.5 standards.

Network Interfaces

ZXDSL 9806H (V1.2) subscriber provides the following network interfaces:

- FE Interface
- GE Interface
- EPON Interface
- GPON Interface

FE Interface FE interface supports FE Ethernet, FE single mode optical and FE multi-mode optical interface. FE interface connects to upper-layer device. FE interface is used for ZXDSL 9806H (V1.2) inter-shelf cascading.

GE Interface GE Interface supports GE single mode optical and GE multi-mode optical interface. The interface connection mode is similar to that at the subscriber side. GE interface is used for ZXDSL 9806H (V1.2) inter-shelf cascading.

EPON Interface EPON interface provides connection to uplink OLT (Optical Line Terminal). EPON interface complies with IEEE802.3-2005 standard.

GPON Interface GPON interface provides connection to uplink OLT. GPON interface complies with ITU-T G.984.x standard.

Management Interfaces

ZXDSL 9806H (V1.2) subscriber provides the following management interfaces:

- Management Interface
- Maintenance Serial Port
- Remote Maintenance Network Interface

Management Interface The control and switch card provides multiple management and maintenance interfaces according to local and remote maintenance. It supports command line and NM maintenance.

Maintenance Serial Port The maintenance serial port is connected to local HyperTerminal, implementing the local serial port maintenance. Default baud rate is 9600 bit/s, when the serial port is working.

Remote Maintenance Network Interface	The remote maintenance network interface uses RJ-45 connector. It supports 10/100 Mbps self-adaptation. The remote maintenance network interface is connected to the local maintenance terminal for program loading, debugging or other jobs. It is also connected to the NM workstation, implementing the remote management.
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Chapter 2

Hardware Structure

This chapter covers the following topics:

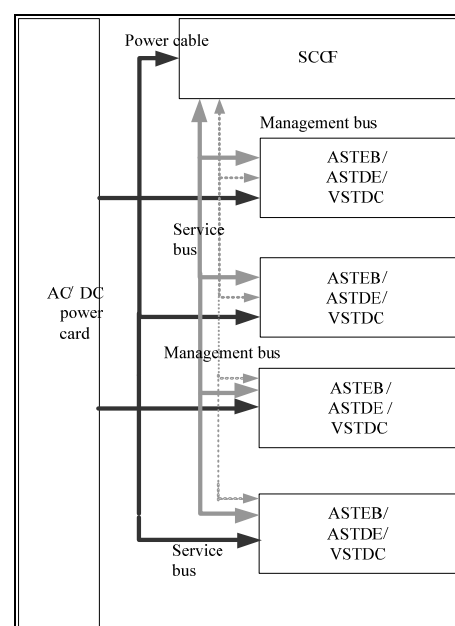
- Hardware Architecture
- SCCF Card
- Subscriber Cards
- Power Cards

Hardware Architecture

ZXDSL 9806H (V1.2) uses standard cabinet and shelf. Shelf dimensions are 88.1 mm × 485.6 mm × 240 mm (Height × Width × Depth).

Figure 4 shows ZXDSL 9806H (V1.2) hardware structure.

FIGURE 4 – ZXDSL 9806H (V1.2) HARDWARE STRUCTURE



ZXDSL 9806H (V1.2) contains three cards as follows:

- Power Supply Card
- Control and Switch Card (SCCF)
- Subscriber Cards (ASTEB, ASTDE, VSTDC)

Power Supply Card

ZXDSL 9806H (V1.2) provides two power card types: AC power card (PWAH) and DC power card (PWDH). PWAH power card provides 110 V 60 Hz or 220 V 50 HZ AC power supply and PWDH provides 48 V DC supply.

Control and Switch Card (SCCF)

SCCF is a control and switch card that processes the network protocols and forwards the ATM cell from ADSL/ADSL2+ line to IP uplink port. SCCF card provides two Ethernet interfaces for uplink, one console interface, and one Ethernet port for out-of-band network management.

Subscriber Card

ZXDSL 9806H (V1.2) provides three subscriber card types: ASTEB, ASTDE and VSTDC card. ASTEB card supports 24 ADSL/ADSL2+ subscribers ports per card while ASTDE card supports 16 ADSL/ADSL2+ subscribers. VSTDC card support 16 VDSL2 subscribers ports per card. ZXDSL 9806H (V1.2) supports maximum four ASTEB or ASTDE or VSTDC cards.

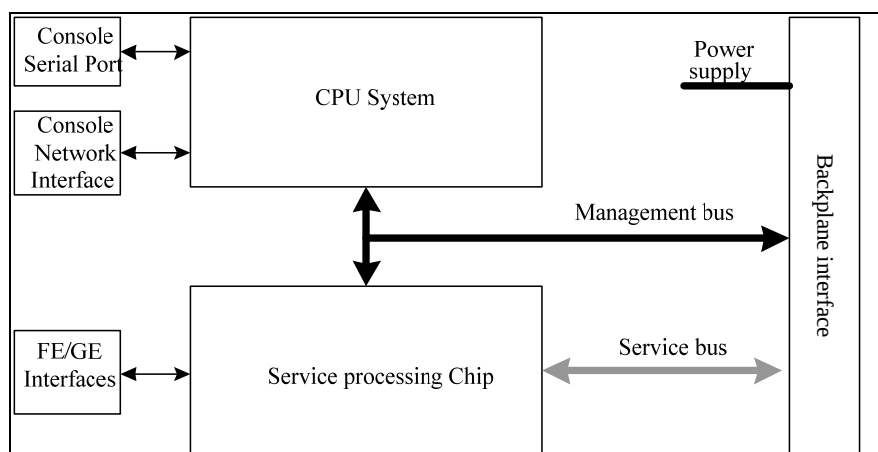
SCCF Card

Functions SCCF is ZXDSL 9806H (V1.2) system core card. SCCF card is responsible for the following functions:

- Converge the subscriber port traffic to the uplink interface.
- Forward the ATM cell from the xDSL line to the IP uplink port.
- Control and manage
- Local console and out-of-band network management interface

Principle Figure 5 shows SCCF card hardware structure.

FIGURE 5 – SCCF CARD STRUCTURE



SCCF card contains CPU system and the service processing chip. It provides the console serial port and network interface for the local maintenance and out-of-band NM respectively. SCCF manages the service processing chip and xDSL line card via management bus. The management bus is a parallel bus. The service processing chip completes the service forwarding including protocol encapsulation, address learning, bridge forwarding, and the ATM conversion. Backplane provides the power to SCCF card. SCCF card manages the service bus to the xDSL line cards.

SCCF Card Types

SCCF card types are listed in Table 4.

Figure 6, Figure 7 , Figure 8, Figure 9, Figure 10, Figure 11, Figure 12 and Figure 13 show all SCCF cards types.

FIGURE 6 – SCCFA CARD

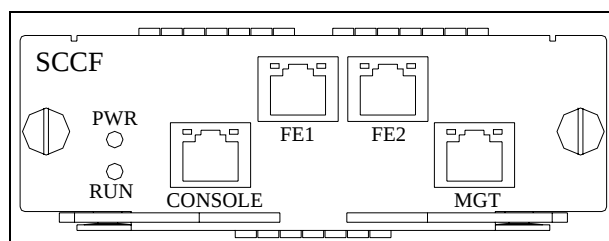


FIGURE 7 – SCCFB CARD

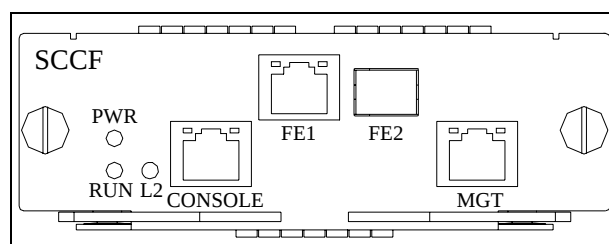


FIGURE 8 – SCCFC CARD

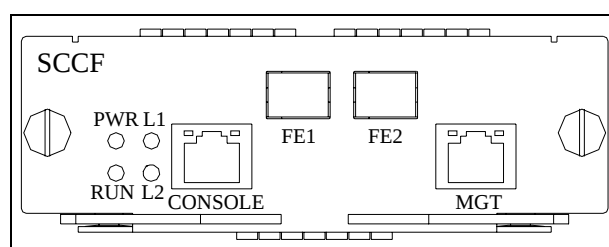


FIGURE 9 – SCCFD CARD

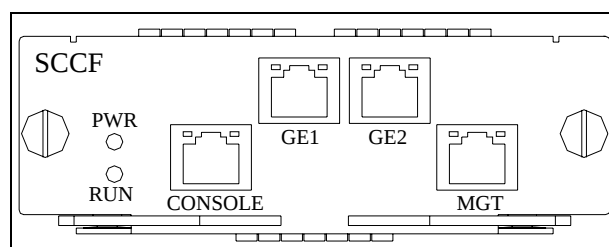


FIGURE 10 – SCCFE CARD

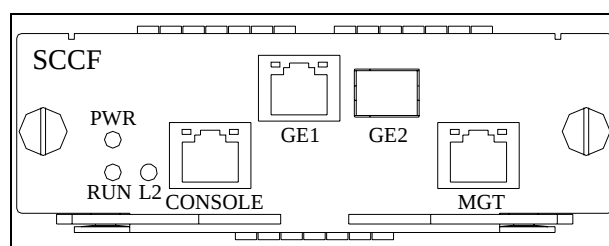


FIGURE 11 – SCCFF CARD

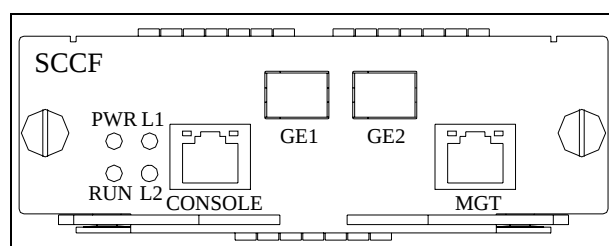


FIGURE 12 – SCCFG CARD

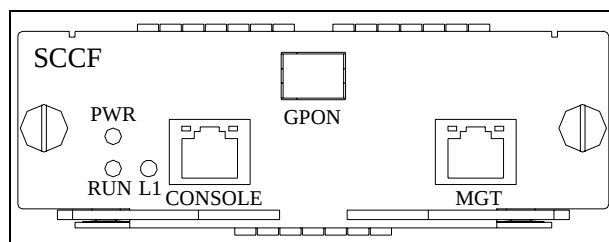
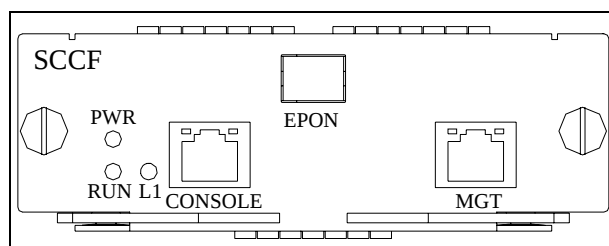


FIGURE 13 – SCCFH CARD



Subscriber Cards

ZXDSL 9806H (V1.2) supports two subscriber card types:

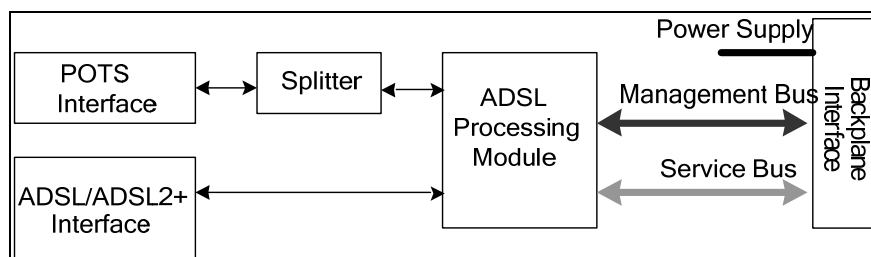
- ASTEB card
- VSTDC card

ASTEB Card

Functions ASTEB card provides 24 ADSL/ADSL2+ over POTS access. It transforms ATM cells to IP packets. The maximum downstream and upstream rates are 24 Mbps and 1 Mbps respectively. The transmission distance can reach up to 6.5 km.

Hardware Structure Figure 14 shows ASTEB card hardware structure.

FIGURE 14 – ASTEB CARD STRUCTURE



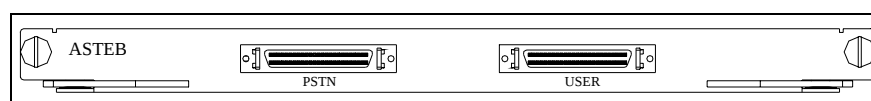
The following are the hardware features:

- Built-in splitter and ADSL processing module
- ADSL signal modulation and demodulation
- ADSL and POTS interfaces
- Backplane provides the power supply to ASTEB card.

ZXDSL 9806H (V1.2) supports maximum four ASTEB cards. One ASTEB card provides 24 ADSL/ADSL2+ subscriber ports.

Panel View Figure 15 shows ASTEB card panel view.

FIGURE 15 – ASTEB CARD FRONT PANEL VIEW



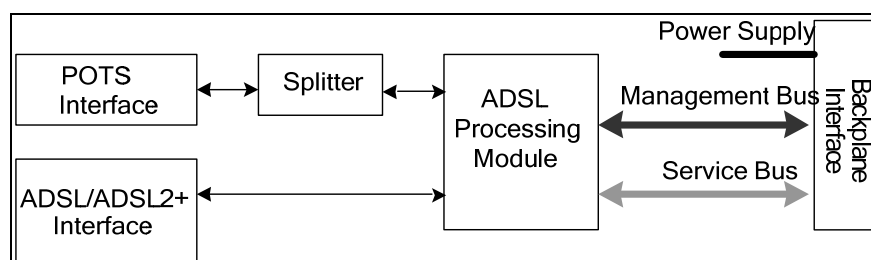
As shown in Figure 15, ASTEB provides 24 PSTN ports (PSTN) and 24 ADSL/ADSL2+ subscriber ports (USER).

ASTDE Card

Functions ASTDE card provides 16 ADSL/ADSL2+ over POTS access. It converts ATM cells to IP packets. The maximum downstream and upstream rates are 24 Mbps and 1 Mbps respectively. The transmission distance can reach up to 6.5 km.

Hardware Structure Figure 16 shows ASTDE card hardware structure.

FIGURE 16 – ASTDE CARD STRUCTURE



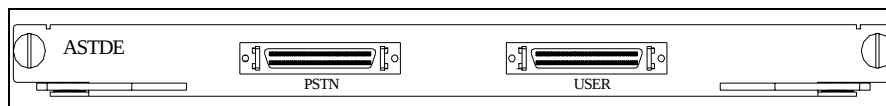
The following are the hardware features:

- Built-in splitter and ADSL processing module
- ADSL signal modulation and demodulation
- ADSL and POTS interfaces while backplane provides the power supply to ASTDE card.

ZXDSL 9806H (V1.2) supports maximum four ASTDE cards. One ASTDE card provides 16 ADSL/ADSL2+ subscriber ports.

Panel View Figure 17 shows ASTDE card panel view.

FIGURE 17 – ASTDE CARD FRONT PANEL VIEW



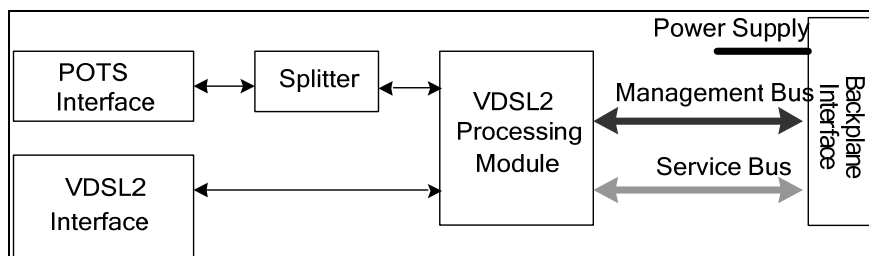
As shown in Figure 17, ASTDE provides 16 PSTN ports (PSTN) and 16 ADSL/ADSL2+ subscriber ports (USER)

VSTDC Card

Functions VSTDC card provides 16 VDSL2 over POTS access. The maximum downstream rate is 85 Mbps and upstream rate is 50 Mbps. The transmission distance can reach up to 2.5 km.

Hardware Structure Figure 18 shows VSTDC card hardware structure.

FIGURE 18 – VSTDC CARD STRUCTURE



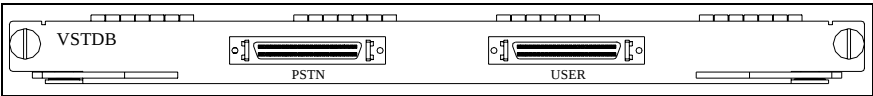
The following are the hardware features:

- Built-in splitter and VDSL processing module
- VDSL signal modulation and demodulation
- VDSL and POTS interfaces
- Backplane provides the power supply to VSTDC card.

ZXDSL 9806H (V1.2) supports maximum four VSTDC cards. One VSTDC card provides 16 VDSL2 subscriber ports.

Panel View Figure 19 shows VSTDC card panel view.

FIGURE 19 – VSTDC CARD FRONT PANEL VIEW



As shown in Figure 19, VSTDC provides the 16 PSTN ports (PSTN) and 16 VDSL2 subscriber ports (USER).

Power Cards

Function ZXDSL 9806H (V1.2) supports PWAH and PWDH. PWAH card provides 60 Hz 110 V or 50 Hz 220 V AC power input. PWDH card provides -48 V DC input.

Panel View Figure 20 shows PWAH card front panel view.

FIGURE 20 – PWAH CARD FRONT PANEL VIEW

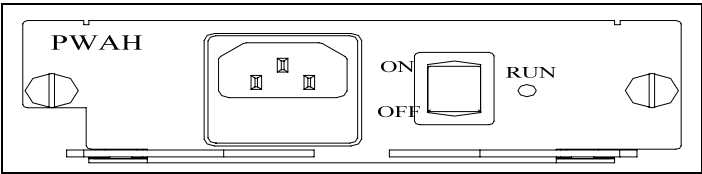


Figure 21 shows PWDH card front panel view.

FIGURE 21 – PWDH CARD FRONT PANEL VIEW

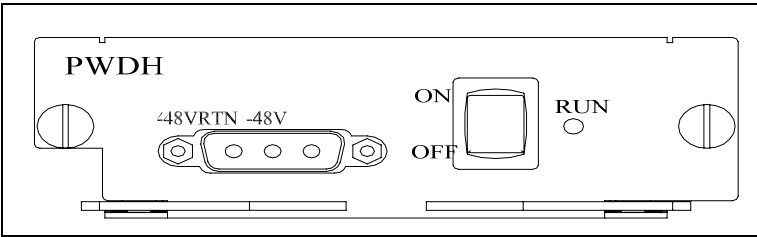


Table 7 lists LED description on the power card front panel.

TABLE 7 – LED DESCRIPTION

LED	Color	Status	Description
RUN	Red	ON	Indicates a power alarm
	Green	ON	Indicates normal power supply
		OFF	No power

Chapter 3

System Installation

This chapter covers the following topics:

- Installation Preparation
- Hardware Installation

Installation Preparation

This topic includes the following:

- Tools and Meters Preparation
- Checking Construction
- Checking Environment
- Checking Power Supply
- Checking Grounding Cables
- Checking Security

Tools and Meters

Tools The tools required for cabinet and cable installation are:

- Insulation tape
- Screw driver (straight and crossed)
- Tweezers
- Wrench
- Diagonal pliers
- Sharp-nose pliers
- Cable clamp
- Cable peeler
- Unpacking pliers

- Solder gun
- Percussion drill
- Plate puller
- Eraser

Meters The meters required for testing are as follows:

- DSL tester
- Optical power meter
- Multimeter
- Local craft terminal
- Optical attenuator
- Optical fiber connector



Note: Ensure that all the tools and meters are functioning normally.

Checking Construction

Ensure the following construction check:

- Civil work is complete.
- Enough room area is left to ensure free movement of equipment.
- The main door area height is 2.2 meters and 1 meter wide.
- Floor bearing capability is more than 450 Kg/m² and for non-equipment floor, at least 300 kg/m².
- Air conditioners are properly installed (Air conditioners are used to keep temperature and humidity within a normal range).
- Walls and roofs must be dust proof.

Checking Environment

Ensure the following environment check:

- The grounding resistance should be $< 1 \Omega$.
- The temperature should be between $-5^{\circ}\text{C} \sim 45^{\circ}\text{C}$.
- Check the humidity level and ensure that it should be between 10% $\sim$ 90%.
- Check the atmospheric pressure and ensure that it should be between 70 kPa to 106 kPa.

Checking Power Supply

Ensure the following under power supply check:

- 220 V /110 V AC power supply
- -48 V DC power supply
- DC power supply cables are according to telecom engineering specifications.
- Fuse capacity and conducting aluminum or copper wires meets design requirements.
- Positive and negative polarities are clearly marked on Power Distribution Panel (PDP).
- Black cable is used for working ground.
- Red cable is used for negative polarity.
- Yellow cable is used for protection earth.

Checking Grounding Cables

Grounding check helps verify appropriate conditions and procedures for equipment grounding requirements. Perform the following grounding for equipment:

- System ground
- Working ground
- Anti-lightning ground

Ensure the following grounding check:

1. Ground all cables in a common integrated mode when a limited place is available. Resistance should be less than 10 Ω . The following factors affect the grounding resistance:
 - ▶ Connector-lead resistance
 - ▶ Contact-resistance between grounding stake and soil
 - ▶ Soil type
2. Soil type affects grounding resistance. Use resistance reducer if soil condition is poor around the stake.
3. Temperature also affects grounding resistance. Use electricity-conductive cables with copper jacket to connect grounding stake and equipment. Cable cross sectional area must be 50 mm².

Checking Security

Security check helps verify appropriate conditions and procedures for equipment security requirements. Ensure the following under security check:

- Equipment room is equipped with fire extinguishers.
- Equipment room is equipped with an automatic fire control system.
- Equipment room is free of flammable or explosive materials.

Hardware Installation

Hardware installation includes the following:

- Shelf Installation
- Cable Connection
- Power ON Self Test

Shelf Installation

ZXDSL 9806H (V1.2) shelf can also be installed on desk, when the following conditions are available:

- Suitable space: minimum 10 cm to obstacle
- Power supply: 110 V/220 V AC or -48 V DC

Cable Connection

- | | |
|----------------------|---|
| Purpose | Perform this procedure to connect cables to the following interfaces: <ul style="list-style-type: none">■ ADSL subscriber and POTS interfaces: USER and PSTN■ VDSL2 subscriber and POTS interfaces: USER and PSTN■ Network interfaces: FE, GE or PON■ Out-of-band Network Management interface: MGT■ Console port: console■ Power supply: AC or DC |
| Prerequisites | <ol style="list-style-type: none">1. Before cabling, check the specifications, models and quantity of the cables in accordance with the design drawings and the contract.2. No breakage in the cables. |

ADSL Subscriber Cable Connection

ADSL subscriber cable connected to USER port is the same with that connected to PSTN port. ADSL subscriber cable from USER port is connected to subscriber external lines while ADSL subscriber cable from PSTN port is connected to PSTN network.

- Figure 22 shows ADSL subscriber cable structure. Pin details are listed in Table 8.

FIGURE 22 – ADSL SUBSCRIBER CABLE

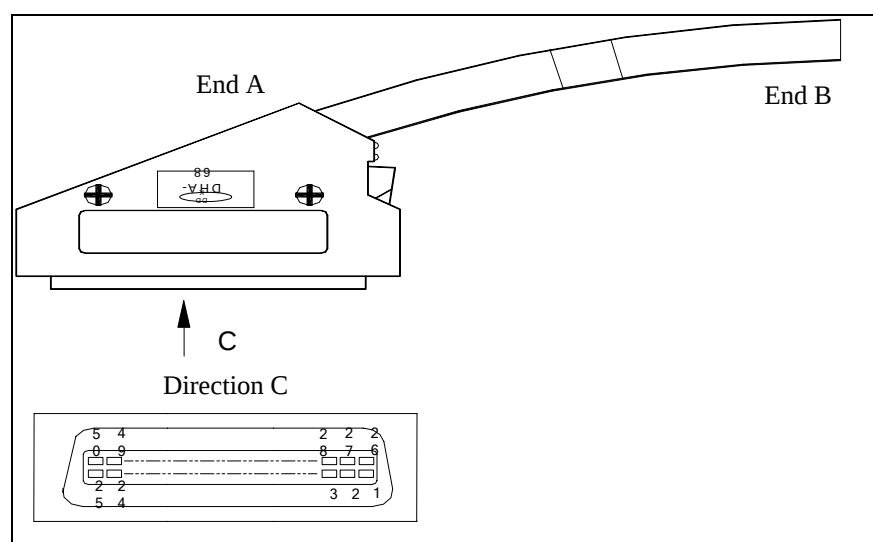


TABLE 8 – ADSL SUBSCRIBER CABLE PIN DETAILS

End A Pin Number	User channel number	Color coding of the pair
18, 17	1	White, Blue
43, 42	2	White, Orange
20, 19	3	White, Green
45, 44	4	White, Brown
22, 21	5	Red, Blue
47, 46	6	Red, Orange
24, 23	7	Red, Green
49, 48	8	Red, Brown
2, 1	9	Black, Blue
27, 26	10	Black, Orange
4, 3	11	Black, Green
29, 28	12	Black, Brown
6, 5	13	Yellow, Blue
31, 30	14	Yellow, Orange
8, 7	15	Yellow, Green
33, 32	16	Yellow, Brown

End A Pin Number	User channel number	Color coding of the pair
10, 9	17	White/Blue, Blue
35, 34	18	White/Blue, Orange
12, 11	19	White/Blue, Green
37, 36	20	White/Blue, Brown
14, 13	21	Red/Blue, Blue
39, 38	22	Red/Blue, Orange
16, 15	23	Red/Blue, Green
41, 40	24	Red/Blue, Brown

- Connect subscriber cable End A to PSTN port or USER port on ASTEB card.

VDSL Subscriber Cable Connection

VDSL subscriber cable connected to USER port is the same with the one connected to PSTN port. VDSL Subscriber cable from USER port is connected to subscriber external lines while VDSL subscriber cable from PSTN port is connected to PSTN network.

- Figure 22 shows VDSL subscriber cable structure. Pin details are listed in Table 9.

FIGURE 23 – VDSL SUBSCRIBER CABLE

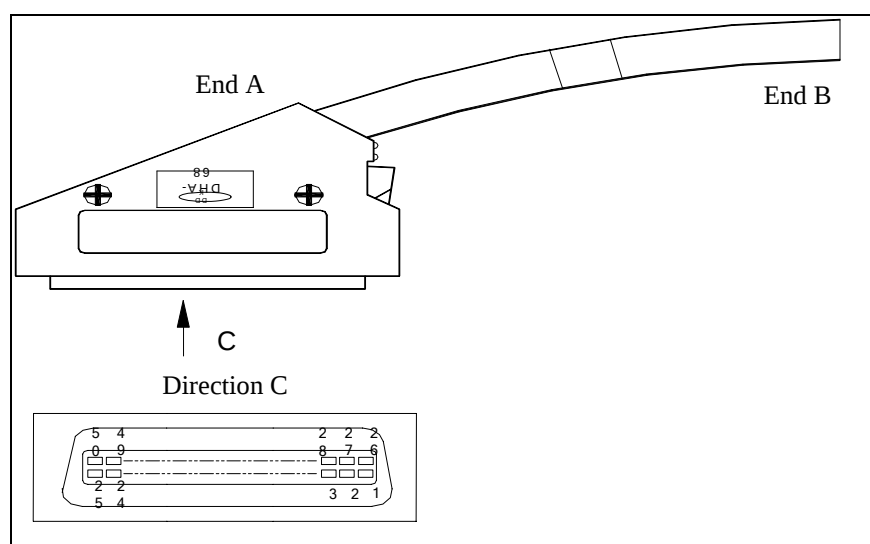


TABLE 9 – VDSL SUBSCRIBER CABLE PIN DETAILS

End A Pin Number	User channel number	Color coding of the pair
18, 17	1	White, Blue
43, 42	2	White, Orange

End A Pin Number	User channel number	Color coding of the pair
20, 19	3	White, Green
45, 44	4	White, Brown
22, 21	5	Red, Blue
47, 46	6	Red, Orange
24, 23	7	Red, Green
49, 48	8	Red, Brown
2, 1	9	Black, Blue
27, 26	10	Black, Orange
4, 3	11	Black, Green
29, 28	12	Black, Brown
6, 5	13	Yellow, Blue
31, 30	14	Yellow, Orange
8, 7	15	Yellow, Green
33, 32	16	Yellow, Brown

- Connect subscriber cable End A to PSTN port or USER port on VSTDC card.

Network Interface Connection

ZXDSL 9806H (V1.2) provides three types of network interfaces:

- Electrical FE/GE interface
- Optical FE/GE interface
- PON interface

Connect Ethernet cable or optical cable to the interface according to the onsite application.

Out-of-band NM Connection

Connect Ethernet cable to RJ-45 connector marked with 'MGT' on SCCF card for out-of-band network management.

Console Port Cable Connection

Console cable connects serial port of a computer to console port of ZXDSL 9806H (V1.2) for local maintenance.

- Figure 24 and Figure 25 show console port cable structure.

FIGURE 24 – CONSOLE PORT CABLE

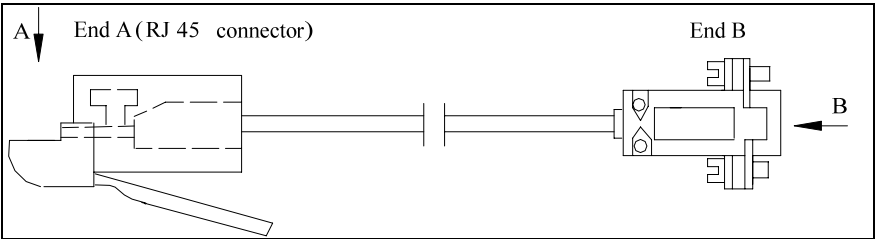


FIGURE 25 – CONSOLE PORT CABLE ENDS

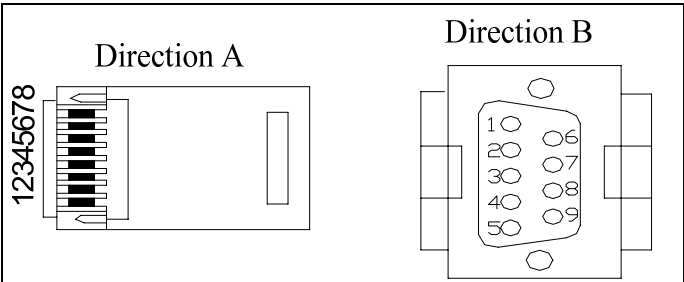


Table 10 lists the pin details.

TABLE 10 – CONSOLE PORT CABLE PIN DETAILS

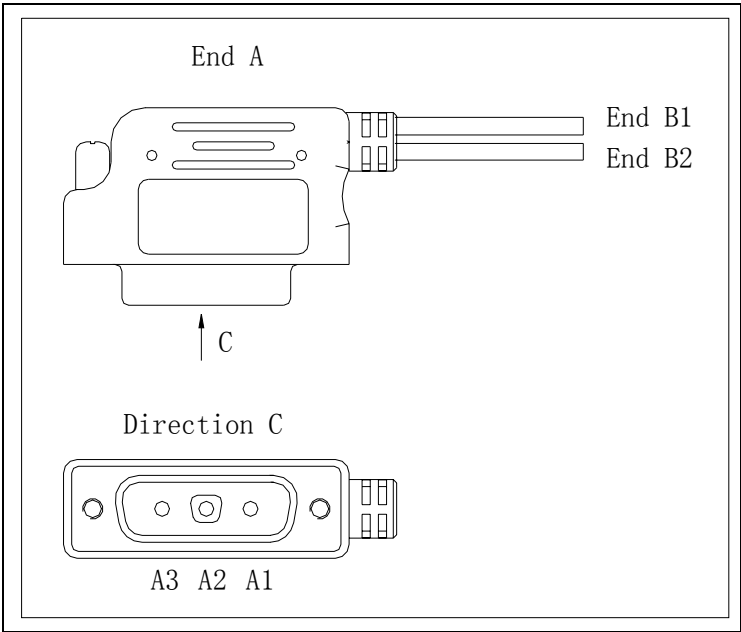
End A Console Port on SCCF Card	End B Serial Port of the Local Maintenance Computer
3	3
4	5
5	5
6	2

Important! All other pins are null.

- Connect console cable End A to the console port on SCCF card, connect console cable End B to the serial port of the maintenance computer.
- If the power supply is DC, connect DC power cable to the DC power interface on the equipment. DC power cable structure is shown in Figure 26.

Power Supply
Connection

FIGURE 26 – DC POWER CABLE



- Table 11 shows the DC power cable connection according to the wire color. Cross section area of the power cable should not be less than 4 mm².

TABLE 11 – DC POWER CABLE CONNECTION

End A	Cable color	Signal
A1	black	-48 VRTN
A2	blue	-48 V (-)
A3	-	-

**AC Power
Supply
Connection**

- If the power supply is AC, connect AC power cable to the AC power interface on the equipment.
- Cross section area of the power cable should not be less than 3 × 1.5 mm². Cross section area of the grounding cable should not be less than 16 mm².



Note: Before switching on the power supply, ZXDSL 9806H (V1.2) power switch should be set to the OFF position and the grounding cable should be connected.

END OF STEPS

Result Cable connection is completed.

Follow-up Action Check the above step of the cable connection again.

Power ON Self Test

Purpose Perform this procedure to do power ON self test process.

Steps To do power ON self test, perform the following steps:

1. Turn ON power control switch on power card.
2. If all link LEDs turned ON indicating that 9806H is in self-test process.
3. After some time, the power LED is stable and other LED turned OFF that indicates 9806H is in the software boot process.
4. 9806H enters into the initialization process.
5. After initialization process, all LED turned OFF and 9806H run normally with RUN LED flashing.
6. To turn OFF ZXDSL 9806H, turn OFF the power switch.

END OF STEPS

Result Self test process is completed.

Chapter 4

Commands Usage and Operation

This chapter contains the following topics:

- Usage and Operation
- Privilege Mode
- Configuration Mode
- ADSL Interface Configuration Mode
- VDSL Interface Configuration Mode
- Ethernet Interface Configuration Mode

Usage and Operation

Users do not necessarily input a command completely, but can press the <Tab> key for 9806H to complement it. To view the command help information, press the <?> key.

Press the <↑> key to re-edit a history command.

The commands also support editing shortcuts.

1. To delete the character on the current cursor: Ctrl-d
2. To delete the character before the current cursor: Ctrl-u
3. To delete the character behind the current cursor: Ctrl-k
4. To move the cursor to the head of the line: Ctrl-a
5. To move the cursor to the end of the line: Ctrl-e
6. To display the previous command among the history commands: Ctrl-p
7. To display the next command among the history commands: Ctrl-n
8. To move the cursor leftward by one grid: Ctrl-b

- 9. To move the cursor rightward by one grid: Ctrl-f
- 10. To delete the previous word: Ctrl-w
- 11. To move the current character forward by one grid: Ctrl-t
- 12. To return to the root node after the command is executed: Ctrl-z

Command Output

The output of command shows the information in the following case.

- 1. There is no prompt information while 9806H is running.
- 2. There is a prompt when a command times out.
- 3. When a command is correctly executed, the result is shown as below.

Example:

```
9806# show ip host
Host IP address      : 10.61.90.54
Host IP mask         : 255.255.252.0
```

- 4. When a command is incomplete or illegal, the display result of the command execution is shown as below.

Example:

```
9806# show ip
Error: Incomplete command
9806# vlan 100
Error: Bad command
```

? (help)

Syntax	? (help)
Purpose	To displays brief system help on the available commands or command options.
Usage	None
Guideline	
Mode	Any mode
	Help is requested at any point in a command by entering a question (?) mark.
	To list all valid commands available in the current mode, enter a question mark (?) at 9806H prompt.

To list the associated keywords or argument for a command, enter a question mark (?) in place of a keyword or argument on the command line.

To obtain a list of command or keywords that begins with a particular character string, enter the abbreviated command or keyword immediately followed by a question mark (?).

Example The following example describes how to display the command available in operator (non-privileged) exec mode.

9806>?

```
enable          - Enter the privileged mode
logout          - Exit the login state
quit            - Exit the login state
show            - Show running system information
user            - User management
```

The following example describes how to use commands syntax help to display the next argument of partially complete static route command.

9806(config)# ip route

```
<A.B.C.D>      - Assign an IP address
```

Related Command None

Privilege Mode

This section describes the privilege mode commands.

activate-version

Syntax **activate-version** **SCCF** *STRING*

Purpose To activate a version of SCCF card if two versions exist or a new version is downloaded

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
SCCF	SCCF card	-
<i>STRING</i>	Version file name of SCCF card	-

This command is used to activate a version of SCCF card when there is more than one version on the card.

Mode 9806#

Example The following example describes how to use activate-version command.

```
9806# active-version SCCF sccf.bin
9806#
```

Related Command show version

add-card

Syntax **add-card** {**ASTEB** | **VSTDC**} *slotnum*

Purpose To add subscriber card to ZXDSL 9806 shelf

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
ASTEB	ASTEB card	-
VSTDC	VSTDC card	-
<i>slot</i>	Slot number	Range: 1 ~ 4

Mode 9806#

Example The following example describes how to use add-card command.

```
9806# add-card ASTEB 3
9806#
```

Related Command del-card

configure

Syntax **configure**

Purpose To enter the configuration mode

Usage Guideline None

Mode 9806#

Example The following example describes how to use configure command.

```
9806# configure
9806(config)#
```

Related Command None

copy log network

Syntax `copy log network`

Purpose To copy log to FTP server

Usage Guideline None

Mode 9806#

Example The following example describes how to use copy log network command.

Host IP address is the IP address of the FTP server while the log .cfg is 9806H log file.

```
9806# copy log network
IP address of the host where the file
resides:[0.0.0.0]10.61.84.66
Name of the file at ftp server:[]log.cfg
Ftp UserName:[]target
Ftp Password:[]target
```

Related Command copy network startup-config

copy network startup-config

Syntax `copy network startup-config`

Purpose To download configuration file from FTP server to the flash

Usage Guideline At least one *.cfg file must be on the FTP server.

Mode 9806#

Example The following example describes how to use copy network startup-config command.

Host IP address is the IP address of the FTP server while the 9806H.cfg is 9806H configuration file.

```
9806# copy network startup-config
IP address of the host where the file
resides:[0.0.0.0]10.61.84.66
Name of the file at ftp server:[] 9806H.cfg
Ftp UserName:[]target
Ftp Password:[]target
```

Related Command copy startup-config network

copy running-config network

Syntax copy running-config network

Purpose To copy the current configuration information to FTP server

Usage Guideline None

Mode 9806#

Example The following example describes how to use copy running-config network command.

```
9806# copy running-config network
IP address of the host where the file
resides:[0.0.0.0]10.61.84.66
Name of the file at ftp server:[ ] 9806.cfg
Ftp UserName:[ ]target
Ftp Password:[ ]target
```

Related Command copy startup-config network

copy startup-config network

Syntax copy startup-config network

Purpose To copy configuration file in the flash to FTP server

Usage Guideline None

Mode 9806#

Example The following example describes how to use copy startup-config network command.

```
9806# copy startup-config network
IP address of the host where the file
resides:[0.0.0.0]10.61.84.66
Name of the file at ftp server:[ ] 9806H.cfg
Ftp UserName:[ ]target
Ftp Password:[ ]target
```

Related Command copy startup-config network
copy network startup-config

del-card

Syntax `del-card slotnum`

Purpose To delete card from the shelf

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>slot</i>	Slot number	Range: 1 ~ 4

When a card is deleted, the configuration on the card is also deleted and the card cannot be recognized.

Mode 9806#

Example The following example describes how to use del-card command.

```
9806# del-card 1
9806#
```

Related Command del-card

disable

Syntax `disable`

Purpose To exit from the privilege mode

Usage Guideline None

Mode 9806#

Example The following example describes how to use disable command.

```
9806# disable
9806>
```

Related command Enable

enable

Syntax `enable`

Purpose To enter the privileged mode

Usage None
Guideline

Mode 9806>

Example The following example describes how to use enable command.
9806>enable
Please input password:
9806#

Related disable
Command

download

Syntax download

Purpose To upgrade 9806H version

Usage None
Guideline

Mode 9806#

Example The following example describes how to use download command.
9806# download
IP address of the host where the file
resides:[0.0.0.0]10.61.84.66
Name of the file(include path) for programming
FLASH:[]E:\zte\9806h\sccf.bin
Ftp UserName:[]target
Ftp Password:[]target
SCCF
Please select one:[]sccf
.....

Related show version
command

download modem-version

Syntax download modem-version *slot/port*

Purpose To upgrade MODEM version

Usage The following table provides parameter description:
Guideline

Parameter	Description	Value
-----------	-------------	-------

Parameter	Description	Value
<i>slot</i>	Slot number	Range: 1 ~ 4
<i>port</i>	Port number	Range: 1 ~ 24

Mode 9806#

Example The following example describes how to use download modem-version command.

```
9806# download modem-version 1/11
IP address of the host where the file
resides:[0.0.0.0]10.61.84.66
Ftp UserName:[ ]target
Ftp Password:[ ]target
Hardware Version Number(VDSL modem is needless):[ ]
Firmware Version Number(VDSL modem is needless):[ ]
Name of host fw file(include path):[ ]ver.bin
Name of cpe fw file:[ ]ver.bin
Name of host password file(include path,VDSL modem is
needless):[ ]
Name of cpe password file(VDSL modem is needless):[ ]
Name of host reboot file(include path,VDSL modem is
needless):[ ]
Name of cpe reboot file:[ ]
Download modem firmware
Please wait for a moment:
.....
```

Related command show modem-version

end

Syntax end

Purpose To return to the privilege mode from the configuration or interface configuration mode

Usage Guideline None

Mode 9806#

Example The following example describes how to use end command.

```
9806(config)# interface vdsl 4/1
9806(cfg-if-vcsl-4/1)# end
9806#
```

**Related
command**

exit

erase configuration

Syntax **erase configuration**

Purpose To erase the current configuration from the flash

**Usage
Guideline**

Mode 9806#

Example The following example describes to use erase configuration command.

```
9806# erase configuration
Are you sure to erase config?[N]y
9806#
```

**Related
Command**

None

erase version

Syntax **erase version**

Purpose To erase version from the flash

**Usage
Guideline**

Mode 9806#

Example The following example describes how to use erase version command.

```
9806# erase version sccf sccf.bin
9806#
```

**Related
Command**

None

exit

Syntax	exit
Purpose	To return to the previous mode
Usage	None
Guideline	
Mode	Any mode
Example	This example describes how to use exit command. 9806(config)# interface vdsl 4/1 9806(cfg-if-vcsl-4/1)# exit 9806(config)#
Related command	end

logout

Syntax	logout
Purpose	To exit from present telnet session
Usage	None
Guideline	
Mode	Any mode
Example	The following example describes how to use logout command. 9806# logout Are you sure to quit? yes[Y] or no[N]:[N] 9806#
Related Command	Quit

modem

Syntax	modem <i>slot/port</i>
Purpose	To configure an ADSL MODEM
Usage	The following table provides parameter description:
Guideline	

Parameter	Description	Value
<i>slot</i>	Slot number	Range: 1 ~ 4
<i>port</i>	Port number	Range: 1 ~ 24

Mode 9806#

The modem command is used to configure MODEM on the user end via telnet.

Example The following example describes how to use download modem command.

```
9806# modem 3/1
```

```
ADSL Router
```

```
Login user:
```

Related Command None

ping

Syntax **ping** *ipaddress*

Purpose To test the IP reach ability of a host

Usage Guidelines The following table provides parameter description:

Parameter	Description	Value
<i>ipaddress</i>	IP address	-

Mode 9806#

Example The following example describes how to use ping command.

```
9806# ping 10.61.84.66
```

```
PING 10.61.84.66: 56 data bytes
```

```
64 bytes from 10.61.84.66: icmp_seq=0. time=0. ms
```

```
64 bytes from 10.61.84.66: icmp_seq=1. time=0. ms
```

```
64 bytes from 10.61.84.66: icmp_seq=2. time=10. ms
```

```
64 bytes from 10.61.84.66: icmp_seq=3. time=10. ms
```

```
64 bytes from 10.61.84.66: icmp_seq=4. time=0. ms
```

```
----10.61.84.66 PING Statistics----
```

```
5 packets transmitted,
```

```
5 packets received,
```

```
0% packet loss
```

```
round-trip (ms) min/avg/max = 0/4/10
```

Related Command None

quit

Syntax	quit
Purpose	To exit from the login state
Usage Guideline	None
Mode	Any mode
Example	The following example describes how to use quit command. 9806# quit Are you sure to quit? yes[Y] or no[N]:[N] 9806#
Related Command	logout

reboot

Syntax	reboot
Purpose	To reboot 9806H
Usage Guideline	None
Mode	9806#
Example	The following figure shows how to use reboot command. 9806# reboot Are you sure to reboot system? Press Y to confirm or another key to exit: [N]
Related command	reset card

reset card

Syntax	reset card <i>slotnum</i>								
Purpose	To reset a card								
Usage Guideline	The following table provides parameter description:								
	<table><tr><th>Parameter</th><th>Description</th><th>Value</th></tr><tr><td><i>slot</i></td><td>Slot number</td><td>Range: 1 ~ 4</td></tr></table>	Parameter	Description	Value	<i>slot</i>	Slot number	Range: 1 ~ 4		
Parameter	Description	Value							
<i>slot</i>	Slot number	Range: 1 ~ 4							

Important! SCCF card cannot be reset.

Mode 9806#

Example The following example describes how to use reset command.
9806# reset card 4

Related Command reboot

save

Syntax save

Purpose To save running configuration to the flash

Usage Guideline None

Mode 9806#

Example The following example describes how to use save command.
9806# save
9806#

Related Command None

show adsl

Syntax show adsl

Purpose To check threshold rate function

Usage Guideline None

Mode Any mode

Example The following example describes how to use show adsl command.
9806# show adsl
RateThresh : enable

Related Command adsl thresh

show adsl alarm-profile

Syntax `show adsl alarm-profile [filename]`

Purpose To show existing ADSL alarm profile

Usage The following table provides parameter description:
Guideline

Parameter	Description	Value
<i>filename</i>	Alarm profile file name	string

Without the filename parameter, it shows all alarm-profile information. With the filename parameter, it displays the content of specified alarm profile.

Mode Any mode

Example The following examples describe how to use show adsl alarm profile command.

```
9806# show adsl alarm-profile
```

```
All Existing Alarm Profiles      :  
1                               : DEFVAL.PRF
```

```
9806# show adsl alarm-profile defval.prf
```

```
AtucThresh15MinLofs             : 0  
AtucThresh15MinESs              : 0  
AtucThresh15MinLoss             : 0  
AtucThresh15MinLprs             : 0  
AtucThresh15MinLols             : 0  
AtucThreshFastRateUp            : 0  
AtucThreshInterleaveRateUp      : 0  
AtucThreshFastRateDown          : 0  
AtucThreshInterleaveRateDown    : 0  
AturThresh15MinLofs             : 0  
AturThresh15MinESs              : 0  
AturThresh15MinLoss             : 0  
AturThresh15MinLprs             : 0  
AturThreshFastRateUp            : 0  
AturThreshInterleaveRateUp      : 0  
AturThreshFastRateDown          : 0  
AturThreshInterleaveRateDown    : 0  
AtucInitFailureTrapEnable       : 1
```

```

AtucThreshold15MinFailedFastR      : 900
AtucThreshold15MinSesL              : 900
AtucThreshold15MinUasL              : 900
AturThreshold15MinSesL              : 900
AturThreshold15MinUasL              : 900
AtucConnRateTolerance                : 0
ThreshAtucConnRate                  : 0
AturConnRateTolerance                : 0
ThreshAturConnRate                  : 0

```

Please refer `adsl-alarm-profile` command for parameter explanation.

Related command `adsl-alarm-profile`

show adsl chan-interval

Syntax `show adsl chan-interval slot/port`

Purpose To show the channel information of a port in certain interval

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>slot</i>	Slot number	Range: 1 ~ 4
<i>port</i>	Port number	Range: 1 ~ 24

Mode Any mode

Example The following example describes how to use `show adsl chan-interval` command.

```
9806# show adsl chan-interval 2/15
```

```
ADSL AtucChanIntervalEntry Table      :
```

```

IntervalRecBlks                      : 0
IntervalTransBlks                    : 0
IntervalCorrBlks                     : 0
IntervalUncorrBlks                   : 0
IntervalValidData                     : 0

```

ADSL AturChanIntervalEntry Table :

```
IntervalRecBlks           : 0
IntervalTransBlks         : 0
IntervalCorrBlks          : 0
IntervalUncorrBlks        : 0
IntervalValidData         : 0
```

The following table shows parameter explanation of the example.

Parameter	Description
IntervalRecBlks	All received data blocks in previous interval
IntervalTransBlks	All transmitted data blocks in previous interval
IntervalCorrBlks	All corrected data blocks in previous interval
IntervalUncorrBlks	All uncorrected data blocks in previous interval
IntervalValidData	Valid data in this interval

Related Command show adsl channel

show adsl chan-perf

Syntax show adsl chan-perf *slot/port*

Purpose To show channel performance statistics of a port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>slot</i>	Slot number	Range: 1 ~ 4
<i>port</i>	Port number	Range: 1 ~ 24

Mode Any mode

Example The following example describes how to use show adsl chan-perf command.

```
9806# show adsl chan-perf 2/15
```

ADSL AtucChanPerfDataEntry Table :

ChanReceivedBlks	: 0
ChanTransmittedBlks	: 0
ChanCorrectedBlks	: 0
UncorrectBlks	: 0
PerfValidInter	: 0
PerfInvalidInter	: 0
PerfCurr15MinTimeElap	: 0
PerfCurr15MinReceivedBlks	: 0
PerfCurr15MinTransBlks	: 0
PerfCurr15MinCorrBlks	: 0
PerfCurr15MinUncorrBlks	: 0
PerfCurr1DayTimeElap	: 0
PerfCurr1DayRecBlks	: 0
PerfCurr1DayTransBlks	: 0
PerfCurr1DayCorrBlks	: 0
PerfCurr1DayUncorrBlks	: 0
PerfPrev1DayMoniSecs	: 0
PerfPrev1DayRecBlks	: 0
PerfPrev1DayTransBlks	: 0
PerfPrev1DayCorrBlks	: 0
PerfPrev1DayUncorrBlks	: 0
AtucChanPerfNcd	: 0
AtucChanPerf0cd	: 0
AtucChanPerfHec	: 0
AtucChanPerfCurr15Ncd	: 0
AtucChanPerfCurr150cd	: 0
AtucChanPerfCurr15Hec	: 0
AtucChanPerfCurr1DayNcd	: 0
AtucChanPerfCurr1Day0cd	: 0
AtucChanPerfCurr1DayHec	: 0
AtucChanPerfPrev1DayNcd	: 0
AtucChanPerfPrev1Day0cd	: 0
AtucChanPerfPrev1DayHec	: 0
ADSL AturChanPerfDataEntry Table	:
ChanReceivedBlks	: 0
ChanTransmittedBlks	: 0

```

ChanCorrectedBlks                : 0
UncorrectBlks                    : 0
PerfValidInter                   : 0
PerfInvalidInter                 : 0
PerfCurr15MinTimeElap           : 0
PerfCurr15MinReceivedBlks       : 0
PerfCurr15MinTransBlks          : 0
PerfCurr15MinCorrBlks           : 0
PerfCurr15MinUncorrBlks         : 0
PerfCurr1DayTimeElap            : 0
PerfCurr1DayRecBlks             : 0
PerfCurr1DayTransBlks           : 0
PerfCurr1DayCorrBlks            : 0
PerfCurr1DayUncorrBlks          : 0
PerfPrev1DayMoniSecs            : 0
PerfPrev1DayRecBlks             : 0
PerfPrev1DayTransBlks           : 0
PerfPrev1DayCorrBlks            : 0
PerfPrev1DayUncorrBlks          : 0
AturChanPerfNcd                 : 0
AturChanPerfHec                 : 0
AturChanPerfCurr15Ncd           : 0
AturChanPerfCurr15Hec           : 0
AturChanPerfCurr1DayNcd         : 0
AturChanPerfCurr1DayHec         : 0
AturChanPerfPrev1DayNcd         : 0
AturChanPerfPrev1DayHec         : 0

```

The following table shows parameter explanation of the example.

Parameter	Description
ChanReceivedBlks	Received code data blocks
ChanTransmittedBlks	Transmitted code data blocks
ChanCorrectedBlks	Correct code data blocks
UncorrectBlks	Uncorrected data blocks
PerfValidInter	Previous data valid for 15 minutes
PerfInvalidInter	Previous data invalid for 15 minutes
PerfCurr15MinTimeElap	Elapse current for 15 minutes

Parameter	Description
PerfCurr15MinReceivedBlks	Received blocks code data for current 15 minutes
PerfCurr15MinTransBlks	Transmitted code data blocks fore current 15 minutes
PerfCurr15MinCorrBlks	Corrected code data blocks for current 15 minutes
PerfCurr15MinUncorrBlks	Uncorrected code data blocks for current 15 minutes
PerfCurr1DayTimeElap	Elapsed time for current day
PerfCurr1DayRecBlks	Received code data blocks for current day
PerfCurr1DayTransBlks	Received code data blocks for current day
PerfCurr1DayCorrBlks	Transmitted code data blocks for current day
PerfCurr1DayUncorrBlks	Corrected code data blocks for current day
PerfPrev1DayMoniSecs	Uncorrected code data blocks for the current day
PerfPrev1DayRecBlks	Received code data blocks for previous day
PerfPrev1DayTransBlks	Previous seconds and previous day interval recorded by the performance data monitoring information
PerfPrev1DayCorrBlks	Received code data blocks for previous day
PerfPrev1DayUncorrBlks	Transmitted code data blocks on the previous day

Related Command `show adsl perf`

show adsl channel

Syntax `show adsl channel slot/port`

Usage To show channel information of a port

Guideline Purpose The following table provides parameter description:

Parameter	Description	Value
<i>slot</i>	Slot number	Range: 1 ~ 4
<i>port</i>	Port number	Range: 1 ~ 24

Mode Any mode

Example The following example describes how to use show adsl channel command.

```
9806# show adsl channel 2/15
```

```
ADSL AtucChanEntry Table      :

ChanInterDelay                : 0
ChanCurrTxRate(kbps)          : 0
ChanPrevTxRate(kbps)          : 0
ChanCrcBlockLen               : 0
AtucChanRsSymbols              : 0
AtucChanRsDepth               : 0
AtucChanRsRedundancy           : 0
ADSL AturChanEntry Table     :
ChanInterDelay                : 0
ChanCurrTxRate(kbps)          : 0
ChanPrevTxRate(kbps)          : 0
ChanCrcBlockLen               : 0
AturChanRsSymbols              : 0
AturChanRsDepth               : 0
AturChanRsRedundancy           : 0
```

The following table shows parameter explanation of the example.

Parameters	Description
ChanInterDelay	Interleaved delay at the channel level
ChanCurrTxRate	Current transmission rate at the channel level
ChanPrevTxRate	Transmission rate before the rate changes at the channel level
ChanCrcBlockLen	Data block length checked and operated by CRC at the channel level
ChanRsSymbols	Each DNT codes symbols to the uplink direction
ChanRsDepth	Uplink interleaved depth
ChanRsRedundancy	Uplink codes redundant bytes

Related Command show adsl chan-interval

show adsl ext

Syntax `show adsl ext slot/port`

Purpose To show ADSL extension information of a port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>slot</i>	Slot number	Range: 1 ~ 4
<i>port</i>	Port number	Range: 1 ~ 24

Mode Any mode

Example The following example describes how to use show adsl ext command.

```
9806# show adsl ext 2/15
```

```
LineDMTEOC           : N/A.
LineTransAtucCap      : N/A.
LineGlitePowerState   : N/A.
AdslLinePMState       : N/A.
AdslLineDMTTrellis    : N/A.
LineTxAtmCells        : 0
LineRxAtmCells        : 0
LineIdleCells         : 0
LineTxDataRate(kbps)  : 0
LineRxDataRate(kbps)  : 0
LineTransAtucActual   : N/A.
```

The following table shows parameter explanation of the example.

Parameters	Description
LineDMTEOC	Current EOC channel indicates mode supporting
LineTransAtucCap	Transmission mode supported by ATU-C in bit mask mode
LineGlitePowerState	Port power management state, valid in G.LITE mode
LinePMState	Current power management state
LineDMTTrellis	Indicate whether trellis coding is enabled. Trellis coding need to be activated all the time for

Parameters	Description
	showing its performance advantage. Trellis coding is compulsory to ADSL/ADSL2+
LineTxAtmCells	Transmitted ATM cell
LineRxAtmCells	Received ATM cells, which are received only by ATU-C
LineIdleCells	Idle cells received and transmitted by ATU-C
LineTxDataRate	Data rate transmitted on line
LineRxDdslataRate	Data rate received on the line
LineTransAtucActual	Actual ATU-C transmission mode

Related Command None

show adsl interval

Syntax `show adsl interval slot/port`

Purpose To show ATU-C and ATU-R information of a port in certain interval

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>slot</i>	Slot number	Range: 1 ~ 4
<i>port</i>	Port number	Range: 1 ~ 24

Mode Any mode

Example The following example describes how to use show adsl interval command.

```
9806# show adsl interval 2/15
```

```
ADSL AtucIntervalEntry Table      :
```

```
IntervalLofs                      : 0
```

```
IntervalLoss                      : 0
```

```
IntervalLols                      : 0
```

```
IntervalLprs                      : 0
```

```
IntervalESs                      : 0
```

```
IntervalInits                    : 0
```

```
IntervalValidData          : 0
AtucIntervalFastR          : 0
AtucIntervalFailedFastR    : 0
AtucIntervalSesL           : 0
AtucIntervalUasL           : 0
```

```
ADSL AturIntervalEntry Table :
```

```
IntervalLofs               : 0
IntervalLoss                : 0
IntervalLprs                : 0
IntervalESs                 : 0
IntervalValidData           : 0
AturIntervalSesL            : 0
AturIntervalUasL            : 0
```

The following table shows parameter explanation of the example.

Parameter	Description
IntervalLofs	Shelf loss seconds in previous interval
IntervalLoss	Signal loss seconds in previous interval
IntervalLols	Seconds of loss of link in previous interval
IntervalLprs	Power loss seconds in previous interval
IntervalESs	Errors second in previous interval
IntervalValidData	Failed initialization seconds in previous interval
IntervalFastR	Fast retry seconds in current interval
IntervalFailedFastR	Failed fast retry seconds in current interval
IntervalSesL	Line in current interval system severe problem in seconds
IntervalUasL	Unavailable lines in the current interval in seconds

Related Command show adsl chan-interval

show adsl perf

Syntax `show adsl perf slot/port`

Purpose To show ADSL performance information based on channel

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>slot</i>	Slot number	Range: 1 - 4
<i>port</i>	Port number	Range: 1 - 24

Mode Any mode

Example The following example describes how to use show adsl perf command.

```
9806# show adsl perf 2/15
```

```
ADSL AtucPerfDataEntry Table      :
PerfLofs                          : 0
PerfLoss                          : 0
PerfLols                          : 0
PerfLprs                          : 0
PerfESS                           : 0
PerfInits                         : 0
PerfValidIntervals                : 0
PerfInvalidIntervals              : 0
PerfCurr15MinTimeElap             : 0
PerfCurr15MinLofs                 : 0
PerfCurr15MinLoss                 : 0
PerfCurr15MinLols                 : 0
PerfCurr15MinLprs                 : 0
PerfCurr15MinESS                  : 0
PerfCurr15MinInits                : 0
PerfCurr1DayTimeElap              : 0
PerfCurr1DayLofs                  : 0
PerfCurr1DayLoss                  : 0
PerfCurr1DayLols                  : 0
PerfCurr1DayLprs                  : 0
PerfCurr1DayESS                   : 0
PerfCurr1DayInits                 : 0
```

PerfPrev1DayMoniSec	: 0
PerfPrev1DayLof	: 0
PerfPrev1DayLoss	: 0
PerfPrev1DayLols	: 0
PerfPrev1DayLprs	: 0
PerfPrev1DayESs	: 0
AtucPerfStatFastR	: 0
AtucPerfStatFailedFastR	: 0
AtucPerfStatSesL	: 0
AtucPerfStatUasL	: 0
AtucPerfCurr15MinFastR	: 0
AtucPerfCurr15MinFailedFastR	: 0
AtucPerfCurr15MinSesL	: 0
AtucPerfCurr15MinUasL	: 0
AtucPerfCurr1DayFastR	: 0
AtucPerfCurr1DayFailedFastR	: 0
AtucPerfCurr1DaySesL	: 0
AtucPerfCurr1DayUasL	: 0
AtucPerfPrev1DayFastR	: 0
AtucPerfPrev1DayFailedFastR	: 0
AtucPerfPrev1DaySesL	: 0
AtucPerfPrev1DayUasL	: 0
ADSL AturPerfDataEntry Table	:
PerfLofs	: 0
PerfLoss	: 0
PerfLprs	: 0
PerfESs	: 0
PerfValidIntervals	: 0
PerfInvalidIntervals	: 0
PerfCurr15MinTimeElap	: 0
PerfCurr15MinLofs	: 0
PerfCurr15MinLoss	: 0
PerfCurr15MinLprs	: 0
PerfCurr15MinESs	: 0
PerfCurr1DayTimeElap	: 0
PerfCurr1DayLofs	: 0

```

PerfCurr1DayLoss                : 0
PerfCurr1DayLprs                : 0
PerfCurr1DayESs                 : 0
PerfPrev1DayMoniSec             : 0
PerfPrev1DayLof                 : 0
PerfPrev1DayLoss                : 0
PerfPrev1DayLprs                : 0
PerfPrev1DayESs                 : 0
AturPerfStatSesL                : 0
AturPerfStatUasL                : 0
AturPerfCurr15MinSesL           : 0
AturPerfCurr15MinUasL           : 0
AturPerfCurr1DaySesL            : 0
AturPerfCurr1DayUasL            : 0
AturPerfPrev1DaySesL            : 0
AturPerfPrev1DayUasL            : 0

```

The following table shows parameter explanation of the example.

Parameters	Description
PerfLofs	Shelf loss seconds
PerfLoss	Signal loss seconds
PerfLols	Link loss seconds
PerfLprs	Power loss seconds
PerfESs	Bit error seconds
PerfInits	Field initialization seconds
PerfValidIntervals	15-minutes valid interval of previous data
PerfInvalidIntervals	15-minutes invalid intervals of previous data
PerfCurr15MinTimeElap	Times Elapse in 15 minutes
PerfCurr15MinLofs	Shelf loss in 15 minutes
PerfCurr15MinLoss	Signal loss in 15 minutes
PerfCurr15MinLols	Link loss in 15 minutes
PerfCurr15MinLprs	Power loss in 15 minutes
PerfCurr15MinESs	Bit errors in 15 minutes
PerfCurr15MinInits	Fail initialization in 15 minutes
PerfCurr1DayTimeElap	Current day elapse time
PerfCurr1DayLofs	Shelf losses in one day

Parameters	Description
PerfCurr1DayLoss	Loss seconds in one day
PerfCurr1DayLols	Link loss in one day
PerfCurr1DayLprs	Power loss in one day
PerfCurr1DayESs	Bit errors in one day
PerfCurr1DayInits	Fail initialization s in one day
PerfPrev1DayMoniSec	Performance monitoring information recorded one day before in seconds
PerfPrev1DayLof	Shelf losses in one day
PerfPrev1DayLoss	Signal loss in one day
PerfPrev1DayLols	Link loss one day before in seconds
PerfPrev1DayLprs	Power loss one day before in seconds
PerfPrev1DayESs	Bit errors one day before in seconds
PerfStatFastR	Fast retry seconds since system is reset
PerfStatFailedFastR	Failed fast retry seconds since system is reset
PerfStatSesL	System problems in seconds since system is reset
PerfStatUasL	System unavailable time in seconds on previous day
PerfCurr15MinFastR	Fast retry in seconds since last 15 minutes
PerfCurr15MinFailedFastR	Failed Fast retry in seconds since last 15 minutes
PerfCurr15MinSesL	System problem in 15 minutes
PerfCurr15MinUasL	System unavailable time since last 15 minutes
PerfCurr1DayFastR	Fast retry seconds since last one day
PerfCurr1DayFailedFastR	Failed fast retry seconds since last one day
PerfCurr1DaySesL	System problem since last one day
PerfPrev1DayFastR	Fast retry time(s) since last one day
PerfPrev1DayFailedFastR	Failed fast retry time(s) since last one day
PerfPrev1DaySesL	System problem times(s) since last reset

Parameters	Description
PerfPrev1DayUasL	System unavailable seconds on previous day

Related Command show adsl chan-perf

show adsl physical

Syntax show adsl physical *slot/port*

Purpose To show ADSL physical parameter of a port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>slot</i>	Slot number	Range: 1 - 4
<i>port</i>	Port number	Range: 1 - 24

Mode Any mode

Example The following example describes how to use show adsl physical command.

```
9806# show adsl physical 2/15
```

```
ADSL AtucPhysEntry Table          :
```

```
AtucInvSerialNumber      :
AtucInvVendorID          :
AtucInvVersionNumber     :
AtucCurrSnrMgn           : 0
AtucCurrAtn              : 0
AtucCurrStatus           : N/A.
AtucOutputPwr            : 0
AtucAttainableRate(kbps): 0
AtucDMTState             : noDefect
AtucDMTBinBits           : 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00
                                00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00
                                00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00
```

```

00 00 00 00 00 00 00 00      00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00

AtucDMTBinSNR      : 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00      00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00      00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00      00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00      00 00 00 00 00 00 00 00

AtucDMTBinAtn      : 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00      00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00      00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00      00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00      00 00 00 00 00 00 00 00

AtucPrevSnrMgn      : 0
AtucPrevAtn          : 0
AtucPrevAttainableRate : 0

ADSL AturPhysEntry Table      :

AturInvSerialNumber      :
AturInvVendorID          :
AturInvVersionNumber      :
AturCurrSnrMgn            : 0
AturCurrAtn              : 0
AturCurrStatus            : N/A.
AturCurrOutputPwr         : 0
AturAttainableRate(kbps) : 0
AturDMTState              : noDefect
AturDMTBinBits            : 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00      00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00      00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00      00 00 00 00 00 00 00 00

```

00 00 00 00 00 00 00	00 00 00 00 00 00 00 00
00 00 00 00 00 00 00	00 00 00 00 00 00 00 00
00 00 00 00 00 00 00	00 00 00 00 00 00 00 00
00 00 00 00 00 00 00	00 00 00 00 00 00 00 00
00 00 00 00 00 00 00	00 00 00 00 00 00 00 00
00 00 00 00 00 00 00	00 00 00 00 00 00 00 00
00 00 00 00 00 00 00	00 00 00 00 00 00 00 00
00 00 00 00 00 00 00	00 00 00 00 00 00 00 00
00 00 00 00 00 00 00	00 00 00 00 00 00 00 00
00 00 00 00 00 00 00	00 00 00 00 00 00 00 00
00 00 00 00 00 00 00	00 00 00 00 00 00 00 00
00 00 00 00 00 00 00	00 00 00 00 00 00 00 00
00 00 00 00 00 00 00	00 00 00 00 00 00 00 00
00 00 00 00 00 00 00	00 00 00 00 00 00 00 00
00 00 00 00 00 00 00	00 00 00 00 00 00 00 00
00 00 00 00 00 00 00	00 00 00 00 00 00 00 00
00 00 00 00 00 00 00	00 00 00 00 00 00 00 00
00 00 00 00 00 00 00	00 00 00 00 00 00 00 00
00 00 00 00 00 00 00	00 00 00 00 00 00 00 00
AturDMTBinAtn	: 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00	00 00 00 00 00 00 00 00
00 00 00 00 00 00 00	00 00 00 00 00 00 00 00
00 00 00 00 00 00 00	00 00 00 00 00 00 00 00
00 00 00 00 00 00 00	00 00 00 00 00 00 00 00
00 00 00 00 00 00 00	00 00 00 00 00 00 00 00
00 00 00 00 00 00 00	00 00 00 00 00 00 00 00

```

00 00 00 00 00 00 00 00      00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00      00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00      00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00      00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00      00 00 00 00 00 00 00 00 00

```

```

AturPrevSnrMgn      : 0
AturPrevAtn         : 0
AturPrevAttainableRate : 0

```

The following table shows parameter explanation of the example.

Parameters	Description
InvSerialNumber	System serial number of the vendor
InvVendorID	System ID number of the vendor
InvVersionNumber	System version number of the vendor
CurrSnrMgn	Current line noise margin
CurrAtn	Current line attenuation
CurrStatus	Current line operating status
outputPwr	Current line output power
AttainableRate(kbps)	Current line attainable rate
DMTBinBits	Each DMT sub
DMTBinSNR	Each DMT sub
PrevSnrMgn	Previous link noise margin
PrevAtn	Previous link line attenuation
PrevAttainableRate	Previous link attainable rate

Related Command None

show adsl profile

Syntax `show adsl profile [filename]`

Purpose To show existing ADSL profile information

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
-----------	-------------	-------

Parameter	Description	Value
<i>filename</i>	Profile file name	string

Without the filename parameter, it shows all profile information. With the filename parameter, it displays the content of specified profile.

Mode Any mode

Example The following example describes how to use show adsl profile command.

```
9806# show adsl profile defval.prf
```

```

AtucConfRateMode           : adaptAtStartup
AtucConfRateChanRatio      : 0
AtucConfTargetSnrMgn       : 80
AtucConfMaxSnrMgn          : 310
AtucConfMinSnrMgn          : 0
AtucConfDownshiftSnrMgn    : 0
AtucConfUpshiftSnrMgn      : 0
AtucConfMinUpshiftTime     : 0
AtucConfMinDownshiftTime   : 0
ConfProfileLineType        : interleaved-only
AtucChanConfFastMaxTxRate  : 1024
AtucChanConfFastMinTxRate  : 0
AtucChanConfIntlvMaxTxRt   : 1024
AtucChanConfIntlvMinTxRt   : 0
AtucChanConfMaxIntlvDelay  : 16
AturConfRateMode           : adaptAtStartup
AturConfRateChanRatio      : 0
AturConfTargetSnrMgn       : 80
AturConfMaxSnrMgn          : 310
AturConfMinSnrMgn          : 0
AturConfDownshiftSnrMgn    : 0
AturConfUpshiftSnrMgn      : 0
AturConfMinUpshiftTime     : 0
AturConfMinDownshiftTime   : 0
AturChanConfFastMaxTxRate  : 512
AturChanConfFastMinTxRate  : 0
AturChanConfIntlvMaxTxRt   : 512

```

```

AturChanConfIntlvMinTxRt   : 0
AturChanConfMaxIntlvDelay  : 16
AtucDMTConfFreqBins        : FF FF FF FF FF FF FF FF
AturDMTConfFreqBins        : FF FF FF FF FF FF FF FF
                             FF FF FF FF FF FF FF FF
                             FF FF FF FF FF FF FF FF
                             FF FF FF FF FF FF FF FF
                             FF FF FF FF FF FF FF FF
                             FF FF FF FF FF FF FF FF
                             FF FF FF FF FF FF FF FF
                             FF FF FF FF FF FF FF FF
                             FF FF FF FF FF FF FF FF
LineDMTConfEOC              : byte
LineDMTConfTrellis         : on
AtucConfMaxBitsPerBin      : 15
AtucConfTxStartBin         : 32
AtucConfTxEndBin           : 511
AtucConfRxStartBin         : 6
AtucConfRxEndBin           : 31
AtucConfUseCustomBins      : off
AtucConfDnBitSwap          : off
AtucConfUpBitSwap          : off
AtucConfREADSL2Enable      : off
AtucConfPsdMaskType        : ADSL2_PSD_MSK
AtucConfPMMMode            : DISABLE
AtucConfPML0Time           : 240
AtucConfPML2Time           : 120
AtucConfPML2ATPR           : 3
AtucConfPML2Rate           : 512
Adsl2ConfMinProtectionDs   : noProtection
Adsl2ConfMinProtectionUs   : noProtection

```

Please refer to command `adsl profile` for parameter explanation of the example.

Related Command `show adsl alarm profile`
 `show adsl profile`

show adsl status

Syntax `show adsl status slot/port`

Purpose To check the ADSL status or ADSL profile configuration of a port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>slot</i>	Slot number	Range: 1 - 4
<i>port</i>	Port number	Range: 1 - 24

Mode Any mode

Example The following examples describe how to use `show adsl status` command.

■ ADSL profile of port 2/13

```
9806# show adsl status 2/13
```

```
LineConfProfile      : DEFFUL.PRF
```

```
AlarmConfProfile     : DEFVAL.PRF
```

```
AdslLinePMConfPMSF   : L0_FullOn
```

```
AdslLineTransMode    : Adsl2(fdm) Adsl2+(fdm)  
G.dmt(fdm) ReAdsl2(fdm)
```

The following table shows parameter explanation of the example.

Parameters	Description
LineConfProfile	ADSL Profile Configuration
AlarmConfProfile	ADSL alarm Profile Configuration
AdslLinePMConfPMSF	ADSL line Power Mode, such as L0, L1 and L2 power modes
AdslLineTransMode	ADSL line transmission mode

■ ADSL profile configuration of port 2/13

```
9806# show adsl status 2/13 profile-config
```

```
LineConfProfile      : DEFFUL.PRF
```

```
AtucConfRateMode     : adaptAtStartup
```

```
AtucConfRateChanRatio : 0
```

```
AtucConfTargetSnrMgn  : 80
```

```
AtucConfMaxSnrMgn     : 310
```

```
AtucConfMinSnrMgn     : 0
```

```
AtucConfDownshiftSnrMgn : 0
```

```

AtucConfUpshiftSnrMgn      : 0
AtucConfMinUpshiftTime     : 0
AtucConfMinDownshiftTime   : 0
ConfProfileLineType        : interleaved-only
AtucChanConfFastMaxTxRate  : 102400
AtucChanConfFastMinTxRate  : 0
AtucChanConfIntlvMaxTxRt   : 102400
AtucChanConfIntlvMinTxRt   : 0
AtucChanConfMaxIntlvDelay  : 16
AturConfRateMode           : adaptAtStartup
AturConfRateChanRatio      : 0
AturConfTargetSnrMgn       : 80
AturConfMaxSnrMgn          : 310
AturConfMinSnrMgn          : 0
AturConfDownshiftSnrMgn    : 0
AturConfUpshiftSnrMgn      : 0
AturConfMinUpshiftTime     : 0
AturConfMinDownshiftTime   : 0
AturChanConfFastMaxTxRate  : 10240
AturChanConfFastMinTxRate  : 0
AturChanConfIntlvMaxTxRt   : 10240
AturChanConfIntlvMinTxRt   : 0
AturChanConfMaxIntlvDelay  : 16
AtucDMTConfFreqBins        : FF FF FF FF FF FF F
AturDMTConfFreqBins        : FF FF FF FF FF FF F
                             FF FF FF FF FF FF F
                             FF FF FF FF FF FF F
                             FF FF FF FF FF FF F
                             FF FF FF FF FF FF F
                             FF FF FF FF FF FF F
                             FF FF FF FF FF FF F
                             FF FF FF FF FF FF F
LineDMTConfEOC             : byte
LineDMTConfTrellis         : on
AtucConfMaxBitsPerBin      : 15
AtucConfTxStartBin         : 32
AtucConfTxEndBin           : 511
AtucConfRxStartBin         : 6

```

```

AtucConfRxEndBin      : 31
AtucConfUseCustomBins : off
AtucConfDnBitSwap     : off
AtucConfUpBitSwap     : off
AtucConfREADSL2Enable : off
AtucConfPsdMaskType   : ADSL2_PSD_MSK
AtucConfPMMMode       : DISABLE
AtucConfPML0Time      : 240
AtucConfPML2Time      : 120
AtucConfPML2ATPR      : 3
AtucConfPML2Rate      : 512

```

Please refer to command `adsl profile` for parameter explanation of the example.

Related Command `adsl profile`

show atm

Syntax `show atm vc slot/port`

Purpose To show ATM PVC information

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>slot</i>	Slot number	Range: 1 ~ 4
<i>port</i>	Port number	Range: 1 ~ 24

Mode Any mode

Example The following example describes how to use `show atm` command.

```
9806# show atm vc 1/1-3
```

Port	PVC	VPI	VCI	PVID	Mode	State
1	1	8	81	100	common	enable
1	8	0	16	1	modem	enable
2	1	8	81	100	common	enable
2	8	0	16	1	modem	enable
3	1	8	81	100	common	enable
3	8	0	16	1	modem	enable

The following table shows parameter explanation of the example.

Parameters	Description
Ports	ADSL channel number.
PVC	Permanent Virtual Circuit
VPI	Virtual Path Identifier
PVID	Port based VLAN identifier
Mode	ATM PVC mode
State	ATM PVC state

Related Command atm pvc

show bind

Syntax `show bind {ip-address | mac-address}`

Purpose To show bind IP/MAC address information

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>ip-address</i>	IP address	A.B.C.D
<i>mac-address</i>	MAC address	AA:BB:CC:DD:DD:FF

Mode Any mode

Example The following examples describe how to use show bind command.

```
9806# show bind ip-address
4/1          :10.61.87.87
```

```
9806# show bind mac-address
4/1          :10:ad:cc:df:ef:ad
```

Related Command bind

show card slot

Syntax `show card slot slotnum`

Purpose To show the detail information of the card in specified slot

**Usage
Guideline**

The following table provides parameter description:

Parameter	Description	Value
<i>slotnum</i>	Slot number	Range: 1 ~ 5

Mode Any mode

None

Example The following example describes how to use show card slot command.

```
9806# show card slot 4
```

```
Shelf No           : 1
Slot No            : 4
Status              : Inservice
Board Type         : VSTDC
PortNumber         : 16
HardVer            : 060301
SoftVer            : version no
LastChange         :
```

```
-----
```

**Related
Command**

add-card

show card

Syntax show card

Purpose To show all cards information

**Usage
Guideline** None

Mode Any mode

Example The following example describes how to use show card command.

```
9806# show card
```

```
Slot Shelf Type  Port  HardVer  SoftVer  Status
-----
  2   1   ASTEB  24             Offline
  3   1   VSTDC  24             Offline
  5   1   SCCF   2    060300  V1.2.0T2 Inservice
-----
```

Related Command add-card

show cpvlan

Syntax show cpvlan

Purpose To show CPVLAN information

Usage Guideline None

Mode Any mode

Example The following example describes how to use show cpvlan command.

```
9806# show cpvlan
CPvlans      : 1-4094
```

Related Command cpvlan

show dhcp-snooping

Syntax show dhcp-snooping {*slot/port* | **slot** *slot*}

Purpose To show DHCP snooping records

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>slot</i>	Slot number	Range: 1 ~ 5
<i>port</i>	Port number	Range: 1 ~ 2 for Ethernet; 1 ~ 24 for ADSL; 1 ~ 16 for VDSL

Mode Any mode

Example The following example describes how to use show dhcp-snooping command.

```
9806# show dhcp-snooping 5/1
```

All DHCP snooping records of the port 5/1:

```
-----
MAC      PVC  VID      GUARD      Client IP addr  Lease(s)
-----
-----
```

```
9806# show dhcp-snooping slot 5
```

All DHCP snooping records of the slot 5

Port Num MAC PVC VID GUARD Client IP addr Lease(s)

Related Command show dhcp

show filter mac-address

Syntax show filter mac-address [**port** *slot/port*]

Purpose To show the filter MAC address information

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>slot</i>	Slot number	Range: 1 ~ 4
<i>port</i>	Port number	Range: 1 ~ 24 for ADSL; 1 ~ 16 for VDSL

Mode Any mode

Example The following example describes how to use show filter mac-address command.

```
9806# show filter mac-address port 4/1
4/1          : 00:00:00:01:02:03
```

Related Command filter mac-address

show history

Syntax show history

Purpose To show the session command history

Usage Guideline None

Mode Any mode

Example The following example describes how to use show history command.

```
9806# show history
1 en
2 show history
```

```

3 show filter
4 show filter mac-address port 4/1
5 show filter mac-address port 5/1
6 show filter mac-address
7 show dhcp
8 show dhcp-snooping slot
9 show dhcp-snooping slot 1
10 show dhcp-snooping slot 5

```

Related Command None

show igmp cac

Syntax `show igmp cac [groupip] [interface slot/port]`

Purpose To show the channel access control (CAC) information

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>groupip</i>	Group IP address	Range: 224.0.1.0 ~ 239.255.255.255
<i>slot</i>	Slot number	Range: 1 ~ 5
<i>port</i>	Port number	Range: 1 ~ 2 for Ethernet; 1 ~ 24 for ADSL; 1 ~ 16 for VDSL

When there is no parameter, it shows global CAC information. When there is parameter, it shows CAC information of specified group and port.

Mode Any mode

Example The following examples describe how to use show igmp cac command.

- Show global CAC information.

```

9806# show igmp cac
Global CAC Switch : enable
All existing CAC group IP address:
239.255.255.254

```

- Show CAC group information.

```

9806# show igmp cac 239.255.255.254
Group IP address           : 239.255.255.254

```

```
ViewProfile                : DEFVAL.PRF
CAC Group Name              :
used by the channel packages:
9806# show igmp cac 239.255.255.254 interface 4/1
Group IP address            : 239.255.255.254
Interface                   : 4/1
Right                       : deny
```

Related Command show igmp

show igmp cache

Syntax **show igmp cache** *groupip slotlist/portlist*

Purpose To show IGMP cache table of the port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>groupip</i>	Group IP address	Range: 224.0.1.0 ~ 239.255.255.255
<i>slotlist</i>	Slot number	Range: 1 ~ 5
<i>portlist</i>	Port number	Range: 1 ~ 2 for Ethernet; 1 ~ 24 for ADSL; 1 ~ 16 for VDSL

This command is used to display the IGMP cache table of the received port when the IGMP services are enabled. The command works only in IGMP proxy or IGMP router mode.

Mode Any mode

Example The following example describes how to use show igmp cache command.

```
9806# show igmp cache 239.255.255.254 4/1
igmp Cache Table                :
Get the cache table fail because the port 4/1 is not
the dynamic receive port in group 239.255.255.254!
```

Related Command show igmp

show igmp channel package

Syntax **show igmp channel-package** [*name*]

Purpose To show IGMP channel package configuration

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>name</i>	Channel package name	String

Without the package name parameter, it shows all channel packages. With the package name parameter, it shows information of specified channel package.

Mode Any mode

Example The following examples describe how to use `show igmp channel-package` command.

- Show all channel package information.

```
9806# show igmp channel-package
```

```
NEW
```

```
AMIT
```

```
ZTE
```

- Show channel package new.

```
9806# show igmp channel-package new
```

```
-----
                Group IP                right
-----
1      239.255.255.254                permit
-----
```

Related Command `show igmp`

show igmp interface

Syntax `show igmp interface slot/port`

Purpose To show igmp interface table of a port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>slot</i>	Slot number	Range: 1 ~ 5
<i>port</i>	Port number	Range: 1 ~ 2 for Ethernet; 1 ~ 24 for ADSL; 1 ~ 16 for VDSL

Mode Any mode

Example The following example describes how to use show igmp interface command.

```
9806# show igmp interface 1/11
```

```
Interface                                     : 1/11

IgmpGroupsLimit                             : 1
IgmpFastLeave                               : enable
IgmpInterfaceLastMembQueryIntvl             : 10 (0.1s)
IgmpInterfaceQueryInterval                  : 125 s
IgmpInterfaceQueryMaxResponseTime           : 100 (0.1s)
IgmpInterfaceRobustness                     : 2
IgmpInterfaceVersion                        : 2
IgmpInterfaceQuerier                        : 0.0.0.0
IgmpInterfaceQuerierUpTime                  : 0
IgmpInterfaceQuerierExpiryTime              : 0
IgmpInterfaceVersion1QuerierTimer           : 0
IgmpInterfaceWrongVersionQueries            : 0
IgmpInterfaceJoins                          : 0
IgmpInterfaceGroups                         : 0
IgmpInterfaceBandwidth                      : 1048576k
IgmpInterfaceIgmpStatus                     : enable
```

The following table shows parameter explanation of the example.

Parameters	Description
Interface	Slot and port number of the DSLAM.
IgmpGroupsLimit	Limit of the IGMP groups.
IgmpFastLeave	IGMP fast leave enable or disable.
IgmpInterfaceLastMembQueryIntvl	Time interval from the last member query to the IGMP interface
IgmpInterfaceQueryInterval	IGMP interface query interval
IgmpInterfaceQueryMaxResponseTime	Maximum response time of the IGMP query
IgmpInterfaceRobustness	Igmp interface robustness, range is from 0`65534.
IgmpInterfaceVersion	IGMP version 1, 2 and 3

Parameters	Description
IgmpInterfaceQuerier	IP address of the IGMP interface Querier
IgmpInterfaceQuerierUpTime	Up time of the IGMP interface Querier
IgmpInterfaceQuerierExpiryTime	Expiry time of the IGMP interface Querier
IgmpInterfaceVersion1QuerierTimer	IGMP interface version 1 Querier timer
IgmpInterfaceWrongVersionQueries	Time interval for wrong version queries of IGMP interface
IgmpInterfaceJoins	Time interval after joining the group of the IGMP interface
IgmpInterfaceGroups	IGMP interface Group
IgmpInterfaceBandwidth	IGMP interface bandwidth
IgmpInterfaceIgmpStatus	IGMP interface IGMP status

Related Command show igmp
show igmp mvlan

show igmp mvlan

Syntax **show igmp mvlan** *mvlan-id* [**group** *group-ip*] [**dynamic-receiver**]

Purpose To show IGMP multicast VLAN (MVLAN) information

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>mvlan-id</i>	MVLAN ID	Range: 1 ~ 4094
group <i>group-ip</i>	Group IP address	Range: 224.0.0.0 ~ 239.255.255.255
dynamic-receiver	Dynamic receiver	Range: 1 ~ 24

Mode Any mode

Example The following examples describe how to use show igmp mvlan command.

- Show information of MVLAN 88.

```
9806# show igmp mvlan 88
```

```
max-group                : 1024
```

```

source-ip                : 10.61.87.87
source-port list         :
receive-port list        :
All existing group in mvlan 88:

```

```

-----
      Group IP          static receive ports
-----

```

```
224.1.1.0
```

```
224.1.1.1          2/1
-----

```

```
Receive-port list[sc1]   :2/1

```

- Show dynamic receiver ports of MVLAN 88.

```
9806# show igmp mvlan 88 dynamic-receiver

```

```

-----
MVLAN ID  Group IP Address    Port List
-----

```

```
1          239.255.255.254

```

- Show group information of MVLAN 88.

```
9806# show igmp mvlan 88 group 239.255.255.254

```

```
MVLAN ID                : 88

```

```
Group IP address        : 239.255.255.254

```

```
Group bandwidth         : 2048

```

```
Group fast join         : disable

```

```
Group static receive-port list : 2/1

```

Related Command

show igmp

show igmp view-profile

Syntax `show igmp view-profile [filename]`

Purpose To show all multicast view profile or information about a specified view profile

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>filename</i>	IGMP view-profile filename	-

With the filename parameter, it shows detailed information of specified preview profile. Without the filename parameter, it only shows all preview profiles.

Mode Any mode

Example The following example describes how to use show igmp view-profile command.

```
9806# show igmp view-profile defval
MaxPreviewCount           : 3
MaxPreviewInterval        : 120s
PreviewBlackoutInterval   : 60s
```

The view profile used by
239.255.255.254

```
9806#
```

Related Command show igmp

show igmp

Syntax show igmp

Purpose To show the IGMP information

Usage Guideline None

Mode Any mode

Example The following example describes how to use show igmp command.

```
9806# show igmp
Mode           : snooping
IGMP Status    : enable
Aging Time     : 300
CAC Status     : disable
PRW Reset-time : 00:00:00
Recognition Time : 00:00:20
CDR Status     : enable
CDR Max-records : 30000
Sms Server     :
Report Interval : 15(minutes)
```

```

IgmpSpanVlan                : disable
Current CDR Record Number   : 0
Deny Right CDR Status      : disable
Preview Right CDR Status    : disable
CDR Record Interval         : 60(minutes)
Bandwidth Control           : enable
STB MAC Status              : disable

```

MVLAN List:

200 400

The following table provides example parameter explanation.

Parameters	Description
Mode	The mode of the IGMP such as IGMP proxy or IGMP router
IGMP Status	IGMP status
Aging Time	IGMP snooping aging time
CAC Status	CAC status
PRW Reset-time	Preview reset time
Recognition Time	Preview recognition time
CDR Status	CDR status
CDR Max-records	Maximum CDR records
Report Interval	Report interval time
IgmpSpanVlan	Span VLAN feature
Current CDR Record Number	Current CDR record number
Deny Right CDR Status	CDR status, if the user right is deny
Preview-right	CDR status, after the number of accesses exceeded max preview count
CDR Record Interval	CDR Record Interval
Bandwidth Control	Bandwidth Control
STB MAC Status	STB MAC Status
MVLAN List	MVLAN list

Related Command show igmp interface
 show igmp mvlan

show interface

Syntax `show interface slot/port [statistics | vlan-config | port-status]`

Purpose To show interface information

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>slot</i>	Slot number	Range: 1 ~ 5
<i>port</i>	Port number	Range: 1 ~ 2 for Ethernet; 1 ~ 24 for ADSL; 1 ~ 16 for VDSL

This command shows statistics, VLAN configuration and port status respectively with statistics, vlan-config and port-status parameter.

Mode Any mode

Example The following example describes interface information of subscriber port 1/11.

```
9806# show interface 1/11
```

```
Interface                               : 1/11
PVCID      PVID      AcceptFrames      SvlanMode      PSVID
DHCPSourceGuard
1          100      admitall          disable          1
disable

SC_ID      PVC_ID      SC_TYPE
1          1          ALL

AdminStatus                               : enable
TrapControl                               : disable
LinkStatus                                 : down
IngressFilter                             : discard
MaxMacLearn                               : 10
BroadCastRateLimit                       : 1024kbps
IfType                                       : ADSL_PORT_TYPE
DHCP                                       : disable
DHCP Access Type                         : china-telecom
Remote ID                                 : disable
Remote ID Name                           :
```

```

PPPoE plus                : disable
DHCP Snooping              : disable
DHCP Snooping Limit        : 8
DHCP Packet Limit          : 16 pps
IGMP Packet Limit          : 16 pps
Modem IP                   : 192.168.2.1

```

The following table provides parameter explanation of example.

Parameters	Description
PVCID	PVC ID
PVID	Port base VLAN ID
AcceptShelfs	Status of the accepted or denied tag or un-tag frames
SvlanMode	SVLAN mode of port
PSVID	Port based Static VLAN ID
DHCPSourceGuard	DHCP source guard
SC_ID	ADSL sub channel ID
PVC_ID	Interface PVC ID
SC_TYPE	Sub-channel type
AdminStatus	Administrator status
LinkStatus	Status of the link
IngressFilter	Ingress parameter status
MaxMacLearn	Maximum Mac-address learning limit
BroadCastRateLimit	BroadCast Rate Limit
IfType	Interface type
DHCP	DHCP status
DHCP Access Type	DHCP Circuit ID type
Remote ID	Remote ID status
Remote ID Name	Remote ID Name
PPPoE plus	PPPoE plus status
DHCP snooping	DHCP snooping status
DHCP Snooping Limit	DHCP Snooping Limit
DHCP Packet Limit	DHCP Packet Limit
IGMP Packet Limit	IGMP Packet Limit
Modem IP	MODEM IP

- The following example describes interface information of Ethernet port 5/1.

```

9806# show interface 5/1
Interface                               : 5/1
PVID                                   AcceptFrames
1                                     admitall
AdminStatus                           : enable
TrapControl                           : disable
LinkStatus                             : down
IngressFilter                          : discard
FlowControl                           : force-disable
FlowControlActual                      : force-disable
SpeedSet                               :
SpeedActual                            :
DuplexSet                              : full
DuplexActual                           : half
BroadCastRateLimit                    : 2048kbps
DHCP Packet Limit                      : 100 pps
IGMP Packet Limit                     : 2048 pps
IfType                                 : ETH_PORT_TYPE

```

- The following examples describe interface information with vlan-config and port-status parameters.

```
9806# show interface 1/11 vlan-config
```

```

Interface                               : 1/11
tagged VLAN list                         :
Untagged VLAN list                       : 100,200

```

```
9806# show interface 1/11 port-status
```

Port	AdminStatus	LinkStatus	AtucTxRate(kbps)	AturTxRate(kbps)
1/11	enable	down	N/A	N/A

Related Command

Interface

show ip host

Syntax show ip host

Purpose To show out-of-band NM IP address and subnet mask

Usage None
Guideline

Mode Any mode

Example The following example describes how to use show ip host command.

```
9806# show ip host
Host IP address      : 10.61.90.54
Host IP mask         : 255.255.252.0
```

Related ip host
Command

show ip modem

Syntax show ip modem

Purpose To show IP address of 9806H for MODEM remote management

Usage None
Guideline

Mode Any mode

Example The following example describes how to use show ip modem command

```
9806(config)# show ip modem
Modem IP address      : 192.168.1.1
Modem IP mask         : 255.255.0.0
```

Related ip modem
Command

show ip route

Syntax show ip route

Purpose To show route information

Usage None
Guideline

Mode Any mode

Example The following example describes how to use show ip route command.

```
9806# show ip route
Dest IP      Mask      Nexthop      Name      Status
-----
```

```
0.0.0.0      0.0.0.0      10.61.91.254  ZTEROUTE  active
9806#
```

Related Command ip route

show ip subnet

Syntax show ip subnet

Purpose To show in-band NM IP address information

Usage Guideline None

Mode Any mode

Example The following example describes how to use show ip subnet command.

```
9806# show ip subnet
```

Dest IP	Mask	VID	Name

192.168.2.1	255.255.255.0	10	ZTE

Related Command ip subnet

show loop-check

Syntax show loop-check

Purpose To show loop check configuration

Mode Any mode

Example The following example describes how to use show loop-check command.

```
9806# show loop-check
```

```
LoopCheckInterval          : 20 s
```

Related Command loop-check

show mac

Syntax show mac

Purpose To show the in-band and out-of-band MAC addresses

Usage None
Guideline

Mode Any mode

Example The following example describes how to use show mac command.

```
9806# show mac
InBand MAC address      : 00:D0:D0:81:94:E7
OutBand MAC address     : 00:D0:D0:13:43:25
```

Related mac-address-table
Command

show mac-address-table aging-time

Syntax show mac-address-table aging-time

Purpose To show aging time of the MAC address forwarding table

Usage None
Guideline

Mode Any mode

Example The following example describes how to use show mac-address aging-time command.

```
9806# show mac-address-table aging-time
mac aging time          : 300s
```

Related mac-address-table
Command

show mac-address-table entry-count

Syntax show mac-address-table entry-count

Purpose To show the total number of the MAC entries

Usage None
Guideline

Mode Any mode

Example This example describes how to use show mac-address-table entry-count command.

```
9806# show mac-address-table entry-count
Total of MAC entries is: 16
```

Related Command mac-address-table

show mac-address-table

Syntax show mac-address-table {**port** *slot/port* | *macaddress vid*}

Purpose To show the configured MAC address of a port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>slot</i>	Slot number	Range: 1 ~ 5
<i>port</i>	Port number	Range: 1 ~ 2 for Ethernet; 1 ~ 24 for ADSL; 1 ~ 16 for VDSL
<i>macaddress</i>	MAC address	-
<i>vid</i>	VLAN ID	Range: 1 ~ 4094

Mode Any mode

Example The following example describes how to use show mac address-table command.

```
9806# show mac-address-table port 2/1
```

```
Total MAC number : 1
```

```
Port  MAC                      VID  PVC  TYPE
2/1   12:55:48:12:74:54         100   1    static
```

Related Command add-mac

show manage-access-list

Syntax show manage-access-list

Purpose To show manage access list information

Usage Guideline None

Mode Any mode

Example The following example describes how to use show manage-access-list command.

```
9806# show manage-access-list
```

```
Manage access-list : Enabled
```

```
ID ACTION SRC-IP      IP-TYPE SRC-PORT  DEST-PORT
```

2 Permit 192.168.1.1/16 ICMP

Related Command manage-access-list

show modem-version

Syntax **show modem-version** {{download-status | download-result} [slot/port] | info slot/portlist}

Purpose To show MODEM version information

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
slot/port	Slot number	Range: 1 ~ 4
slot/portlist	Port number	Range: 1 ~ 24 for ADSL; 1 ~ 16 for VDSL

Mode Any mode

Example The following example describes how to use show modem-version command.

```
9806# show modem-version info 2/2
Interface                : 2/2
Vendor Id                 : B5004244434D0000
Vendor Serial Number      :
Vendor Version Number     : Broadcom SoftDsl
```

Related Command download modem-version

show port-location dhcp-option82

Syntax **show port-location dhcp-option82** [vlan vid]

Purpose To show the DHCP-option82 information

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
vlan vid	VLAN ID	Range: 1 ~ 4094

Mode Any mode

Example The following example describes how to use show port-location dhcp-option82 command.

Related Command

```

9806# show port-location dhcp-option82
Access Node Identify      : hostname
Global DHCP               : enable
port-location dhcp-option82

```

show port-location pppoe-plus

Syntax `show port-location pppoe-plus [vlan vid]`

Purpose To show the PPPoE-plus information

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<code>vlan <i>vid</i></code>	VLAN ID	Range: 1 ~ 4094

Mode Any mode

Example The following example describes how to use show port-location pppoe-plus command.

```

9806# show port-location pppoe-plus
Global PPPoE plus      : disable

```

Related Command port-location pppoe-plus

show port-location vbas

Syntax `show port-location vbas`

Purpose To show the VBAS information

Usage Guideline None

Mode Any mode

Example The following example describes how to use show port-location vbas command.

```

9806# show port-location vbas
PortLocationVbasEnable      : enable
PortLocationVbasMaxVlanNum  : 1
PortLocationVbasCurrentVlanNum : 1
VBAS enable vlan list      : 100

```

Related Command port-location vbas

show qos class

Syntax show qos class [*classname*]

Purpose To show QoS class

Parameter Description The following table provides parameter description:

Parameter	Description	Value
<i>classname</i>	QoS class name	String

It show all existing QoS classes without the class name parameter or shows a specific QoS class with the class name parameter.

Mode Any mode

Example The following example describes how to use show qos class command.

```
9806# show qos class
```

All existing class:

```
1                               : qosclass
2                               : test
```

Related Command qos class

show qos interface

Syntax show qos interface *slot/port* [vlan-translate | pvc *pvcid* | queue [*queueid*]]

Purpose To show the interface QoS information

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>slot</i>	Slot number	Range: 1 ~ 5
<i>port</i>	Port number	Range: 1 ~ 2 for Ethernet; 1 ~ 24 for ADSL; 1 ~ 16 for VDSL
vlan-translate	VLAN translate	-
pvc <i>pvcid</i>	PVC ID	Range: 1 ~ 7

Parameter	Description	Value
queue <i>queueid</i>	Queue ID	Range: 1 ~ 8

Mode Any mode

Example The following example describes how to use show qos interface command.

```
9806# show qos interface 2/1
COS0remarking          : 0
COS1remarking          : 1
COS2remarking          : 2
COS3remarking          : 3
COS4remarking          : 4
COS5remarking          : 5
COS6remarking          : 6
COS7remarking          : 7
Vlan-translate          : enable
Vlan-membership         : disable
```

Related Command qos def-cos
qos override-cos
qos vlan-membership

show qos mapping

Syntax show qos mapping

Purpose To show QoS (Quality of Service) mapping information

Usage None

Guideline

Mode Any mode

Example The following example describes how to use show qos mapping command.

```
9806# show qos mapping
Cos to queue(Network Side):
-----
Cos      0    1    2    3    4    5    6    7
Queue    1    2    3    4    5    6    7    8
```

Cos to queue(User Side):

Cos	0	1	2	3	4	5	6	7
Queue	1	2	3	4	5	6	7	8

Cos to Dscp:

Cos	0	1	2	3	4	5	6	7
Dscp	0	8	16	24	32	40	48	56

Dscp to Cos:

Dscp	0	1	2	3	4	5	6	7	8	9	10	11
12	13	14	15									
Cos	0	0	2	0	0	0	0	0	1	1	1	1
1	1	1	1									
Dscp	16	17	18	19	20	21	22	23	24	25	26	
27	28	29	30	31								
Dscp	32	33	34	35	36	37	38	39	40	41	42	43
44	45	46	47									
Cos	4	4	4	4	4	4	4	4	5	5	5	5
5	5	5	5									
Dscp	48	49	50	51	52	53	54	55	56	57	58	59
60	61	62	63									
Cos	6	6	6	6	6	6	6	6	7	7	7	7
7	7	7	7									

Related Command

qos-mapping

show qos policy

Syntax `show qos policy [policyname]`

Purpose To show QoS policy

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>policyname</i>	QoS policy name	String

Show all existing QoS polices without the *policyname* parameter or show a specific QoS policy with the *policyname* parameter.

Mode Any mode

Example The following example describes how to use show qos policy command.

```
9806>show qos policy
```

All existing policies:

```
-----
      policy name      class order
-----
1      test            restricted
-----
```

Related Command qos policy

show qos pvc2queue

Syntax show qos pvc2queue [slot *slot*]

Purpose To show PVC to queue mapping information

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
slot <i>slot</i>	Slot number	Range: 1 ~ 5

Mode Any mode

Example The following example describes how to use show pvc2queue command.

```
9806# show qos pvc2queue
```

Total number of ports enabled pvc-queue: 1

```
SLOT    PORT    PVC1    PVC2    PVC3    PVC4
```

```
-----
2        1        1        1        1        1
```

Related Command qos pvc2queue

show qos queue-number

Syntax show qos queue-number

Purpose To show the queue number of egress port

Usage None
Guideline

Mode Any mode

Example The following example describes how to use show qos queue-number command.

```
9806# show qos queue-number
Network Side: 8
User Side: 8
```

Related Command qos queue scheduler

show qos queue-scheduler

Syntax show qos queue-scheduler

Purpose To show user-side queue-scheduler

Usage None
Guideline

Mode Any mode

Example The following example describes how to use show qos queue-scheduler command.

```
9806# show qos queue-scheduler
Network Side:
    strict-priority
User Side:
    strict-priority & wrr
weight of queue 1: 0
weight of queue 2: 1
weight of queue 3: 2
weight of queue 4: 3
weight of queue 5: 4
weight of queue 6: 5
weight of queue 7: 6
weight of queue 8: 15
```

Related Command qos-queue-scheduler

show radius

Syntax show radius

Purpose To show RADIUS server information

Usage None

Guideline

Mode Any mode

Example The following example describes how to use show radius command.

```
9806# show radius
```

```
NO          IP                UDP-PORT    KEY
-----
0           10.61.84.66        1812        zte
```

Related Command radius-server

show rmon

Syntax show rmon {history {detail | general} slot/portlist bucketlist | statistics slot/portlist}

Purpose To show RMON information

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
history	RMON history	-
detail	Detail information	-
general	General information	-
slot/portlist	Interface list	Range: 5/1 ~ 5/2
bucketlist	Bucket list	Range: 1 ~ 12 for detail, 1 ~ 96 for general
statistics	RMON statistics	-

Mode Any mode

Example The following example describes how to use show rmon command.

```
9806# show rmon history detail 5/1 1
interface                               : 5/1
```

```

bucket                                     : 1
historyControlStatus                     : enable
EtherHistoryIntervalStart                 : 0
EtherHistoryOctets                        : 0
EtherHistoryPkts                          : 0
EtherHistoryBroadcastPkts                 : 0
EtherHistoryMulticastPkts                 : 0
EtherHistoryBandwidth                     : 0.0000 Mbits/s
9806# show rmon statistics 5/1
interface                                 : 5/1
EtherStatsOctets                          : 0
EtherStatsPkts                            : 0
EtherStatsBroadcastPkts                   : 0
EtherStatsMulticastPkts                   : 0

```

Related Command rmon

show running-config

Syntax **show running-config**

Purpose To show the current running configuration of the system

Usage None

Guideline

Mode Any mode

Example The following example describes how to show running-config command.

```

9806# show running-config
add-card VSTDC 1
add-card ASTEB 3
add-card VSTDC 4
end
configure
  add-vlan      2, 64-79, 88, 100-116, 200-216, 300, 400, 1001-1016, 4014
  adsl-profile  DEFFUL.PRF
  startup      adsl-profile  DEFFUL.PRF      cFastMaxTxRate 102400
              cInterMaxTxRate 102400
  startup      adsl2-profile  DEFFUL.PRF      rFastMaxTxRate 10240
              rInterMaxTxRate 10240

```

```

adsl-profile DEFFUL.PRF atuc-inp 1 atur-inp 1
vdsl2-profile FAST.PRF
startup vdsl2-profile FAST.PRF      zxStandardProfile
08000000 zxUs0Mask 80000000
vdsl2-profile TEST.PRF
startup vdsl2-profile TEST.PRF      XtuTransSysEna
2000200020800040 zxStandardProf
le 08000000 zxUs0Mask 80000000
vdsl2-alarm-profile NEW.PRF
vdsl2-alarm-profile TEST.PRF
vdsl2-chan-profile FAST.PRF
startup vdsl2-chan-profile FAST.PRF MinDataRateDs 32
MinDataRateUs 32 MinResDa
aRateDs 32 MinResDataRateUs 32 MaxDataRateDs 120000
MaxDataRateUs 120000 MinDat
RateLowPwrDs 32 MaxDelayDs 0 MaxDelayUs 0
MinProtectionDs 1 MinProtectionUs 1 M
xBerDs 3 MaxBerUs 3 UsDataRateDs 128 DsDataRateDs 128
UsDataRateUs 128 DsDataRa
eUs 128 ImaEnabled 0
vdsl2-chan-profile TEST.PRF
startup vdsl2-chan-profile TEST.PRF MinDataRateDs 32
MinDataRateUs 32 MinResDa
aRateDs 32 MinResDataRateUs 32 MaxDataRateDs 120000
MaxDataRateUs 120000 MinDat
RateLowPwrDs 32 MaxDelayDs 0 MaxDelayUs 0
MinProtectionDs 1 MinProtectionUs 1 M
xBerDs 3 MaxBerUs 3 UsDataRateDs 128 DsDataRateDs 128
UsDataRateUs 128 DsDataRa
eUs 128 ImaEnabled 0
vdsl2-chan-alarm-profile TEST.PRF
startup vdsl2-mode-spec FAST.PRF 2 PsdMaskSelectUs 3
PsdMaskSelectDs 9
startup vdsl2-mode-spec FAST.PRF 3 PsdMaskSelectUs 3
PsdMaskSelectDs 9
startup vdsl2-mode-spec FAST.PRF 4 PsdMaskSelectUs 3
PsdMaskSelectDs 9
startup vdsl2-mode-spec FAST.PRF 5 PsdMaskSelectUs 28
PsdMaskSelectDs 9
startup vdsl2-mode-spec FAST.PRF 6 PsdMaskSelectUs 28
PsdMaskSelectDs 9
startup vdsl2-mode-spec FAST.PRF 7 PsdMaskSelectUs 3
PsdMaskSelectDs 9

```

```
startup vdsl2-mode-spec TEST.PRF 2 PsdMaskSelectUs 3
PsdMaskSelectDs 9

startup vdsl2-mode-spec TEST.PRF 3 PsdMaskSelectUs 3
PsdMaskSelectDs 9

startup vdsl2-mode-spec TEST.PRF 4 PsdMaskSelectUs 3
PsdMaskSelectDs 9

startup vdsl2-mode-spec TEST.PRF 5 PsdMaskSelectUs 28
PsdMaskSelectDs 9

startup vdsl2-mode-spec TEST.PRF 6 PsdMaskSelectUs 28
PsdMaskSelectDs 9

startup vdsl2-mode-spec TEST.PRF 7 PsdMaskSelectUs 3
PsdMaskSelectDs 9

vdsl2-template FAST.PRF

startup vdsl2-template FAST.PRF LineProfile FAST.PRF
Chan1ConfProfile FAST.PR

Chan2ConfProfile FAST.PRF Chan3ConfProfile FAST.PRF
Chan4ConfProfile FAST.PRF

vdsl2-template TEST.PRF

Press any key to continue (Q to quit)
```

Related Command copy running-config network

show save-interval

Syntax show save-interval

Purpose To show save interval configuration

Usage Guideline None

Mode Any mode

Example The following example describes how to use show save-interval command.

```
9806# show save-interval
SaveInterval                                : disable
```

Related Command save-interval

show snmp

Syntax show snmp

Purpose To show SNMP information

Usage Guideline	None
Mode	Any mode
Example	The following example describes how to use show snmp command. <pre>9806# show snmp 1 10.61.84.66 Community AccessLevel ----- 1 private rw 2 public rw</pre>
Related Command	snmp-server show sntp
Syntax	show sntp
Purpose	To show configured SNTP (Simple Networking Time Protocol) information
Usage Guideline	None
Mode	Any mode
Example	The following example describes how to use show sntp command. <pre>9806# show sntp NTP Status : enable Request Interval : 64 Time Zone : -12 Server(configured) : 10.61.87.87 Stratum : 16 Clock Status : unsynchronized</pre>
Related Command	sntp enable sntp interval sntp server sntp time-zone

show spanning-tree

Syntax	show spanning-tree																																								
Purpose	To show spanning tree protocol configuration																																								
Usage	None																																								
Guideline																																									
Mode	Any mode																																								
Example	The following example describes how to use show spanning-tree command. <pre>9806# show spanning-tree</pre> <table><tr><td>SpanTree</td><td>: disable</td></tr><tr><td>RapidSpanTree</td><td>: disable</td></tr><tr><td>BridgeFwdDelay</td><td>: 15000 ms</td></tr><tr><td>BridgeHelloTime</td><td>: 2000 ms</td></tr><tr><td>BridgeMaxAge</td><td>: 20000 ms</td></tr><tr><td>StpPriority</td><td>: 32768</td></tr><tr><td>RstpForceVersion</td><td>: rstp-only</td></tr><tr><td>RstpTxHoldCount</td><td>: 3</td></tr><tr><td>RstpDefaultCost</td><td>: short</td></tr><tr><td>RstpPriority</td><td>: 32768</td></tr><tr><td>DesignatedRoot</td><td>: 00 00 00 00 00 00 00 00</td></tr><tr><td>Forwardtime</td><td>: 0 ms</td></tr><tr><td>HelloTime</td><td>: 0 ms</td></tr><tr><td>HoldTime</td><td>: 1000 ms</td></tr><tr><td>MaxAge</td><td>: 0 ms</td></tr><tr><td>ProSpec</td><td>: ieee8021d/ieee8021w</td></tr><tr><td>RootCost</td><td>: 0</td></tr><tr><td>RootPort</td><td>: 0</td></tr><tr><td>TopChanges</td><td>: 0</td></tr><tr><td>TimeSinceTopoChg</td><td>: 0 ms</td></tr></table>	SpanTree	: disable	RapidSpanTree	: disable	BridgeFwdDelay	: 15000 ms	BridgeHelloTime	: 2000 ms	BridgeMaxAge	: 20000 ms	StpPriority	: 32768	RstpForceVersion	: rstp-only	RstpTxHoldCount	: 3	RstpDefaultCost	: short	RstpPriority	: 32768	DesignatedRoot	: 00 00 00 00 00 00 00 00	Forwardtime	: 0 ms	HelloTime	: 0 ms	HoldTime	: 1000 ms	MaxAge	: 0 ms	ProSpec	: ieee8021d/ieee8021w	RootCost	: 0	RootPort	: 0	TopChanges	: 0	TimeSinceTopoChg	: 0 ms
SpanTree	: disable																																								
RapidSpanTree	: disable																																								
BridgeFwdDelay	: 15000 ms																																								
BridgeHelloTime	: 2000 ms																																								
BridgeMaxAge	: 20000 ms																																								
StpPriority	: 32768																																								
RstpForceVersion	: rstp-only																																								
RstpTxHoldCount	: 3																																								
RstpDefaultCost	: short																																								
RstpPriority	: 32768																																								
DesignatedRoot	: 00 00 00 00 00 00 00 00																																								
Forwardtime	: 0 ms																																								
HelloTime	: 0 ms																																								
HoldTime	: 1000 ms																																								
MaxAge	: 0 ms																																								
ProSpec	: ieee8021d/ieee8021w																																								
RootCost	: 0																																								
RootPort	: 0																																								
TopChanges	: 0																																								
TimeSinceTopoChg	: 0 ms																																								

The following table shows parameter explanation of the example.

Parameters	Description
SpanTree	Spanning tree status (enable/disable)
Rapid SpanTree	Rapid Spanning tree status (enable/disable)
BridgeFwdDelay	Bridge forward delay(s)

Parameters	Description
BridgeHelloTime	Bridge hello time (s)
BridgeMaxAge	Bridge maximum aging time
StpPriority	STP priority from 0 to 65536
RstpForceVersion	Rapid-spanning-tree force-version
RstpTxHoldCount	Rapid-spanning-tree tx_hold_count (3)
RstpDefaultCost	Rapid-spanning-tree default-cost (short)
RstpPriority	rapid-spanning-tree priority (32768)
DesignatedRoot	DesignatedRoot of the bridge
Forwardtime	Forward time, default is 1500 (unit:10 ms)
HelloTime	Hello time, default is 200(unit: 10ms)
HoldTime	Spanning-tree hold time (1000 ms)
MaxAge	Maximum aging-time, default is 2000 (unit:10 ms)
ProSpec	STP trunking
RootCost	Root cost (0)
RootPort	Root port (0)
TopChanges	Topology changes (0)
TimeSinceTopoChg	Time since topology changed (0 ms)

Related Command

spanning-tree classic-stp enable
 spanning-tree classic-stp priority
 spanning-tree rapid-stp default-cost
 spanning-tree rapid-stp force-version
 spanning-tree rapid-stp priority
 spanning-tree rapid-stp tx-hold-count
 spanning-tree rapid-stp enable
 spanning-tree timer
 spanning-tree timer hello-time
 spanning-tree timer max-age
 spanning-tree timer forward-time
 spanning-tree disable

show spanning tree interface

Syntax `show spanning-tree interface slot/port`

Purpose To show the spanning tree information of a port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>slot</i>	Slot number	5
<i>port</i>	Port number	Range: 1 ~ 2

Mode Any mode

Example The following example describes how to use show spanning-tree interface command.

```
9806# show spanning-tree interface 5/1
Interface                                     : 5/1
ProtocolEnable                               : disable
StpPortPriority                               : 128
StpPortPathCost                              : 10
RstpPortPriority                             : 128
RstpAdminPortPoint2Point                     : auto
RstpAdminPortCost                            : 0
RstpAdminPortEdgePort                       : disable
RstpPortProtocolMigration                    : disable
RstpPortPacketType                           : CISCO_TYPE
RstpPortPathCost                             : 4
PortState                                    : Forwarding
DesignatedCost                               : 0
DesignatedBdg                                : 00 00 00 00
00 00 00 00
DesignatedPort                               : 00 00
DesignatedRoot                               : FF FF FF FF
FF FF FF FF
ForwardTrans                                 : 1
RstpOperPortPoint2Point                      : true
RstpOperPortEdgePort                        : disable
9806#
```

Related Command

```
spanning-tree classic-stp enable
spanning-tree classic-stp priority
spanning-tree rapid-stp default-cost
spanning-tree rapid-stp force-version
spanning-tree rapid-stp priority
spanning-tree rapid-stp tx-hold-count
spanning-tree rapid-stp enable
spanning-tree timer
spanning-tree timer hello-time
spanning-tree timer max-age
spanning-tree timer forward-time
spanning-tree disable
```

show ssh

Syntax `show ssh`

Purpose To show SSH (Security Shell) information

Usage Guideline None

Mode Any mode

Example The following example describes how to use `show ssh` command.

```
9806# show ssh
ssh server           : disable
ssh authmode         : local
ssh authtype         : chap
ssh only             : disable
ssh version          : sshv1
```

Related Command `ssh-server`

show startup-config

Syntax `show startup-config`

Purpose To show the startup configuration

Usage Guideline None

Mode Any mode

None

Example The following example describes how to use show startup-config command.

```
9806# show startup-config
-----The information of basic configuration file-----
version=9806 main-csc-card=05
add-card ASTEB 1
add-card ASTEB 3
add-card VSTDC 4
end
configure
  add-vlan      2,64-79,88,100-116,200-216,300,400,1001-1016,4014
  adsl-profile DEFFUL.PRF
  startup  adsl-profile DEFFUL.PRF      cFastMaxTxRate 102400 cInterMaxTxRate 102400
  startup  adsl2-profile DEFFUL.PRF     rFastMaxTxRate 10240 rInterMaxTxRate 10240
  adsl-profile DEFFUL.PRF atuc-inp 1 atur-inp 1
  vdsl2-profile FAST.PRF
  startup  vdsl2-profile FAST.PRF      zxStandardProfile 08000000 zxUs0Mask 80000000
  vdsl2-profile TEST.PRF
  startup  vdsl2-profile TEST.PRF      zxStandardProfile 08000000 zxUs0Mask 80000000
  vdsl2-alarm-profile NEW.PRF
  vdsl2-chan-profile FAST.PRF
  startup  vdsl2-chan-profile FAST.PRF MinDataRateDs 32 MinDataRateUs 32 MinResDat
aRateDs 32 MinResDataRateUs 32 MaxDataRateDs 120000 MaxDataRateUs 120000 MinData
RateLowPwrDs 32 MaxDelayDs 0 MaxDelayUs 0
MinProtectionDs 1 MinProtectionUs 1 Ma
xBerDs 3 MaxBerUs 3 UsDataRateDs 128 DsDataRateDs 128
UsDataRateUs 128 DsDataRat
eUs 128 ImaEnabled 0
  startup  vdsl2-mode-spec FAST.PRF 2 PsdMaskSelectUs 3 PsdMaskSelectDs 9
  startup  vdsl2-mode-spec FAST.PRF 3 PsdMaskSelectUs 3 PsdMaskSelectDs 9
  startup  vdsl2-mode-spec FAST.PRF 4 PsdMaskSelectUs 3 PsdMaskSelectDs 9
```

```

startup vdsl2-mode-spec FAST.PRF 5 PsdMaskSelectUs 28
PsdMaskSelectDs 9

startup vdsl2-mode-spec FAST.PRF 6 PsdMaskSelectUs 28
PsdMaskSelectDs 9

startup vdsl2-mode-spec FAST.PRF 7 PsdMaskSelectUs 3
PsdMaskSelectDs 9

startup vdsl2-mode-spec TEST.PRF 2 PsdMaskSelectUs 3
PsdMaskSelectDs 9

startup vdsl2-mode-spec TEST.PRF 3 PsdMaskSelectUs 3
PsdMaskSelectDs 9

startup vdsl2-mode-spec TEST.PRF 4 PsdMaskSelectUs 3
PsdMaskSelectDs 9

startup vdsl2-mode-spec TEST.PRF 5 PsdMaskSelectUs 28
PsdMaskSelectDs 9

startup vdsl2-mode-spec TEST.PRF 6 PsdMaskSelectUs 28
PsdMaskSelectDs 9

startup vdsl2-mode-spec TEST.PRF 7 PsdMaskSelectUs 3
PsdMaskSelectDs 9

vdsl2-template FAST.PRF

startup vdsl2-template FAST.PRF LineProfile FAST.PRF
Chan1ConfProfile FAST.PRF

Chan2ConfProfile FAST.PRF Chan3ConfProfile FAST.PRF
Chan4ConfProfile FAST.PRF

modem-vlan

ip host 10.61.90.54 255.255.252.0

ip modem 192.168.2.2 255.255.255.0

ip route 0.0.0.0 0.0.0.0 10.61.91.254 name "ZTEROUTE"

mac inband 00:D0:D0:81:94:E7

mac outband 00:D0:D0:13:43:25

port-location access-node-identify hostname

port-location dhcp-option82 enable

Press any key to continue (Q to quit)

```

Related Command copy startup-config network

show svlan

Syntax show svlan

Purpose To show SVLAN information of the system, including STPID and CTPID

Usage Guideline None

Usage None
Guideline

Mode Any mode

Example The following example describes how to use show temperature-check command.

```
9806# show temperature-check
Sys Temperature Check Status      : Enabled
High Temperature Threshold        : 70
Current temperaturtrue             : 29
Fan 1                             : Running
Fan 2                             : Running
```

Related commands temperature-check

show time

Syntax show time

Purpose To show time of the system

Usage None
Guideline

Mode Any mode

Example The following example describes how to use show time command.

```
9806# show time
SysTime: 2007-06-22, 14:39:55
```

Related command sntp time-zones

show uaps

Syntax show uaps

Purpose To show UAPS (Uplink Automatic Protection Switching) information

Usage None
Guideline

Mode Any mode

Example The following example describes how to use show uaps command.

```
9806# show uaps
Uplink-mode       : uaps
Master-port       : 5/1
ProtectTime       : 300s
RevertiveEnable   : disable
UapsStatus        : master port is used
LinkStatus        : both down
ProtectStatus     : no protect
SwapRequestStatus : no swap-req saved
SwapReason        : no swap request
```

Related Command uaps

show uplink-mode

Syntax `show uplink-mode`

Purpose To show current uplink mode

Usage None

Guideline

Mode Any mode

Example The following example describes how to use show up-link command.

```
9806# show uplink-mode
Uplink-mode       : uaps
Master-port       : 5/1
```

Related Command uplink-mode

show users

Syntax `show users`

Purpose To show all user information

Usage None

Guideline

Mode Any mode

Example The following example describes how to use show users command.

```
9806# show users
```

Username	Password	AccessLevel
admin	*****	administrator

Related Command add user

show vdsl2 15min-init

Syntax **show vdsl2 15min-init** *slot/port*

Purpose To show VDSL2 initialization information in 15 minutes

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>slot</i>	Slot number	Range: 1 ~ 4
<i>port</i>	Port number	Range: 1 ~ 16

Mode Any mode

Example The following example describes how to use show vdsl2 15min-init command.

```
9806# show vdsl2 15min-init 1/11
```

```
VDSL2 Line15minInit Table      :
PMLHistInit15MMonitoredTime    : 0
PMLHistInit15MFullInits        : 0
PMLHistInit15MFailedFullInits  : 0
PMLHistInit15MShortInits       : 0
PMLHistInit15MFailedShortInits : 0
PMLHistInit15MValidInterval    : N/A
```

The following table shows parameter explanation of the example.

Parameter	Description
PMLHistInit15MMonitoredTime	Monitored Time in 15 minutes interval
PMLHistInit15MFullInits	Full initializations in 15 minutes interval
PMLHistInit15MFailedFullInits	Full initializations failures in 15 minutes interval
PMLHistInit15MShortInits	Short initializations in 15 minutes interval
PMLHistInit15MFailedShortInits	Short initializations failures in 15 minutes interval

Parameter	Description
PMLHistInit15MValidInterval	Data in 15 minutes interval valid

Related Command `show vdsl2 1day-init`

show vdsl2 15min-interval

Syntax `show vdsl2 15min-interval slot/port`

Purpose To show VDSL2 performance information in 15 minutes

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>slot</i>	Slot number	Range: 1 ~ 4
<i>port</i>	Port number	Range: 1 ~ 16

Mode Any mode

Example The following example describes how to use `show vdsl2 15min-interval` command.

```
9806# show vdsl2 15min-interval 1/11
```

```
VDSL2 XtucLine15min Table      :
```

```
PMLHist15MMonitoredTime      : 0
PMLHist15MFecs                : 0
PMLHist15MEs                 : 0
PMLHist15MSes                : 0
PMLHist15MLoss               : 0
PMLHist15MUas                : 0
PMLHist15MValidInterval      : N/A
```

```
VDSL2 XturLine15min Table     :
```

```
PMLHist15MMonitoredTime      : 0
PMLHist15MFecs                : 0
PMLHist15MEs                 : 0
PMLHist15MSes                : 0
PMLHist15MLoss               : 0
PMLHist15MUas                : 0
PMLHist15MValidInterval      : N/A
```

The following table shows parameter explanation of the example.

Parameter	Description
PMLHist15MMonitoredTime	Monitored time in 15 minutes interval
PMLHist15MFecs	Forward error correction in 15 minutes interval
PMLHist15MEs	Error seconds in 15 minutes interval
PMLHist15MSes	Severe error seconds in 15 minutes interval
PMLHist15MLoss	Signal loss seconds in 15 minutes interval
PMLHist15MUas	Unavailable seconds in 15 minutes interval
PMLHist15MValidInterval	Data in 15 minutes interval valid or not

Related Command show vdsl2 1day-interval

show vdsl2 1day-init

Syntax show vdsl2 1day-init *slot/port*

Purpose To show VDSL2 initialization information in one day

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>slot</i>	Slot number	Range: 1 ~ 4
<i>port</i>	Port number	Range: 1 ~ 16

Mode Any mode

Example The following example describes how to use show vdsl2 1day-init command.

```
9806# show vdsl2 1day-init 1/11
```

VDSL2 Line1dayInit Table :

```
PMLHistinit1DMonitoredTime      : 0
PMLHistinit1DFullInits           : 0
PMLHistinit1DFailedFullInits     : 0
PMLHistinit1DShortInits          : 0
```

```
PMLHistinit1DFailedShortInits      : 0
PMLHistinit1DValidInterval          : N/A
```

Please refer to command `show vdsl2 15min-init` for parameter explanation of the example.

Related Command `show vdsl2 15min-init`

show vdsl2 1day-interval

Syntax `show vdsl2 1day-interval slot/port`

Purpose To show VDSL2 performance information in one day

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>slot</i>	Slot number	Range: 1 ~ 4
<i>port</i>	Port number	Range: 1 ~ 16

Mode Any mode

Example The following example describes how to use `show vdsl2 1day-interval` command.

```
9806# show vdsl2 1day-interval 1/11
```

```
VDSL2 XtucLine1day Table      :
PMLHist1DMonitoredTime        : 0
PMLHist1DFecs                  : 0
PMLHist1DEs                    : 0
PMLHist1DSes                   : 0
PMLHist1DLoss                  : 0
PMLHist1DUas                   : 0
PMLHist1DValidInterval        : N/A
```

```
VDSL2 XturLine1day Table     :

PMLHist1DMonitoredTime        : 0
PMLHist1DFecs                  : 0
PMLHist1DEs                    : 0
PMLHist1DSes                   : 0
```

```

PMLHist1DLoss           : 0
PMLHist1DUas            : 0
PMLHist1DValidInterval   : N/A

```

Please refer to command `show vdsl2 15min-interval` for parameter explanation of the example.

Related Command `show vdsl2 15min-interval`

show vdsl2 alarm-profile

Syntax `show vdsl2 alarm-profile [filename]`

Purpose To show existing VDSL2 alarm profile

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>filename</i>	Alarm profile file name	string

Without the `filename` parameter, it shows all alarm profile information. With the `filename` parameter, it displays the content of specified alarm profile. The extension of the file is *.prf

Mode Any mode

Example The following examples describe how to use `show vdsl2 alarm-profile` command.

- Show all existing alarm profiles.

```

9806# show vdsl2 alarm-profile
All Existing alarm profiles      :
1                               : DEFVAL.PRF
2                               : NEW.PRF
3                               : TEST.PRF
9806#

```

- Show the detail information of alarm profile test.

```

9806# show vdsl2 alarm-profile test.prf
xdsl2LineAlarmConfProfileXtucThresh15MinFecs      : 20
xdsl2LineAlarmConfProfileXtucThresh15MinEs        : 0
xdsl2LineAlarmConfProfileXtucThresh15MinSes       : 5
xdsl2LineAlarmConfProfileXtucThresh15MinLoss      : 0
xdsl2LineAlarmConfProfileXtucThresh15MinUas       : 0
xdsl2LineAlarmConfProfileXturThresh15MinFecs      : 0

```

```

xdsl2LineAlarmConfProfileXturThresh15MinEs      : 0
xdsl2LineAlarmConfProfileXturThresh15MinSes      : 0
xdsl2LineAlarmConfProfileXturThresh15MinLoss     : 0
xdsl2LineAlarmConfProfileXturThresh15MinUas      : 0
xdsl2LineAlarmConfProfileThresh15MinFailedFullInt :
0
xdsl2LineAlarmConfProfileThresh15MinFailedShrtInt :
0

```

Please refer to command `vdsl2-alarm-profile` for parameter explanation of the example.

Related command `vdsl2-alarm-profile`

show vdsl2 alarm-template

Syntax `show vdsl2 alarm-template [templatename]`

Purpose To show existing VDSL2 alarm template

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>templatename</i>	Alarm template name	String

Without the *templatename* parameter, it shows all alarm template information. With the *templatename* parameter, it displays the content of specified alarm template.

Mode Any mode

Example The following examples describe how to use `show vdsl2 alarm-template` command.

- Show all existing alarm templates.

```
9806# show vdsl2 alarm-template
```

```

All Existing alarm templates      :
1                                : DEFVAL.PRF
2                                : TEST.PRF

```

- Show the detail information of alarm template test.

```
9806# show vdsl2 alarm-template test
```

```

xdsl2LAlarmConfTempLineProfile   : TEST.PRF
xdsl2LAlarmConfTempChan1ConfProfile : TEST.PRF
xdsl2LAlarmConfTempChan2ConfProfile : TEST.PRF

```

```

xDSL2LAlarmConfTempChan3ConfProfile      : TEST.PRF
xDSL2LAlarmConfTempChan4ConfProfile      : TEST.PRF

```

Related command vdsl2-alarm-template

show vdsl2 chan-15min-interval

Syntax **show vdsl2 chan-15min-interval** *slot/port*

Purpose To show VDSL2 channel performance information in 15 minutes

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>slot</i>	Slot number	Range: 1 ~ 4
<i>port</i>	Port number	Range: 1 ~ 16

Mode Any mode

Example The following example describes how to use show vdsl2 chan-15min-interval command.

```
9806# show vdsl2 chan-15min-interval 1/11
```

VDSL2 XtucChan15min Table :

```

PMChHist15MMonitoredTime      : 0
PMChHist15MCodingViolations   : 0
PMChHist15MCorrectedBlocks    : 0
PMChHist15MValidInterval      : N/A

```

VDSL2 XturChan15min Table :

```

PMChHist15MMonitoredTime      : 0
PMChHist15MCodingViolations   : 0
PMChHist15MCorrectedBlocks    : 0
PMChHist15MValidInterval      : N/A

```

The following table shows parameter explanation of the example.

Parameter	Description
PMChHist15MMonitoredTime	Monitored time in 15 minutes interval
PMChHist15MCodingViolations	Coding violations in 15 minutes interval

Parameter	Description
PMChHist15MCorrectedBlocks	Corrected blocks in 15 minutes interval
PMChHist15MValidInterval	Data in 15 minutes interval valid or not

Related Command `show vdsl2 chan-1day-interval`

show vdsl2 chan-1day-interval

Syntax `show vdsl2 chan-1day-interval slot/port`

Purpose To show VDSL2 channel performance information in one day

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>slot</i>	Slot number	Range: 1 ~ 4
<i>port</i>	Port number	Range: 1 ~ 16

Mode Any mode

Example The following example describes how to use `show vdsl2 chan-1day-interval` command.

```
9806# show vdsl2 chan-1day-interval 1/11
```

```
VDSL2 XtucChan1day Table      :
PMChHist1DMonitoredTime       : 0
PMChHist1DCodingViolations    : 0
PMChHist1DCorrectedBlocks     : 0
PMChHist1DValidInterval       : N/A
```

```
VDSL2 XturChan1day Table     :

PMChHist1DMonitoredTime       : 0
PMChHist1DCodingViolations    : 0
PMChHist1DCorrectedBlocks     : 0
PMChHist1DValidInterval       : N/A
```

Please refer to command `show vdsl2 chan-15min-interval` for parameter explanation of the example.

Related Command `show vdsl2 chan-15min-interval`

show vdsl2 chan-alarm-profile

Syntax `show vdsl2 chan-alarm profile [filename]`

Purpose To show existing VDSL2 channel alarm profile

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>filename</i>	Alarm profile file name	String

Without the filename parameter, it shows all channel alarm profile information. With the filename parameter, it displays the content of specified channel alarm profile. The extension of the file is *.prf.

Mode Any mode

Example The following examples describe how to use show vdsl2 chan-alarm profile command.

- Show all existing channel alarm profiles.

```
9806# show vdsl2 chan-alarm-profile
```

```
All Existing Channel Alarm Profiles      :
```

```
1                                         : DEFVAL.PRF
```

```
2                                         : TEST.PRF
```

```
9806#
```

- Show the detailed information of channel alarm profile test3.

```
9806# show vdsl2 chan-alarm-profile test
```

```
xdsl2ChAlarmConfProfileXtucThresh15MinCodingViolations  
: 50
```

```
xdsl2ChAlarmConfProfileXtucThresh15MinCorrected      : 0
```

```
xdsl2ChAlarmConfProfileXturThresh15MinCodingViolations  
: 20
```

```
xdsl2ChAlarmConfProfileXturThresh15MinCorrected      : 0
```

```
9806#
```

Please refer to command vdsl2-chan-alarm-profile for parameter explanation of the example.

Related command vdsl2-chan-alarm-profile

show vdsl2 chan-curr

Syntax `show vdsl2 chan-curr slot/port`

Purpose To show VDSL2 channel current information

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>slot</i>	Slot number	Range: 1 ~ 4
<i>port</i>	Port number	Range: 1 ~ 16

Mode Any mode

Example The following example describes how to use `show vdsl2 chan-curr` command.

```
9806# show vdsl2 chan-curr 1/11
```

VDSL2 XtucLineChanCurrent Table :

```
PMChCurrValidIntervals           : 1
PMChCurrInvalidIntervals         : 0
PMChCurr15MTimeElapsed           : 0
PMChCurr15MCodingViolations      : 0
PMChCurr15MCorrectedBlocks       : 0
PMChCurr1DayValidIntervals       : 256
PMChCurr1DayInvalidIntervals     : 0
PMChCurr1DayTimeElapsed          : 0
PMChCurr1DayCodingViolations     : 0
PMChCurr1DayCorrectedBlocks      : 0
```

VDSL2 XturLineChanCurrent Table :

```
PMChCurrValidIntervals           : 1
PMChCurrInvalidIntervals         : 0
PMChCurr15MTimeElapsed           : 0
PMChCurr15MCodingViolations      : 0
PMChCurr15MCorrectedBlocks       : 0
PMChCurr1DayValidIntervals       : 256
```

```

PMChCurr1DayInvalidIntervals      : 0
PMChCurr1DayTimeElapsed           : 0
PMChCurr1DayCodingViolations      : 0
PMChCurr1DayCorrectedBlocks       : 0

```

The following table shows parameter explanation of the example.

Parameter	Description
PMChCurrValidIntervals	Current valid intervals in 15 minutes
PMChCurrInvalidIntervals	Current invalid intervals in 15 minutes
PMChCurr15MTimeElapsed	Elapsed time in 15 current minutes
PMChCurr15MCodingViolations	Coding violations in current 15 minutes
PMChCurr15MCorrectedBlocks	Corrected blocks in current 15 minutes
PMChCurr1DayValidIntervals	Current valid intervals in one day
PMChCurr1DayInvalidIntervals	Current invalid intervals in one day
PMChCurr1DayTimeElapsed	Elapsed time in current one day
PMChCurr1DayCodingViolations	Coding violations in current one day
PMChCurr1DayCorrectedBlocks	Corrected blocks in current one day

Related Command `show vdsl2 chan-1day-interval`

show vdsl2 chan-status

Syntax `show vdsl2 chan-curr slot/port`

Purpose To show VDSL2 channel status information

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>slot</i>	Slot number	Range: 1 ~ 4
<i>port</i>	Port number	Range: 1 ~ 16

Mode Any mode

Example The following example describes how to use show vdsl2 chan-status command.

```
9806# show vdsl2 chan-status 1/11
```

VDSL2 XtucChannelStatusEntry Table :

```
ChStatusChannelNum          : 1
ChStatusActDataRate          : 79934
ChStatusPrevDataRate         : 0
ChStatusActDelay             : 5
ChStatusAtmStatus            : noFailure
ChStatusPtmStatus            : noFailure
ChStatusActProtection        : singleSymbol (3)
```

VDSL2 XturChannelStatusEntry Table :

```
ChStatusChannelNum          : 1
ChStatusActDataRate          : 19980
ChStatusPrevDataRate         : 0
ChStatusActDelay             : 4
ChStatusAtmStatus            : noFailure
ChStatusPtmStatus            : noFailure
ChStatusActProtection        : singleSymbol
(3)
```

The following table shows parameter explanation of the example.

Parameter	Description
ChStatusChannelNum	Channel number
ChStatusActDataRate	Actual data rate
ChStatusPrevDataRate	Previous data rate
ChStatusActDelay	Actual delay
ChStatusAtmStatus	ATM status
ChStatusPtmStatus	PTM status
ChStatusActProtection	Actual protection

Related Command show vdsl2 chan-1day-interval

show vdsl2 curr

Syntax `show vdsl2 curr slot/port`

Purpose To show VDSL2 current information

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>slot</i>	Slot number	Range: 1 ~ 4
<i>port</i>	Port number	Range: 1 ~ 16

Mode Any mode

Example The following example describes how to use show vdsl2 curr command.

```
9806# show vdsl2 curr 1/11
```

VDSL2 XtucLineCurrent Table :

```

CurrValidIntervals           : 2
CurrInvalidIntervals         : 0
Curr15MTimeElapsed           : 20
Curr15MFecs                   : 0
Curr15MEs                     : 0
Curr15MSes                    : 0
Curr15MLoss                   : 0
Curr15MUas                    : 0
Curr1DayValidIntervals        : 1
Curr1DayInvalidIntervals      : 0
Curr1DayTimeElapsed           : 0
Curr1DayFecs                   : 0
Curr1DayEs                    : 3840
Curr1DaySes                   : 3840
Curr1DayLoss                   : 3840
Curr1DayUas                    : 3840

```

VDSL2 XturLineCurrent Table :

```

CurrValidIntervals           : 2
CurrInvalidIntervals         : 0

```

```

Curr15MTimeElapsed           : 20
Curr15MFecs                   : 0
Curr15MEs                     : 0
Curr15MSes                    : 0
Curr15MLoss                   : 0
Curr15MUas                    : 0
Curr1DayValidIntervals        : 1
Curr1DayInvalidIntervals      : 0
Curr1DayTimeElapsed           : 0
Curr1DayFecs                  : 0
Curr1DayEs                    : 3840
Curr1DaySes                   : 3840
Curr1DayLoss                  : 3840
Curr1DayUas                   : 3840

```

The following table shows parameter explanation of the example.

Parameter	Description
CurrValidIntervals	Current valid intervals in 15 minutes
CurrInvalidIntervals	Current invalid intervals in 15 minutes
Curr15MTimeElapsed	Elapsed time in 15 minutes
Curr15MFecs	Current forward error correction in 15 minutes interval
Curr15MEs	Current error seconds in 15 minutes interval
Curr15MSes	Current severe error seconds in 15 minutes interval
Curr15MLoss	Current signal loss seconds in 15 minutes interval
Curr15MUas	Current unavailable seconds in 15 minutes interval
Curr1DayValidIntervals	Current valid intervals in one day
Curr1DayInvalidIntervals	Current invalid intervals in one day
Curr1DayTimeElapsed	Elapsed time in one day
Curr1DayFecs	Current forward error correction in one day interval
Curr1DayMEs	Current error seconds in one day interval

Parameter	Description
Curr1DaySes	Current severe error seconds in one day interval
Curr1DayLoss	Current signal loss seconds in 15 minutes interval
Curr11DayUas	Current unavailable seconds in one day interval

Related Command show vdsl2 chan-1day-interval

show vdsl2 curr-init

Syntax show vdsl2 curr-init *slot/port*

Purpose To show VDSL2 current initialization information

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>slot</i>	Slot number	Range: 1 ~ 4
<i>port</i>	Port number	Range: 1 ~ 16

Mode Any mode

Example The following example describes how to use show vdsl2 curr-init command.

```
9806>show vdsl2 curr-init 1/11
VDSL2 LineCurrentInit Table :
CurrInit15MTimeElapsed           : 688
CurrInit15MFullInits              : 0
CurrInit15MFailedFullInits        : 0
CurrInit15MShortInits             : 0
CurrInit15MFailedShortInits       : 0
CurrInit1DayTimeElapsed           : 6988
CurrInit1DayFullInits             : 2
CurrInit1DayFailedFullInits       : 0
CurrInit1DayShortInits            : 0
CurrInit1DayFailedShortInits      : 0
```

The following table shows parameter explanation of the example.

Parameter	Description
-----------	-------------

Parameter	Description
CurrInit15MTimeElapsed	Elapsed time in 15 minutes
CurrInit15MFullInits	Current full initializations in 15 minutes interval
CurrInit15MFailedFullInits	Full initializations failures in 15 minutes interval
CurrInit15MShortInits	Short initializations in 15 minutes interval
CurrInit15MFailedShortInits	Short initializations failures in 15 minutes interval
CurrInit1DayTimeElapsed	Elapsed time in one day
CurrInit1DayFullInits	Current full initializations in one day interval
CurrInit1DayFailedFullInits	Full initializations failures in one day interval
CurrInit1DayShortInits	Short initializations in one day interval
CurrInit1DayFailedShortInits	Short initializations failures in one day interval

Related Command `show vdsl2 chan-1day-interval`

show vdsl2 inventory

Syntax `show vdsl2 inventory slot/port`

Purpose To show VDSL2 inventory
The following table provides parameter description:

Parameter	Description	Value
<i>slot</i>	Slot number	Range: 1 ~ 4
<i>port</i>	Port number	Range: 1 ~ 16

Mode Any mode

Example The following example describes how to use `show vdsl2 inventory` command.

```
9806# show vdsl2 inventory 1/11
```

```
VDSL2 XtucInterval Table      :
```

```
LInvG994VendorId              : 0x4d54
```

```
LInvSystemVendorId            : 0x4d54
```

```

LInvVersionNumber                : VE_9_3_9
LInvSerialNumber                  : 41 v09.03.09,
2007-04-10
LInvSelfTestResult                : 0
LInvTransmissionCapabilities      : Regional Std. (ANSI
T1.413) (F)
Regional Std. (ETSI
DTS/TM06006) (F)
G.992.1 POTS non-overlapped
(F)
G.992.3 POTS non-overlapped
(F)
G.992.3 ISDN non-overlapped
(F)
G.992.4 POTS non-overlapped
(L)
G.992.3 Annex I All-Digital
non-overlapped (F)
G.992.4 Annex I All-Digital
non-overlapped (L)
G.992.3 Annex L POTS non-
overlapped, mode 1, wide U/S
(F)
G.992.3 Annex L POTS non-
overlapped, mode 2,narrow U/S
(F)
G.992.3 Annex M POTS non-
overlapped (F)
G.992.5 POTS non-overlapped
(F)
G.992.5 ISDN non-overlapped
(F)
G.992.5 Annex I All-Digital
non-overlapped (F)
G.992.5 Annex M POTS non-
overlapped (F)
G.993.2 Region B (Europe)
(Annex B/G.993.2).

VDSL2 XturInterval Table      :

LInvG994VendorId                 : BDCM
LInvSystemVendorId                : BDCM
LInvVersionNumber                 : v09.03.05

```

```
LInvSerialNumber          :  
LInvSelfTestResult        : 0  
LInvTransmissionCapabilities : N/A.
```

The following table shows parameter explanation of the example.

Parameter	Description
LInvG994VendorId	G994 vendor ID
LInvSystemVendorId	System vendor ID
LInvVersionNumber	Version number
LInvSerialNumber	Serial number
LInvSelfTestResult	Self test result
LInvTransmissionCapabilities	Transmission capabilities

Related Command None

show vdsl2 line

Syntax `show vdsl2 line slot/port`

Purpose To show VDSL2 line information

The following table provides parameter description:

Parameter	Description	Value
<i>slot</i>	Slot number	Range: 1 ~ 4
<i>port</i>	Port number	Range: 1 ~ 16

Mode Any mode

Example The following example describes how to use show vdsl2 line command.

```
9806>show vdsl2 line 1/7  
XtuTransSys          :  
Vdsl2 TransSys        : G.993.2 Region B (Europe)  
(Annex B/G.993.2).  
Adsl TransSys         : N/A  
InitResult            : noFail  
Xtur                  : noDefect(0)  
Xtuc                  : noDefect(0)  
AttainableRateDs      : 87928  
AttainableRateUs      : 53684  
ActPsdDs              : 0
```

ActPsdUs : 0
 ActAtpDs : 111
 ActAtpUs : 92
 ActStandardPrf : g993_2_12A

The following table shows parameter explanation of the example.

Parameter	Description
InitResult	Initialization result
XtuTransSy	xTU transmission mode
Xtur	XTUR current state
Xtuc	XTUC current state
AttainableRateDs	Downstream attainable rate
AttainableRateUs	Upstream attainable rate
ActPsdDs	Downstream actual PSD
ActPsdUs	Upstream signal attenuation
ActAtpDs	Downstream actual transmission power
ActAtpUs	Upstream actual transmission power
ActStandardPrf	Actual standard profile

Related Command None

show vdsl2 line-band

Syntax **show vdsl2 line-band** *slot/port*

Purpose To show VDSL2 line-band information

The following table provides parameter description:

Parameter	Description	Value
<i>slot</i>	Slot number	Range: 1 ~ 4
<i>port</i>	Port number	Range: 1 ~ 16

Mode Any mode

Example The following example describes how to use show vdsl2 line-band command.

```
9806>show vdsl2 line-band 1/7
```

```
Table of upstream(1) :
```

```
LineBandStatusLnAtten : 35
```

```
LineBandStatusSigAtten : 34
```

LineBandStatusSnrMargin	: 77
Table of downstream(2)	:
LineBandStatusLnAtten	: 11
LineBandStatusSigAtten	: 8
LineBandStatusSnrMargin	: 94
Table of us0(3)	:
LineBandStatusLnAtten	: 11
LineBandStatusSigAtten	: 8
LineBandStatusSnrMargin	: -512
Table of ds1(4)	:
LineBandStatusLnAtten	: 6
LineBandStatusSigAtten	: 5
LineBandStatusSnrMargin	: -512
Table of us1(5)	:
LineBandStatusLnAtten	: 36
LineBandStatusSigAtten	: 35
LineBandStatusSnrMargin	: -512
Table of ds2(6)	:
LineBandStatusLnAtten	: 1023
LineBandStatusSigAtten	: 1023
LineBandStatusSnrMargin	: -512
Table of us2(7)	:
LineBandStatusLnAtten	: 35
LineBandStatusSigAtten	: 34
LineBandStatusSnrMargin	: 80
Table of ds3(8)	:
LineBandStatusLnAtten	: 40
LineBandStatusSigAtten	: 40
LineBandStatusSnrMargin	: 74
Table of us3(9)	:
LineBandStatusLnAtten	: 1023
LineBandStatusSigAtten	: 1023
LineBandStatusSnrMargin	: -512
Table of ds4(10)	:
LineBandStatusLnAtten	: 2147483647
LineBandStatusSigAtten	: 2147483647
LineBandStatusSnrMargin	: 2147483647
Table of us4(11)	:

```

LineBandStatusLnAtten      : 2147483647
LineBandStatusSigAtten     : 2147483647
LineBandStatusSnrMargin    : 2147483647

```

The following table shows parameter explanation of the example.

Parameter	Description
LineBandStatusLnAtten	Loopback diagnosis fail reason
LineBandStatusSigAtten	xTU transmission mode
LineBandStatusSnrMargin	Power management state

Related Command None

show vdsl2 service-profile

Syntax `show vdsl2 service-profile [filename]`

Purpose To show existing VDSL2 service profile

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>filename</i>	Service-profile file name	string

Without the filename parameter, it shows all profile information. With the filename parameter, it displays the content of specified profile. The extension of the file is *.prf

Mode Any mode

Example The following examples describe how to use show vdsl2 service-profile command.

- Show all existing service profiles.

```

9806# show vdsl2 service-profile
All Existing Service Profiles      :
1                                 : DEFVAL.PRF
2                                 : ZTE.PRF
9806#

```

- Show the detail information of service profile zte.

```

9806# show vdsl2 service-profile zte
ForceInp                : enable
RaModeDs                 : raInit

```

```

RaModeUs           : raInit
TargetSnrmDs       : 60
TargetSnrmUs       : 60
MaxSnrmDs          : 310
MaxSnrmUs          : 310
MinSnrmDs          : 0
MinSnrmUs          : 0
Ch1ProfMaxDataRateDs : 120000
Ch1ProfMaxDataRateUs : 120000
Ch1ProfMinDataRateDs : 32
Ch1ProfMinDataRateUs : 32
Ch1ProfMaxDelayDs   : 16
Ch1ProfMaxDelayUs   : 16
Ch1ProfMinProtectionDs : noProtection
Ch1ProfMinProtectionUs : noProtection

```

Please refer to command `vdsl2-service-profile` for parameter explanation of the example.

Related command `vdsl2-service-profile`

show vdsl2 status

Syntax `show vdsl2 status slot/port`

Purpose To show VDSL2 status

The following table provides parameter description:

Parameter	Description	Value
<i>slot</i>	Slot number	Range: 1 ~ 4
<i>port</i>	Port number	Range: 1 ~ 16

Mode Any mode

Example The following example describes how to use `show vdsl2 status` command.

```
9806(cfg-if-vdsl-1/2)# show vdsl2 status 1/11
```

Port 1/11:

```

BaseConfProfile           : DEFVAL.PRF
SrvConfProfile            : DEFVAL.PRF
DpboConfProfile           : DEFVAL.PRF

```

UpboConfProfile : DEFVAL.PRF
 AlarmConfProfile : DEFVAL.PRF
 DataPathType : ptm(2)

The following table shows parameter explanation of the example.

Parameter	Description
BaseConfProfile	Base configured profile
SrvConfProfile	Service configured profile
DpboConfProfile	Downstream Power Back-Off profile.
UpboConfProfile	Upstream Power Back-Off profile.
AlarmConfProfil	Alarm configured profile
DataPathType	Data path type

Related Command None

show vdsl2 dpbo-profile

Syntax **show vdsl2 dpbo-profile** [*filename*]

Purpose To show existing VDSL2 dpbo profile

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>filename</i>	DPBO profile file name	string

Without the filename parameter, it shows all profile information. With the filename parameter, it displays the content of specified profile. The extension of the file is *.prf

Mode Any mode

Example The following examples describe how to use show vdsl2 dpbo-profile command.

- Show all existing alarm profiles.

```
9806# show vdsl2 dpbo-profile
```

```
All Existing dpbo Profiles      :
1                               : DEFVAL.PRF
2                               : NEW.PRF
9806#
```

- Show the detail information of upbo profile new.

```
9806# show vdsl2 dpbo-profile new
```

```
DpboEPsd          : 00 01 78 00 20 78 00 21 50 00 FF
50 01 78 64 01
```

```
FF 67 02 00 A0 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
```

```
DpboEsEL          : 0
```

```
DpboEsCableModelA : 263
```

```
DpboEsCableModelB : 509
```

```
DpboEsCableModelC : 261
```

```
DpboMus           : 190
```

```
DpboFMin          : 32
```

```
DpboFMax          : 511
```

Please refer to command `vdsl2 dpbo-profile` for parameter explanation of the example.

Related command `vdsl2 dpbo-profile`

show vdsl2 upbo-profile

Syntax `show vdsl2 upbo-profile [filename]`

Purpose To show existing VDSL2 upbo profile.

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>filename</i>	UPBO-profile file name	string

Without the `filename` parameter, it shows all profile information. With the `filename` parameter, it displays the content of specified profile. The extension of the file is *.prf

Mode Any mode

Example The following examples describe how to use `show vdsl2 upbo-profile` command.

- Show all existing alarm profiles.

```
9806# show vdsl2 upbo-profile
```

```

All Existing Upbo Profiles      :
1                               : DEFVAL.PRF
2                               : NEW.PRF
9806#

```

- Show the detail information of upbo profile new.

```
9806# show vdsl2 upbo-profile new
```

```

UpboKL           : 0
UpboKLF          : disableUpbo
UpboU0bandPsdA   : 4000
UpboU0bandPsdB   : 0
UpboU1bandPsdA   : 5650
UpboU1bandPsdB   : 1020
UpboU2bandPsdA   : 5650
UpboU2bandPsdB   : 615
UpboU3bandPsdA   : 5650
UpboU3bandPsdB   : 615
UpboU4bandPsdA   : 4000
UpboU4bandPsdB   : 0

```

```
9806#
```

Please refer to command `vdsl2 upbo-profile` for parameter explanation of the example.

Related command

```
vdsl2 upbo-profile
```

show vdsl2 base-profile

Syntax `show vdsl2 base-profile [filename]`

Purpose To show existing VDSL2 base profile

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>filename</i>	Base profile file name	string

Without the filename parameter, it shows all profile information. With the filename parameter, it displays the content of specified profile. The extension of the file is *.prf

Mode Any mode

Example The following examples describe how to use show vdsl2 base-profile command.

- Show all existing base profiles.

```
9806# show vdsl2 base-profile
All Existing Base Profiles      :
1                               : DEFVAL.PRF
2                               : ZTE.PRF
9806#
```

- Show the detail information of base profile zte.

```
9806# show vdsl2 base-profile zte
Vdsl2 TransSys                : G.993.2 Region B (Europe)
(Annex B/G.993.2).
Adsl TransSys                 : Adsl2(fdm) Adsl2+(fdm)
G.dmt(fdm) ReAdsl2(fdm)
StandardProfile               : g993_2_12A
LimitMask                    : BP_B8_4 998-M2x-A
Us0Disable                   : enable
Us0Mask                      : None
RfiBandsDs                   :
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Vdsl2CarMask                 :
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
VdslMaxNomAtpDs              : 205
Need more detailed base profile parameters ? Y/N: [N]y
VdslMaxNomAtpUs              : 145
AdslMaxNomAtpDs              : 205
AdslMaxNomAtpUs              : 145
RaUsNrmDs                    : 90
RaUsNrmUs                     : 90
RaUsTimeDs                    : 60
```

```

RaUsTimeUs           : 60
RaDsNrmsDs           : 30
RaDsNrmsUs           : 30
RaDsTimeDs           : 60
RaDsTimeUs           : 60
PmMode               : none
L0Time               : 255
L2Time               : 255
L2Atpr               : 3
L2Atprt              : 31
PsdMaskDs            :
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
PsdMaskUs            :
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
BitswapDs            : enable
BitswapUs            : enable
SnrModeDs            : disable
SnrModeUs            : disable
TxRefVNDS            :
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
TxRefVNUs            :
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Ch1MinDataRateLowPwrDs : 128
9806#

```

Please refer to command `vds12-base-profile` for parameter explanation of the example.

Related command `vds12-base-profile`

show version

Syntax `show version [sccf]`

Purpose To show system version information

Usage Guideline Without SCCF parameter, it shows versions of all cards. With SCCF parameter, it shows version of SCCF card.

Mode Any mode

Example The following example describes how to use `show version` command.

```
9806# show version sccf
```

CardType	Type	VerNo	VerLen	Status
BuildTime	State	FileName		

SCCF	MVER	V1.2.0T2	3315936	VALID
20070814151700	active	sccfv.bin		
SCCF	BOOT	V1.2.0T2	374608	VALID
20070521165854	backup	BSCCF.bin		
SCCF	MVER	V1.2.0T2	3053785	VALID
20070620091851	backup	sccf.bin		

Related Command `activate-version`

show vlan

Syntax `show vlan [vlan-list]`

Purpose To show VLAN information of the system

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>vlan-list</i>	VLAN list	Range: 1 ~ 4094

Without the *vlan-list* parameter, it shows all existing VLANs. With the *vlan-list* parameter, it shows detail information of the specified VLAN.

Mode Any mode

Example The following examples describe how to use show vlan command.

- Show all exiting VLANs.

```
9806# show vlan
```

```
total number      : 72
```

```
-----
```

```
1-2, 64-79, 88, 100-116, 200-216, 300, 400, 1001-1016, 4014
```

- Show VLAN 1 information.

```
9806# show vlan 1
```

```
VLANID              : 1
```

```
VLANName             : VLAN1
```

SLOT	PVC	Egress/UnTag	PORTLIST

4		Egress	1-16
		UnTag	1-16

5		Egress	1-2
		UnTag	1-2

Related Command

add-vlan

user add

Syntax user add

Purpose To add a user in 9806H

Usage Guideline This command is used to add the users other than admin to login in 9806H.

This command provides the user access level such as read and read/write rights to the user.

Mode 9806#

Example The following example describes how to use user add command.

```
9806# user add
```

```
Please input username(len<=15):[ ]new
```

```
Please input password(len<=15):
```

```
Please input password again:
```

Please input access level(1-R,2-R/W):[2]1

Related Command user delete
user modify

user delete

Syntax user delete
Purpose To delete user other than admin
Usage Guideline None

Mode
9806#

Example The following example describes how to use user delete command.
9806# user delete new
9806#

Related Command modify user

user modify

Syntax user modify
Purpose To modify user information
Usage Guideline This command is used to modify the user information of 9806H such as user name and password.

Mode
9806#

Example The following example describes how to use user modify command.
9806# user modify
Please input your password:
Do you need modify your username: yes[Y] or no[N] [N]y
Please input new username(len<=15): [admin]admin
Do you need modify your password: yes[Y] or no[N] [N]y
Please input new password(len<=15):
Please input new password again:

Related Command user add
user delete

Configuration Mode

This section describes the configuration mode commands.

add vlan

Syntax add-vlan *vlan-list*
no add-vlan *vlan-list*

Purpose To add or delete VLAN

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>vlan-list</i>	VLAN list	Range: 2 ~ 4094

VLAN 1 is the default VLAN of 9806H. All ports are in VLAN 1 by default.

Mode

9806(config)#

Example The following example describes how to use add-vlan command.
9806(config)# add-vlan 400
9806(config)#

Related Command show vlan

adsl rate-thresh

Syntax adsl rate-thresh {enable | disable}

Purpose To enable or disable ADSL threshold rate

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
enable	Enable ADSL thresh rate.	–
disable	Disable ADSL thresh rate.	–

Mode 9806(config)#

Example The following example describes how to use `adsl rate-thresh` command.

```
9806(config)# adsl rate-thresh enable
9806(config)#
```

Related Command None

adsl-alarm-profile

Syntax `adsl-alarm-profile` *alarm-profile-name*

`no adsl-alarm-profile` *alarm-profile-name*

Purpose To create a new ADSL alarm profile or modify an existing ADSL alarm profile

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>alarm-profile-name</i>	Alarm profile name	String

Mode 9806(config)#

This command is used to create a new or modify an existing ADSL alarm profile.

1. Create a new ADSL alarm profile by executing this command for the first time.
2. Modify line parameters of an existing ADSL alarm profile by executing this command for the second time.

Example The following example describes how to use `adsl-alarm-profile` command.

```
9806(config)# adsl-alarm-profile zte
```

```
9806(config)# adsl-alarm-profile zte
```

```
AtucThresh15MinLofs(0..900s):[0]
```

```
AtucThresh15MinESs(0..900s):[0]
```

```
AtucThresh15MinLoss(0..900s):[0]
```

```
AtucThresh15MinLprs(0..900s):[0]
```

```
AtucThresh15MinLoIs(0..900s):[0]
```

```
AtucThreshFastRateUp(0..65535):[0]
```

```
AtucThreshInterleaveRateUp(0..65535):[0]
```

```
AtucThreshFastRateDown(0..65535):[0]
```

```
AtucThreshInterleaveRateDown(0..65535):[0]
```

```

AturThresh15MinLofs(0..900s):[0]
AturThresh15MinESs(0..900s):[0]
AturThresh15MinLoss(0..900s):[0]
AturThresh15MinLprs(0..900s):[0]
AturThreshFastRateUp(0..65535):[0]
AturThreshInterleaveRateUp(0..65535):[0]
AturThreshFastRateDown(0..65535):[0]
AturThreshInterleaveRateDown(0..65535):[0]
AtucInitFailureTrapEnable(1-enable,2-disable):[1]
AtucThreshold15MinFailedFastR(0..900s):[900]
AtucThreshold15MinSesL(0..900s):[900]
AtucThreshold15MinUasL(0..900s):[900]
AturThreshold15MinSesL(0..900s):[900]
AturThreshold15MinUasL(0..900s):[900]
AtucConnRateTolerance(0..100%):[0]
ThreshAtucConnRate(0..100000 kbps):[0]
AturConnRateTolerance(0..100%):[0]
ThreshAturConnRate(0..100000 kbps):[0]
Press M or m key to modify, or the other key to
complete?[C]

```

The following table provides parameter explanation of the example.

Parameters	Description
AtucThresh15MinLofs	ATU-C 15-minute loss of shelf alarm threshold
AtucThresh15MinESs	ATU-C 15-minute error second alarm threshold
AtucThresh15MinLoss	ATU-C 15-minute loss of signal alarm threshold
AtucThresh15MinLprs	ATU-C 15-minute loss of power alarm threshold
AtucThresh15MinLols	ATU-C 15-minute loss of link alarm threshold
AtucThreshFastRateUp	ATU-C 15-minute fast channel rate up alarm threshold
AtucThreshInterleaveRateUp	ATU-C 15-minute interleaved channel rate up alarm threshold
AtucThreshFastRateDown	ATU-C 15-minute fast channel rate down alarm threshold
AtucThreshInterleaveRateDown	ATUC 15-minute interleaved channel rate down alarm threshold

Parameters	Description
AturThresh15MinLofs	ATUR 15-minute loss of shelf alarm threshold
AturThresh15MinESs	ATU-R 15-minute loss of power alarm threshold
AturThresh15MinLoss	ATU-R 15-minute loss of signal alarm threshold
AturThresh15MinLprs	ATU-R 15-minute loss of link alarm threshold
AturThreshFastRateUp	ATU-R 15-minute error second alarm threshold
AturThreshInterleaveRateUp	ATU-R 15-minute fast channel rate up alarm threshold
AturThreshFastRateDown	ATU-R 15-minute interleaved channel rate up alarm threshold
AturThreshInterleaveRateDown	ATU-R 15-minute fast channel rate down alarm threshold
AtucInitFailureTrapEnable	ATU-C initialization failure trap enable
AtucThreshold15MinFailedFastR	ATU-C fast retraining and initialization failed alarm threshold in current 15 minutes
AtucThreshold15MinSesL	ATU-C performance statistics severe fault alarm threshold in current 15 minutes
AtucThreshold15MinUasL	ATU-C unavailable fault alarm threshold in current 15 minutes
AturThreshold15MinSesL	ATU-R performance statistics severe fault alarm threshold in current 15 minutes
AturThreshold15MinUasL	ATU-R unavailable fault alarm threshold in current 15 minutes
AtucConnRateTolerance	ATU-C upstream/downstream link connection rate tolerance
ThreshAtucConnRate	ATU-C upstream/downstream link connection rate threshold
AturConnRateTolerance	ATU-R upstream/downstream link connection rate tolerance
ThreshAturConnRate	ATU-R upstream/downstream link connection rate threshold

Related Command `ads1 alarm-profile`
 `show ads1 alarm-profile`

adsl-profile

Syntax **adsl-profile** *profile-name*

no adsl-profile *profile-name*

Purpose To create a new ADSL profile or modify an existing ADSL profile

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>profile-name</i>	ADSL profile name	String

Mode 9806(config)#

This command is used to create a new or modify an existing ADSL profile.

1. Create a new ADSL profile by executing command for the first time.
2. Modify the line parameters of an existing profile by executing command for the second time.

Example The following example describes how to use adsl-profile command.

```
9806(config)# adsl-profile china
9806(config)# adsl-profile china
AtucConfRateMode(1-fixed,2-adaptAtStartup,3-
adaptAtRuntime):[2]
AtucConfRateChanRatio(0..100):[0]
AtucConfTargetSnrMgn(0..310(0.1dB)): [80]
AtucConfMaxSnrMgn(80..310(0.1dB)): [310]
AtucConfMinSnrMgn(0..80(0.1dB)): [0]
AtucConfDownshiftSnrMgn(0..310): [0]
AtucConfUpshiftSnrMgn(0..310): [0]
AtucConfMinUpshiftTime(0..16383): [0]
AtucConfMinDownshiftTime(0..16383): [0]
ConfProfileLineType(1-fast-only,2-interleaved-only): [2]
AtucChanConfFastMaxTxRate(0..102400kbps): [1024]
AtucChanConfFastMinTxRate(0..1024kbps): [0]
AtucChanConfInterleaveMaxTxRate(0..102400kbps): [1024]
AtucChanConfInterleaveMinTxRate(0..1024kbps): [0]
AtucChanConfMaxInterleaveDelay(0..255ms): [16]
AturConfRateMode(1-fixed,2-adaptAtStartup,3-
adaptAtRuntime): [2]
```

```
AturConfRateChanRatio(0..100):[0]
AturConfTargetSnrMgn(0..310(0.1dB)): [80]
AturConfMaxSnrMgn(80..310(0.1dB)): [310]
AturConfMinSnrMgn(0..80(0.1dB)): [0]
AturConfDownshiftSnrMgn(0..310(0.1dB)): [0]
AturConfUpshiftSnrMgn(0..310(0.1dB)): [0]
AturConfMinUpshiftTime(0..16383): [0]
AturConfMinDownshiftTime(0..16383): [0]
AturChanConfFastMaxTxRate(0..10240kbps): [512]
AturChanConfFastMinTxRate(0..512kbps): [0]
AturChanConfInterleaveMaxTxRate(0..10240kbps): [512]
AturChanConfInterleaveMinTxRate(0..512kbps): [0]
AturChanConfMaxInterleaveDelay(0..255ms): [16]
AtucDMTConfFreqBinsOperType(1-open, 2-cancel): [2]
AturDMTConfFreqBinsOperType(1-open, 2-cancel): [2]
LineDMTConfEOC(1-byte , 2-streaming ): [1]
LineDMTConfTrellis(1-on, 2-off): [1]
AtucConfMaxBitsPerBin(0..15): [15]
AtucConfTxStartBin(6..511): [32]
AtucConfTxEndBin(32..511): [511]
AtucConfRxStartBin(6..63): [6]
AtucConfRxEndBin(6..63): [31]
AtucConfUseCustomBins(1-on, 2-off): [2]
AtucConfDnBitSwap(1-on, 2-off): [2]
AtucConfUpBitSwap(1-on, 2-off): [2]
AtucConfREADSL2Enable(1-on, 2-off): [2]
AtucConfPsdMaskType(1-DMT_PSD_MSK, 2-ADSL2_PSD_MSK, 3-
ADSL2_READSL_WIDE_PSD_MSK, 4-
ADSL2_READSL_NARROW_PSD_MSK): [2]
AtucConfPMLMode(1-DISABLE, 2-L2_ENABLE, 3-L3_ENABLE, 4-
L3_ENABLE | L2_ENABLE): [1]
AtucConfPML0Time(0..255s): [240]
AtucConfPML2Time(0..255s): [120]
AtucConfPML2ATPR(0..31db): [3]
AtucConfPML2Rate(512..1024kbps): [512]
Press M or m key to modify, or the other key to
complete?[C]
```

The following table provides parameter explanation of the example.

Parameters	Description
AtucConfRateMode	ATU-C rate adaptation mode
AtucConfRateChanRatio	ATU-C rate adaptation ratio
AtucConfTargetSnrMgn	ATU-C target SNR margin
AtucConfMaxSnrMgn	ATU-C maximum SNR margin
AtucConfMinSnrMgn	ATU-C minimum SNR margin
AtucConfDownshiftSnrMgn	ATU-C downshift SNR margin
AtucConfUpshiftSnrMgn	ATU-C upshift SNR margin
AtucConfMinUpshiftTime	ATU-C minimum upshift SNR margin
AtucConfMinDownshiftTime	ATU-C minimum downshift SNR margin
AtucChanConfFastMinTxRate	ATU-C fast channel minimum transmission rate
AtucChanConfInteMinTxRate	ATU-C interleaved channel minimum transmission rate
AtucChanConfFastMaxTxRate	ATU-C fast channel maximum transmission rate
AtucChanConfInteMaxTxRate	ATU-C interleaved channel maximum transmission rate
AtucChanConfMaxInterDelay	ATU-C maximum interleaved delay
AturConfRateMode	ATU-R rate adaptation mode. Generally, self-adaptation mode is used
AturConfRateChanRatio	ATU-R rate adaptation ratio
AturConfTargetSnrMgn	ATU-R target SNR margin
AturConfMaxSnrMgn	ATU-R maximum SNR margin
AturConfMinSnrMgn	ATU-R minimum SNR margin
AturConfDownshiftSnrMgn	ATU-R downshift SNR margin
AturConfUpshiftSnrMgn	ATU-R upshift SNR margin
AturConfMinUpshiftTime	ATU-R minimum upshift SNR margin
Parameter	Description
AturConfMinDownshiftTime	ATU-R minimum downshift SNR margin
AturChanConfFastMinTxRate	ATU-R fast channel minimum transmission rate
AturChanConfInteMinTxRate	ATU-R interleaved channel minimum transmission rate

Parameters	Description
AturChanConfFastMaxTxRate	ATU-R fast channel maximum transmission rate
AturChanConfInteMaxTxRate	ATU-R interleaved channel maximum transmission rate
AturChanConfMaxInterDelay	ATU-R maximum interleaved delay
LineDMTConfEOC	EOC operation mode
ConfProfileLineType	Line Type setting
LineDMTConfTrellis	Trellis code enable switch
AtucConfMaxBitsPerBin	Maximum bits each sub-channel bears
AtucConfTxStartBin	Downstream start sub-channel
AtucConfTxEndBin	Downstream end sub-channel
AtucConfRxStartBin	Upstream start sub-channel
AtucConfRxEndBin	Upstream end sub-channel
AtucConfUseCustomBins	Customer using sub-channel function switch
AtucConfDnBitSwap	Downstream BS switch
AtucConfUpBitSwap	Upstream BS switch
AtucConfREADSL2Enable	READSL2 enable switch
AtucConfPsdMaskType	Power spectrum density mask type (65535 by default)
AtucConfPMLMode	Power monitoring mode
AtucConfPML0Time	Minimum interval of entering L2 state
AtucConfPML2Time	Minimum interval of power attenuation in L2 state
AtucConfPML2ATPR	Maximum value for each power attenuation in L2 state (unit: dB)
AtucConfPML2Rate	Be out of L2 state when actual rate is higher than this value (unit: kbps)

Related Command adsl profile
 show adsl profile

card

Syntax `card card-number {cpu-usage cpu-usage | mem-usage mem-usage}`

Purpose To configure CPU or memory usage percentage of the control switching card

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>card-number</i>	Card number	5
<i>cpu-usage</i>	Percent of CPU usage	Range: 30% ~ 100%
<i>mem-usage</i>	Percent of memory usage	Range: 20% ~ 100%

Mode 9806(config)#

Example The following example describes how to use card command.

```
9806(config)# card 5 cpu-usage 80
```

```
9806(config)# card 5 mem-usage 80
```

```
9806(config)#
```

Related Command show card

cpvlan

Syntax `cpvlan vid {enable | disable}`

Purpose To enable or disable PVLAN of specified VLAN

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>vid</i>	VLAN list	Range: 1 ~ 4094
enable	Enable PVLAN	-
disable	Disable PVLAN	-

Mode 9806(config)#

Example The following example describes how to use cpvlan command.

```
9806(config)# cpvlan 100 enable
```

```
9806(config)#
```

Related Command show vlan

interface

Syntax interface {adsl | ethernet | gigabit-ethernet | vdsl}
slot/port

Purpose To enter the interface configuration mode

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
adsl	ADSL interface	-
ethernet	FE interface	-
gigabit-ethernet	GE interface	-
vdsl	VDSL interface	-
slot	Slot number	Range: 1 ~ 5
port	Port number	Range: 1 ~ 2 for Ethernet; 1 ~ 24 for ADSL; 1 ~ 16 for VDSL

Mode 9806(config)#

Example The following example describes how to use interface command.

```
9806(config)# interface adsl 3/1
9806(cfg-if-adsl-3/1)#
```

Related Command show interface

interface range

Syntax interface range {adsl | vdsl} slotlist/portlist

Purpose To enter the batch configuration mode of subscriber ports

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
adsl	ADSL port range	-
vdsl	VDSL port range	-
slotlist	Slot range	Range: 1 ~ 4
portlist	Port range	Range: 1 ~ 24 for ADSL; 1 ~ 16 for VDSL

Mode 9806(config)#

Example The following example describes how to use interface range command.

```
9806(config)# interface range adsl 3/1
9806(cfg-if-range-adsl)#
```

Related Command range

ip host

Syntax **ip host** *ip-address subnet-mask*

Purpose To configure out-of-band NM IP address and the subnet mask

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>ip-address</i>	IP address	A.B.C.D
<i>subnet-mask</i>	Subnet mask	A.B.C.D

Mode 9806(config)#

Example The following example describes how to use ip host command.

```
9806(config)# ip host 10.61.90.54 255.255.252.0
9806(config)#
```

Related Command show ip host

ip igmp bandwidth-control

Syntax **ip igmp bandwidth-control** {**enable** | **disable**}

Purpose To enable or disable bandwidth control function of 9806H

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
enable	Enable bandwidth control	–
disable	Disable bandwidth control	–

Mode 9806(config)#

Example The following example describes how to use `ip igmp bandwidth-control` command.

```
9806(config)# ip igmp bandwidth-control enable
9806(config)#
```

Related Command `show igmp`

ip igmp cac

Syntax `ip igmp cac {enable | disable}`

Purpose To enable or disable channel access control function of 9806H.

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
enable	Enable IGMP CAC	-
disable	Disable IGMP CAC	-

Mode `9806(config)#`

Example The following example describes how to use `ip igmp cac` command.

```
9806(config)# ip igmp cac enable
9806(config)#
```

Related Command `show igmp`
`show igmp cac`

ip igmp cac

Syntax `ip igmp cac ipaddress [name name] [view-profile filename]`
`no ip igmp cac ipaddress [view-profile]`

Purpose To create or delete a CAC channel

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>ipaddress</i>	Group IP address	Range: 224.0.1.0 ~ 239.255.255.255
<i>name</i>	Channel name	-
<i>filename</i>	Preview profile name	-

Without the view-profile name parameter, it applies the default preview profile to the channel, with the view-profile name parameter, it applies the specified preview profile to the channel.

Mode 9806(config)#

Example The following example describes how to use ip igmp cac command.

```
9806(config)# ip igmp cac 224.1.1.1
```

```
9806(config)#
```

Related Command show igmp
show igmp cac

ip igmp cac-start-ip

Syntax ip igmp cac cac-start-ip *start-ip num*

no ip igmp cac-start-ip *start-ip num*

Purpose To configure the start channel IP address in CAC

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>start-ip</i>	CAC start channel IP address	Range: 224.0.1.0 ~ 239.255.255.255
<i>num</i>	Channel number	Range: 1 ~ 256

Mode 9806(config)#

Example The following example describes how to use ip igmp cac cac-start-ip command.

```
9806(config)# ip igmp cac-start-ip 224.10.1.1 10
```

```
9806(config)#
```

Related Command show igmp cac

ip igmp cdr

Syntax ip igmp cdr {enable | disable}

Purpose To enable or disable Call Detail Record (CDR) function of multicast

**Usage
Guideline**

The following table provides parameter description:

Parameter	Description	Value
enable	Enable IGMP CDR	–
disable	Disable IGMP CDR	–

Mode

9806(config)#

Example

The following example describes how to use `ip igmp cdr` command.

```
9806(config)# ip igmp cdr enable
```

```
9806(config)#
```

**Related
Command**

`show igmp`

ip igmp cdr max-records

Syntax

ip igmp cdr max-record *record*

Purpose

To configure the maximum CDR records

**Usage
Guideline**

The following table provides parameter description:

Parameter	Description	Value
<i>record</i>	CDR maximum records	Range: 1 ~ 65535

Mode

9806(config)#

Example

The following example describes how to use `ip igmp cdr max-record` command.

```
9806(config)# ip igmp cdr max-records 10000
```

```
9806(config)#
```

**Related
Command**

`show igmp`

ip igmp cdr report-interval

Syntax

ip igmp cdr report-interval *n*

Purpose

To configure the time interval to generate CDR report.

**Usage
Guideline**

The following table provides parameter description:

Parameter	Description	Value
<i>n</i>	CDR report interval	Range: 1 ~ 30 minute

**Mode
Example**

9806(config)#

The following example describes how to use ip igmp cdr report-interval command.

9806(config)# ip igmp cdr report-interval 20

9806(config)#

**Related
Command**

show igmp

ip igmp cdr deny-right

**Syntax
Purpose
Usage
Guideline**

ip igmp cdr deny-right {enable | disable}

To configure CDR status, when user rights are denied

The following table provides parameter description:

Parameter	Description	Value
enable	Enable CDR	-
disable	Disable CDR	-

**Mode
Example**

Any mode

The following example describes how to use ip igmp cdr deny-right command.

9806(config)# ip igmp cdr deny-right enable

**Related
Command**

show

ip igmp cdr preview-right

**Syntax
Purpose
Usage
Guideline**

ip igmp cdr preview-right {enable | disable}

To configure CDR status, when the numbers of accesses are more than the preview count

The following table provides parameter description:

Parameter	Description	Value
enable	Enable CDR	-
disable	Disable CDR	-

Mode Any mode

Example The following example describes how to use ip igmp cdr preview-right command.

```
9806(config)# ip igmp cdr preview-right enable
```

Related Command show igmp

ip igmp cdr report

Syntax ip igmp cdr report

Purpose To configure igmp CDR report

Usage Guideline None

Mode Any mode

Example The following example describes how to use ip igmp cdr report command.

```
9806(config)#ip igmp cdr report
```

Related Command show igmp

ip igmp channel-package

Syntax ip igmp channel-package *name*

no ip igmp channel-package *name*

Purpose To create or delete a channel package name

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>name</i>	Channel package name	-

Mode 9806(config)#

Example The following example describes how to use ip igmp channel-package command.

```
9806(config)# ip igmp channel-package zte
```

```
9806(config)#
```

Related Command show igmp channel-package

ip igmp channel-package group

Syntax **ip igmp channel-package** *name* **group** *ipaddress* [**deny** | **permit** | **preview**]

no ip igmp channel-package *name* **group** *ipaddress*

Purpose To add or delete channel address from channel package with channel right

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>name</i>	Channel package name	-
<i>ipaddress</i>	Group IP address	Range: 224.0.1.0 ~ 239.255.255.255
deny	Deny channel access	-
permit	Permit channel access	-
preview	Channel preview right	-

Mode 9806(config)#

Example The following example describes how to use ip igmp channel-package group command.

```
9806(config)# ip igmp channel-package zte group
224.1.1.1 permit
9806(config)#
```

Related Command show igmp channel-package

ip igmp channel-package slot/portlist

Syntax **ip igmp channel-package** *name* *slot/port*

no ip igmp channel-package *name* *slot/port*

Purpose Assign a channel package to a single or number of ports

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>name</i>	Channel package name	-
<i>slot</i>	Slot number	Range: 1 ~ 5

Parameter	Description	Value
<i>port</i>	Port number	Range: 1 ~ 24 for ADSL; 1 ~ 16 for VDSL

Mode 9806(config)#

Example The following example describes how to use ip igmp channel-package command.

```
9806(config)# ip igmp channel-package zte 3/1-24
```

```
9806(config)# ip igmp channel-package zte 2/1
```

```
9806(config)#
```

Related Command show igmp channel-package

ip igmp mode

Syntax ip igmp mode {snooping | router | proxy}

Purpose To configure 9806H in IGMP proxy or snooping or router mode

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
snooping	IGMP snooping mode	–
router	IGMP router mode	–
proxy	IGMP proxy mode	–

In IGMP snooping mode, a multicast function is similar to the CISCO MVR function.

In each user port on the router running IGMPv2, state for the management group members.

Proxy mode provides basic shelf similar to MVR function and provides IGMP Proxy function.

Mode 9806(config)#

Example The following example describes how to use ip igmp mode command.

```
9806(config)# ip igmp mode snooping
```

```
9806(config)#
```

Related Command show igmp

ip igmp mvlan

Syntax `ip igmp mvlan mvlan-id`
`no ip igmp mvlan mvlan-id`

Purpose To configure or delete the IGMP MVLAN

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>mvlan-id</i>	MVLAN ID	Range: 1 ~ 4094

Mode 9806(config)#

Example The following example describes how to use ip igmp mvlan command.

```
9806(config)# ip igmp mvlan 200
9806(config)#
```

Related Command show igmp mvlan

ip igmp mvlan group

Syntax `ip igmp mvlan vid group ip-address`
`no ip igmp group ip-address`

Purpose To configure group IP address of a MVLAN

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>vid</i>	MVLAN ID	Range: 1 ~ 4094
<i>ip-address</i>	Multicast group IP address	Range: 224.0.1.0 ~ 239.255.255.255

Mode 9806(config)#

Example The following example describes how to use ip igmp mvlan group command.

```
9806(config)# ip igmp mvlan 200 group 224.0.1.0
9806(config)#
```

Related Command show igmp mvlan

ip igmp mvlan group bandwidth

Syntax `ip igmp mvlan vid group ip-address bandwidth bandwidth`

Purpose To configure bandwidth of a group IP address of a MVLAN

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>vid</i>	MVLAN ID	Range: 1 ~ 4094
<i>ip-address</i>	Multicast group IP address	Range: 224.0.1.0 ~ 239.255.255.255
<i>bandwidth</i>	Bandwidth	Range: 100 ~ 65535, unit: kbps

Mode 9806(config)#

Example The following example describes how to use ip igmp mvlan group bandwidth command.

```
9806(config)# ip igmp mvlan 200 group 224.0.1.0
bandwidth 1000
9806(config)#
```

Related Command show igmp mvlan

ip igmp mvlan group fast-join

Syntax `ip igmp mvlan vid group ip-address fast-join {enable | disable}`

Purpose To enable or disable MVLAN fast join of a group

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>vid</i>	MVLAN ID	Range: 1 ~ 4094
<i>ip-address</i>	Multicast group IP address	Range: 224.0.1.0 ~ 239.255.255.255
enable	Enable fast join	–
disable	Disable fast join	–

Mode 9806(config)#

Example The following example describes how to use ip igmp mvlan group fast-join command.

```
9806(config)# ip igmp mvlan 200 group 224.0.1.0 fast-join enable
9806(config)#
```

Related Command show igmp mvlan

ip igmp mvlan group receive-port

Syntax **ip igmp mvlan** *vid* **group** *ip-address* **receive-port** *slot/port*

no ip igmp group *ip-address* **receive-port** *slot/port*

Purpose To configure static receive port(s) of a MVLAN

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>vid</i>	MVLAN ID	Range: 1 ~ 4094
<i>ip-address</i>	Multicast group IP address	Range: 224.0.1.0 ~ 239.255.255.255
<i>slot</i>	Slot number	Range: 1 ~ 5
<i>port</i>	Port number	Range: 1 ~ 24 for ADSL; 1 ~ 16 for VDSL

Before execute this command, configure receive ports of the MVLAN first.

Mode 9806(config)#

Example The following example describes how to use ip igmp mvlan group receive-port command.

```
9806(config)# ip igmp mvlan 200 receive-port 3/1
9806(config)# ip igmp mvlan 200 group 224.0.1.0 receive-port 3/1
9806(config)#
```

Related Command show igmp mvlan

ip igmp mvlan max-group

Syntax **ip igmp mvlan vid max-group** *number*

Purpose To configure the maximum group number of a MVLAN

**Usage
Guideline**

The following table provides parameter description:

Parameter	Description	Value
<i>vid</i>	MVLAN ID	Range: 1 ~ 4094
<i>number</i>	Maximum multicast IP address number	Range: 1 ~ 1024

9806H supports maximum 1024 multicast groups.

Mode

9806(config)#

Example

The following example describes how to use `ip igmp mvlan max-group` command.

```
9806(config)# ip igmp mvlan 200 max-group 128
```

```
9806(config)#
```

**Related
Command**

`show igmp mvlan`

ip igmp mvlan receive-port

Syntax

```
ip igmp mvlan vid receive-port slot/port [sub-channel subchan-id]
```

```
no ip igmp mvlan vid receive-port slot/port [sub-channel subchan-id]
```

Purpose

To configure receive port(s) of a MVLAN

**Usage
Guideline**

The following table provides parameter description:

Parameter	Description	Value
<i>vid</i>	MVLAN ID	Range: 1 ~ 4094
<i>slot</i>	Slot number	Range: 1 ~ 5
<i>port</i>	Port number	Range: 1 ~ 24 for ADSL; 1 ~ 16 for VDSL
<i>subchan-id</i>	Sub-channel ID	Range: 1 ~ 8

Mode

9806(config)#

Example

The following example describes how to use `ip igmp mvlan receive-port` command.

```
9806(config)# ip igmp mvlan 200 receive-port 3/1
```

```
9806(config)#
```

**Related
Command**

`show igmp mvlan`

ip igmp mvlan source-port

Syntax `ip igmp mvlan vid source-port slot/port`
`no ip igmp mvlan vid source-port slot/port`

Purpose To configure source port of a MVLAN

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>vid</i>	MVLAN ID	Range: 1 ~ 4094
<i>slot</i>	Slot number	5
<i>port</i>	Port number	Range: 1 ~ 2

Only Ethernet port can be the source port.

Mode 9806(config)#

Example The following example describes how to use ip igmp mvlan source-port command.

```
9806(config)# ip igmp mvlan 200 source-port 5/1-2
9806(config)#
```

Related Command show igmp mvlan

ip igmp mvlan source-ip

Syntax `ip igmp mvlan vid source-ip source-ip`
`no ip igmp mvlan vid source-ip`

Purpose To configure the source IP address of a MVLAN

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>vid</i>	MVLAN ID	Range: 1 ~ 4094
<i>source-ip</i>	Multicast VLAN source IP address	A.B.C.D

Mode 9806(config)#

Example The following example describes how to use ip igmp mvlan source-ip command.

```
9806(config)# ip igmp mvlan 200 source-ip 192.168.1.1
9806(config)#
```

Related Command show igmp mvlan

ip igmp mvlan start-group-ip

Syntax ip igmp mvlan *vid* start-group-ip *start-ip num*
no ip igmp start-group-ip *start-ip num*

Purpose To configure the start group IP address of a MVLAN

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>vid</i>	MVLAN ID	Range: 1 ~ 4094
<i>start-ip</i>	Multicast VLAN start group IP address	Range: 224.0.1.0 ~ 239.255.255.255
<i>num</i>	Group IP address number	Range: 1 ~ 256

Mode 9806(config)#

Example The following example describes how to use ip igmp mvlan start-group-ip command.

```
9806(config)# ip igmp mvlan 100 start-group-ip 224.2.1.1 10
9806(config)#
```

Related Command show igmp mvlan

ip igmp prw

Syntax ip igmp prw {reset | recognition-time *time* | resetperiod *time*}

Purpose To reset preview state to initial state, or configure preview parameters

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
reset	Reset to initial state	-
recognition-time <i>time</i>	IGMP preview recognition time	Range: 1 sec ~ 120 sec
resetperiod <i>time</i>	IGMP preview reset time	HH:MM:SS

Mode 9806(config)#

Example The following time shows how to use `ip igmp prw` command.

```
9806(config)# ip igmp prw recognition-time 30
9806(config)#
```

Related Command `show igmp`

ip igmp sms-server

Syntax `ip igmp sms-sever ip-address`

Purpose To configure SMS server IP address

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>ip-address</i>	SMS server IP address	-

Mode `9806(config)#`

Example The following example describes how to use `ip igmp sms-server` command.

```
9806(config)# ip igmp sms-server 10.61.87.87
9806(config)#
```

Related Command `show igmp`

ip igmp snooping-aging-time

Syntax `ip igmp snooping-aging-time time`

Purpose To configure IGMP snooping aging time.

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>time</i>	IGMP snooping aging time	Range: 30 sec ~ 3600 sec, 0 for no aging

Mode `9806(config)#`

Example The following example describes how to use `ip igmp snooping-aging-time` command.

```
9806(config)# ip igmp snooping-aging-time 1200
9806(config)#
```

Related Command show igmp

igmp span-vlan

Syntax ip igmp span-vlan {enable | disable}

Purpose To enable or disable IGMP support span VLAN

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
enable	Enable IGMP support span VLAN	–
disable	Disable IGMP support span VLAN	–

Mode 9806(config)#

Example The following example describes how to use ip igmp span-vlan command.

```
9806(config)# ip igmp span-vlan enable
```

```
9806(config)#
```

Related Command show igmp

ip igmp stb-mac

Syntax ip igmp stb-mac {enable | disable}

Purpose To enable or disable STB (Set Top Box) MAC address control on 9806H system

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
enable	Enable IGMP STB MAC control	–
disable	Disable IGMP STB MAC control	–

Mode 9806(config)#

Example The following example describes how to use ip igmp stb-mac command.

```
9806(config)# ip igmp stb-mac enable
```

```
9806(config)#
```

Related Command show igmp

ip igmp view-profile

Syntax `ip igmp view-profile filename`

`no ip igmp view-profile filename`

Purpose To configure IGMP preview profile

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>filename</i>	Preview profile name	-

Mode 9806(config)#

This command is used to create a new or modify an exiting IGMP preview profile.

1. Create a new preview profile by executing command for the first time.
2. Modify the profile parameters of an existing preview profile by executing command for the second time.

Example The following example describes how to use `ip igmp view-profile` command.

```
9806(config)# ip igmp view-profile zte
```

```
9806(config)# ip igmp view-profile zte
```

```
MaxPreviewCount(1..100):[3]
```

```
MaxPreviewInterval(1..6000s):[120]
```

```
PreviewBlackoutInterval(1..7200s):[60]
```

```
Press M or m key to modify, or the other key to complete?[C]
```

Related Command `show igmp view-profile`

ip igmp

Syntax `ip igmp {enable | disable}`

Purpose To enable or disable IGMP on 9806H system

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
enable	Enable IGMP	-
disable	Disable IGMP	-

Mode 9806(config)#

Example The following example describes how to use ip igmp command.

```
9806(config)# ip igmp enable
9806(config)#
```

Related Command show igmp

ip igmp through

Syntax ip igmp through

Purpose To configure IGMP through

Usage Guideline None

Mode 9806(config)#

Example The following example describes how to use ip igmp through command.

```
9806(config)# ip igmp through
9806(config)#
```

Related Command show igmp

ip modem

Syntax ip modem *ip-address mask*
no ip modem

Purpose To configure IP address of 9806H for MODEM remote management

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>ip-address</i>	IP address	A.B.C.D
<i>mask</i>	Subnet mask	A.B.C.D

Mode 9806(config)#

Example The following example describes how to use ip modem command.

```
9806(config)# ip modem 192.168.10.1 255.255.255.0
9806(config)#
```

Related Command show ip modem

ip route

Syntax **ip route** *ip-address mask gateway* [**name** *name*]

no ip route *ip-address*

Purpose To configure or delete static route

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>ip-address</i>	Destination IP address	A.B.C.D
<i>mask</i>	Subnet mask	A.B.C.D
<i>gateway</i>	Gateway IP address	A.B.C.D
<i>name</i>	Name	String

Mode 9806(config)#

Example The following example describes how to use ip route command.

```
9806(config)# ip route 0.0.0.0 0.0.0.0 10.61.87.254
name zte
9806(config)#
```

Related Command show ip route

ip subnet

Syntax **ip subnet** *ip-address mask vid* [**name** *name*]

no ip subnet

Purpose To configure in-band NM IP-address

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>ip-address</i>	In-band NM IP address	A.B.C.D
<i>mask</i>	Subnet mask	A.B.C.D
<i>vid</i>	NM VLAN ID	Range: 1 ~ 4094
<i>name</i>	Name	string

Delete all related configurations before deleting the subnet.

Mode 9806(config)#

Example The following example describes how to use ip subnet command.

```
9806(config)# ip subnet 192.168.10.1 255.255.255.0 100
9806(config)#
```

Related Command show ip subnet

loop-check

Syntax **loop-check interval** *interval*

Purpose To configure loop check time interval in seconds

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>interval</i>	Time interval	Range: 0 ~ 300 sec

Mode 9806(config)#

Example The following example describes how to use loop-check interval command.

```
9806(config)# loop-check interval 20
9806(config)#
```

Related Command show loop-check

mac

Syntax **mac {inband | outband}** *mac-address*

Purpose To configure in-band or out-of-band MAC address

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>mac-address</i>	MAC address	-

ZTE system MAC address by factory default is 00:D0:D0:XX:XX:XX.

Mode 9806(config)#

Example The following example describes how to use mac command.

```
9806(config)# mac inbound 00:D0:D0:81:94:E7
9806(config)# mac outbound 00:D0:D0:13:43:25
9806(config)#
```

Related Command show mac

mac-address-table

Syntax **mac-address-table aging-time** *time*

no mac-address-table aging-time

Purpose To configure aging time of MAC address forwarding table

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
aging-time <i>time</i>	MAC address table aging time	Range: 1 sec ~ 1650 sec Default: 300 sec

Mode 9806(config)#

Example The following example describes how to use mac-address-table command.

```
9806(config)# mac-address-table aging-time 60
9806(config)#
```

Related Command show mac-address-table

manage-access-list

Syntax **manage-access-list** *access-list id* {**permit** | **deny**} {**source-ip** *IpAddr/Mask* | **any**} [**ip-type** {**ICMP** | **IGMP** | **TCP** | **UDP**} [**source-port** *srcport* | **dest-port** *des-port*]]

manage-access-list {**enable** | **disable**}

no manage-access-list *access-list id*

Purpose To configure the manage-access-list

The following table provides parameter description:

Parameter	Description	Value
<i>access-list id</i>	Access-list ID for management	Range: 1 ~ 16
source-ip <i>IpAddr/Mask</i>	Assign a source IP address and a mask	A.B.C.D/A.B.C.D

Parameter	Description	Value
source-port <i>src-port</i>	Source port list	Range: 1 ~ 65535
dest-port <i>dst-port</i>	Destination port list	Range: 1 ~ 65535
enable	Enable manage-access-list	-
disable	Disable manage-access-list	-

Mode 9806(config)#

Example The following example describes how to use manage-access-list command.

```
9806(config)# manage-access-list 1 permit source-ip 10.61.86.66/16
```

```
9806(config)#
```

Related Command show manage-access-list

port-location access-node-id

Syntax port-location access-node-id {inband-mac | hostname}

Purpose To configure access node identifier type of port location

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
inband-mac	Take in-band MAC as the identifier	-
hostname	Take hostname as the identifier	-

Default access node identity is in-band MAC address.

Mode 9806(config)#

Example The following example describes how to use port location access-node-id command.

```
9806(config)# port-location access-node-id hostname
```

```
9806(config)#
```

Related Command show port-location dhcp-option82

port-location dhcp-option82

Syntax `port-location dhcp-option82 [vlan vid] {enable | disable}`

Purpose To enable or disable DHCP-option82

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>vid</i>	VLAN ID	Range: 1 ~ 4094
enable	Enable DHCP-option82	–
disable	Disable DHCP-option82	–

With the VLAN ID parameter, it enables/disables DHCP-option82 on a specified VLAN; without the VLAN ID parameter, it enables/disables DHCP-option82 on the system.

Mode 9806(config)#

Example The following example describes how to use port location dhcp-option82 command.

```
9806(config)# port-location dhcp-option82 enable
9806(config)#
```

Related Command show port-location dhcp-option82

port-location pppoe-plus

Syntax `port-location pppoe-plus [vlan vid] {enable | disable}`

Purpose To enable or disable the PPPoE-plus

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>vid</i>	VLAN ID	Range: 1 ~ 4094
enable	Enable PPPoE-plus	–
disable	Disable PPPoE-plus	–

With the VLAN ID parameter, it enables/disables PPPoE-plus on a specified VLAN; without the VLAN ID parameter, it enables/disables PPPoE-plus on the system.

Mode 9806(config)#

Example The following example describes how to use port location pppoe-plus command.

```
9806(config)# port-location pppoe-plus enable
```

```
9806(config)#
```

Related Command show port-location pppoe-plus

port-location vbas

Syntax port-location vbas {enable | disable}

Purpose To enable or disable the VBAS

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
enable	Enable VBAS	–
disable	Disable VBAS	–

Mode 9806(config)#

Example The following example describes how to use port location vbas command.

```
9806(config)# port-location vbas enable
9806(config)#
```

Related Command show port-location vbas

qos class

Syntax qos class *classname* match eth-type *ip* ip-type *ip-packet-type* source-ip *srcIpAddr/Mask* dest-ip *dstIpAddr/Mask* [source-port *srcport*] [dest-port *desport*] [source-mac *srcmac*] [dest-mac *dstmac*] [cos *cospri*] [dscp *dscppri*] [vlan *id*]

qos class *classname* match eth-type {ARP | RARP} [source-mac *srcmac address*] [dest-mac *mac address*] [cos *cospri*] [vlan *id*]

qos class *classname* match source-mac *srcmac*

qos class *classname* match dest-mac *dstmac*

qos class *classname* match cos *cospri*

qos class *classname* match vlan *vid*

Purpose To configure QOS class parameters

Parameter Description The following table provides parameter description:

Parameter	Description	Value
<i>classname</i>	Class name	String

Parameter	Description	Value
ip-type <i>ip-packet-type</i>	IP packet type	ICMP, IGMP, TCP, UDP
source-ip <i>srcIpAddr/Mask</i>	Source IP address and mask eg:192.168.1.1/16	-
dest-ip <i>dstIpAddr/Mask</i>	Destination IP address and mask eg:192.168.1.1/16	-
source-port <i>srcport</i>	Source port	Range: 0 ~ 65535
dest-port <i>dstport</i>	Destination port	Range: 0 ~ 65535
source-mac <i>srcmac</i>	Source MAC address	AA:BB:CC:DD:EE:FF
dest-mac <i>desmac</i>	Destination MAC address	AA:BB:CC:DD:EE:FF
cos <i>cospri</i>	CoS priority	Range: 0 ~ 7
dscp <i>dscppri</i>	DSCP priority	Range: 0 ~ 63
vlan id	VLAN ID	Range: 1 ~ 4094

Mode 9806(config)#

Example The following example describes how to use qos class command.

```
9806(config)# qos class qosclass match eth-type IP ip-type ICMP
```

```
9806(config)#
```

Related Command no qos class
show qos class

qos mapping cos2dscp

Syntax **qos mapping cos2dscp** {default | *datalist:data*}

Purpose To configure mapping of CoS priority to DSCP priority

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
default	Default mapping	-
<i>datalist</i>	CoS Priority	Range: 0 ~ 7

Parameter	Description	Value
<i>data</i>	DSCP priority	Range: 0 ~ 63

Mode 9806(config)#

Example The following example describes how to use qos mapping cos2dscp command.

```
9806(config)# qos mapping cos2dscp 0,3,5:1
```

```
9806(config)#
```

Related Command show qos mapping

qos mapping cos2queue

Syntax **qos mapping cos2queue** {network-side | user-side} *datalist:data*

Purpose To configure mapping of CoS priority to queue on network side or user side

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>datalist</i>	Priority	Range: 0 ~ 7
<i>data</i>	Queue	Range: 1 ~ 8

Mode 9806(config)#

Example The following example describes how to use qos mapping cos2queue command.

```
9806(config)# qos mapping cos2queue user-side 0,3,5:1
```

```
9806(config)#
```

Related Command show qos mapping

qos mapping dscp2cos

Syntax **qos mapping dscp2cos** *datalist:data*

Purpose To configure mapping of DSCP priority to CoS priority

**Usage
Guideline**

The following table provides parameter description:

Parameter	Description	Value
<i>datalist</i>	DSCP priority	Range: 0 ~ 63
<i>data</i>	CoS priority	Range: 0 ~ 7

Mode

9806(config)#

Example

The following example describes how to use qos mapping dscp2cos command.

```
9806(config)# qos mapping dscp2cos 0-63:1
```

```
9806(config)#
```

**Related
Command**

show qos mapping

qos policy class-order

Syntax

qos policy *polycyname* **class-order** {**restricted** | **unrestricted**}

Purpose

To configure QoS policy class order

**Parameter
Description**

The following table provides parameter description:

Parameter	Description	Value
policy <i>polycyname</i>	Policy name	String
class-order	Class order	-
restricted	Restricted class order	-
unrestricted	Unrestricted class order	-

Mode

9806(config)#

Example

The following example describes how to use qos policy class-order command.

```
9806(config)# qos policy new class-order restricted
```

```
9806(config)#
```

**Related
Command**

no qos policy

show qos policy

qos policy class

Syntax

qos policy *policyname* **class** *classname* {**permit** [**rate-limit** *rate-limit* **burst-size** *burst-size* [**exceed-action-cos** *cospri* | **exceed-action-drop** | **exceed-action-dscp** *dscppri*]] [**cos** *cospri*] [**dscp** *dscppri*] [**statistics** {**enable** | **disable**}] [**vlan** *id*] [**mirrored-to-port** *slot/port*] [**directed-to-port** *slot/port*] [**vlan** *id*] | **deny**}

Purpose To configure QOS policy parameters

Parameter Description The following table provides parameter description:

Parameter	Description	Value
<i>policyname</i>	Policy name	String
<i>classname</i>	Class name	String
rate-limit <i>rate-limit</i>	Rate limit	Range: 1 ~ 1,048,576 (Kbytes)
burst-size <i>burst-size</i>	Burst size	Range: 1 ~ 1,048,576 (kbytes)
exceed-action-drop	Modified CoS priority when exceed rate limit	Range: 0 ~ 7
exceed-action-dscp <i>dscp-pri</i>	Drop when exceed rate limit	-
exceed-action-cos <i>cos-pri</i>	Modified DSCP priority when exceed rate limit	Range: 0 ~ 63
cos <i>cos-pri</i>	CoS priority	Range: 0 ~ 7
dscp <i>dscp-pri</i>	DSCP priority	Range: 0 ~ 63
mirrored-to-port <i>slot/port</i>	Mirrored to port	Range: 5/1 ~ 5/2
directed-to-port <i>slot/port</i>	Directed to port	Range: 5/1 ~ 5/2
vlan <i>id</i>	VLAN ID	Range: 1 ~ 4094

Mode 9806(config)#

Example The following example describes how to use qos policy class command.

```
9806(config)# qos policy new class test permit rate-limit 1024 burst-size 10240
```

```
9806(config)#
```

Related Command no qos policy
show qos policy

qos queue-scheduler

Syntax `qos queue-scheduler {network-side | user-side} {strict-priority [wrr wrrlist1] | wrr wrrlist2}`

Purpose To configure QoS queue priority

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>wrrlist1</i>	Weight list. Weight list should be assigned in the form of q1, q2, q3, q4, q5, q6, q7, q8	Range: 0 ~ 15
<i>wrrlist2</i>	Weight list. Weight list should be assigned in the form of q1, q2, q3, q4, q5, q6, q7, q8	Range: 1 ~ 15

Mode 9806(config)#

Example The following example describes how to use qos queue-scheduler command.

```
9806(config)# qos queue-scheduler user-side strict-
priority wrr 0,1,2,3,4,5,6,15
```

```
9806(config)#
```

Related Command show qos queue-scheduler

radius-server

Syntax `radius-server {add ip-address key portno | delete}`

Purpose To configure RADIUS server

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
add	Add a RADIUS server	-
<i>ip-address</i>	RADIUS server IP address	A.B.C.D
<i>key</i>	Key	string
<i>portno</i>	UDP port number	Range: 1 ~ 65535
delete	Delete a RADIUS server	-

Default port number of RADIUS server is 1812.

Mode 9806(config)#

Example The following Example describes how to use radius-server command.

```
9806(config)# radius-server add 10.61.84.66 zte 1812
9806(config)#
```

Related Command show radius

save-interval

Syntax save-interval *interval*

Purpose To configure save interval on 9806H

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>interval</i>	Time interval	Range: 0 ~ 8760 (hour), 0: disable

Mode Any mode

Example The following example describes how to use save-interval command.

```
9806(config)# save-interval 24
9806(config)#
```

Related Command show save-interval

snmp-server

Syntax snmp-server {community *name* {ro | rw} | host *ip-address*}

no snmp-server {community *name* | host *ip-address*}

Purpose To configure community or IP address of the SNMP server

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
community	SNMP community	-
<i>name</i>	Community name	String
ro	Read only	-
rw	Read and write	-
host	SNMP host	-

Parameter	Description	Value
<i>ip-address</i>	IP address	A.B.C.D

The default communities are public and private with read and write (RW) right.

Mode 9806(config)#

Example The following example describes how to use snmp-server command.

```
9806(config)# snmp-server community zte rw
```

```
9806(config)# snmp-server host 10.61.87.87
```

```
9806(config)#
```

Related Command show snmp

sntp

Syntax sntp {enable | disable}

Purpose To enable or disable the SNTP (Simple Network Time Protocol)

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
enable	Enable SNTP	–
disable	Disable SNTP	–

Mode 9806(config)#

Example The following example describes how to use sntp command.

```
9806(config)# sntp enable
```

```
9806(config)#
```

Related Command show sntp

sntp interval

Syntax sntp interval *interval*

Purpose To configure interval of SNTP server fetch time

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
-----------	-------------	-------

Parameter	Description	Value
<i>interval</i>	Time interval	Range: 16 ~ 1024, power of 2 Default: 64

Mode 9806(config)#

Example The following example describes how to use sntp interval command.

```
9806(config)# sntp interval 16
```

```
9806(config)#
```

Related Command show sntp

sntp server

Syntax **sntp server** *ip-address*

Purpose To configure SNTP server IP address

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>ip-address</i>	IP address	A.B.C.D

Mode 9806(config)#

Example The following example describes how to use sntp server command.

```
9806(config)# sntp server 10.61.84.66
```

```
9806(config)#
```

Related Command show sntp

sntp time-zone

Syntax **sntp time-zone** *num*

Purpose To configure the SNTP time zone

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>num</i>	Time zone	Range: -12 ~ +12

Mode 9806(config)#

Example The following example describes how to use sntp time-zone command.

```
9806(config)# sntp time-zone 8
9806(config)#
```

Related Command show sntp

spanning-tree classic-stp enable

Syntax spanning-tree classic-stp enable

Purpose To enable classic STP

Usage Guideline None

Mode 9806(config)#

Example The following example describes how to use spanning-tree classic-stp enable command.

```
9806(config)# spanning-tree classic-stp enable
9806(config)#
```

Related Command show spanning tree

spanning-tree classic-stp priority

Syntax spanning-tree classic-stp priority *num*

Purpose To configure the priority of classic STP bridge

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>num</i>	STP bridge priority	Range: 0 ~ 65535

The STP bridge priority is 32768 by default.

Mode 9806(config)#

Example The following example describes how to use spanning-tree classic-stp priority command.

```
9806(config)# spanning-tree classic-stp priority 32768
9806(config)#
```

Related Command show spanning tree

spanning-tree rapid-stp enable

Syntax spanning-tree rapid-stp enable

Purpose To enable rapid STP on 9806H

Usage Guideline None

Mode 9806(config)#

Example The following example describes how to use spanning-tree rapid-stp enable command.

```
9806(config)# spanning-tree rapid-stp enable
9806(config)#
```

Related Command show spanning tree

spanning-tree rapid-stp default cost

Syntax spanning-tree rapid-stp default-cost {short | long}

Purpose To configure RSTP default cost format

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
short	IEEE STD 8021d of 1998	-
long	IEEE STD 8021t of 2001	-

Mode 9806(config)#

Example The following example describes how to use spanning-tree rap-stp default cost command.

```
9806(config)# spanning-tree rapid-stp default-cost long
9806(config)#
```

Related Command show spanning-tree

spanning-tree rapid-stp force-version

Syntax `spanning-tree rapid-stp force-version {stp-compatible | rstp-only}`

Purpose To configure the rapid-stp compatible with classic-stp or support rapid-stp only

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
stp-compatible	Compatible with classic STP	-
rstp-only	Support rapid-STP only	-

Mode 9806(config)#

Example The following example describes how to use spanning-tree rap-stp force-version command.

```
9806(config)# spanning-tree rapid-stp force-version stp-compatible
```

```
9806(config)#
```

Related Command show spanning-tree

spanning-tree rapid-stp priority

Syntax `spanning-tree rapid-stp priority num`

Purpose To configure the priority of RSTP bridge

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>num</i>	RSTP bridge priority	Range: 0 ~ 61440

Default value of rapid STP priority is 32768 and priority should be multiple of 4096.

Mode 9806(config)#

Example The following example describes how to use spanning-tree rap-stp priority command.

```
9806(config)# spanning-tree rapid-stp priority 8192
```

```
9806(config)#
```

Related Command show spanning-tree interface

spanning-tree rapid-stp tx-hold-count

Syntax `spanning-tree rapid-stp tx-hold-count number`

Purpose To configure RSTP transmission hold count

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>number</i>	Transmission hold count number	Range: 1 ~ 10 Default: 3

Mode 9806(config)#

Example The following example describes how to use spanning-tree rap-stp tx-hold-count command.

```
9806(config)# spanning-tree rapid-stp tx-hold-count 3
9806(config)#
```

Related Command show spanning tree

spanning-tree timer

Syntax `spanning-tree timer [hello-time hello-time] [max-age-time max-age-time] [forward-time forward-time]`

Purpose To configure spanning tree timer, including hello time, maximum aging time and forward time

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>hello-time</i>	Hello time	Range: 100 ~ 1000 Default: 200, (unit: 10 ms)
<i>max-age-time</i>	Maximum aging-time	Range: 600 ~ 4000 Default: 2000, (unit: 10 ms)
<i>forward-time</i>	Forward time	Range: 400 ~ 3000 Default: 1500, (unit: 10 ms)

Mode 9806(config)#

Example The following examples describe how to use spanning-tree rap-stp timer command.

```
9806(config)# spanning-tree timer hello-time 200
```

```
9806(config)# spanning-tree timer max-age 600
9806(config)# spanning-tree timer forward-time 450
```

Related Command show spanning

spanning-tree disable

Syntax spanning-tree disable

Purpose To disable the spanning-tree protocol on the system

Usage Guideline None

Mode 9806(config)#

Example The following example describes how to use spanning-tree disable command.

```
9806(config)# spanning-tree disable
9806(config)#
```

Related Command show spanning tree

ssh-server

Syntax ssh-server {enable | disable}

Purpose To enable or disable the SSH (Security Shell) server

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
enable	Enable SSH server	–
disable	Disable SSH server	–

Mode 9806(config)#

Example The following example describes how to use ssh-server command.

```
9806(config)# ssh-server enable
9806(config)#
```

Related Command show ssh

ssh-server mode

Syntax	ssh-server mode {local radius}									
Purpose	To configure authentication mode of the SSH server									
Usage Guideline	The following table provides parameter description: <table><tr><th>Parameter</th><th>Description</th><th>Value</th></tr><tr><td>local</td><td>Local mode</td><td>–</td></tr><tr><td>radius</td><td>RADIUS mode</td><td>–</td></tr></table>	Parameter	Description	Value	local	Local mode	–	radius	RADIUS mode	–
Parameter	Description	Value								
local	Local mode	–								
radius	RADIUS mode	–								
Mode	9806(config)#									
Example	The following example describes how to use ssh-server mode command. 9806(config)# ssh-server mode local 9806(config)#									
Related Command	show ssh									

ssh-server type

Syntax	ssh-server type {pap chap}		
Purpose	To configure authentication type of the SSH server		
Usage Guideline	The following table provides parameter description:		
	Parameter	Description	Value
	pap	PAP type	–
	chap	CHAP type	–
Mode	9806(config)#		
Example	The following example describes how to use ssh-server type command. 9806(config)# ssh-server type pap 9806(config)#		
Related Command	show ssh		

ssh-server generate-key

Syntax	ssh-server generate-key
Purpose	To configure the SSH server to generate key
Usage	None
Guideline	
Mode	9806(config)#
Example	The following example describes how to use ssh-server generate-key command. 9806(config)# ssh-server generate-key 9806(config)#
Related Command	show ssh

ssh-server only

Syntax	ssh-server only {enable disable}											
Purpose	To enable or disable the SSH server only											
Usage	The following table provides parameter description:											
Guideline	<table><tr><th>Parameter</th><th>Description</th><th>Value</th></tr><tr><td>enable</td><td>Enable SSH server only</td><td>–</td></tr><tr><td>disable</td><td>Disable SSH server only</td><td>–</td></tr></table>			Parameter	Description	Value	enable	Enable SSH server only	–	disable	Disable SSH server only	–
Parameter	Description	Value										
enable	Enable SSH server only	–										
disable	Disable SSH server only	–										
Mode	9806(config)#											
Example	The following example describes how to use ssh-server only command. 9806(config)# ssh-server only enable 9806(config)#											
Related Command	show ssh											

ssh-server version

Syntax	ssh-server version {sshv1 sshv2}
Purpose	To configure version of the SSH server

**Usage
Guideline**

The following table provides parameter description:

Parameter	Description	Value
sshv1	SSH V1	–
sshv2	SSH V2	–

Mode

9806(config)#

Example

The following example describes how to use ssh-server version command.

```
9806(config)# ssh-server sshv1
```

```
9806(config)#
```

**Related
Command**

show ssh

stpid

Syntax

stpid *hex-integer*

Purpose

To configure STPID of the system

**Usage
Guideline**

The following table provides parameter description:

Parameter	Description	Value
<i>hex-integer</i>	STPID	Hex integer

STPID number is a hexadecimal number.

Mode

9806(config)#

Example

The following example describes how to use stpid command.

```
9806(config)# stpid 9100
```

```
9806(config)#
```

**Related
Command**

show svlan

system hostname

Syntax

system hostname *hostname*

Purpose

To configure host name of the system

**Parameter
Description**

The following table provides parameter description:

Parameter	Description	Value
<i>hostname</i>	Host name	String

Mode 9806(config)#

Example The following example describes how to use system hostname command.

```
9806(config)# system hostname zte9806h
zte9806h(config)#
```

Related Command None

system rack

Syntax **system rack** *rackno* **frame** *frameno*

Purpose To configure system rack and frame number

Parameter Description The following table provides parameter description:

Parameter	Description	Value
<i>rackno</i>	Rack number	Range: 0 ~ 63
frame <i>frameno</i>	Frame number	Range: 0 ~ 31

Mode 9806(config)#

Example The following example describes how to use system rack command.

```
9806(config)# system system rack 0 frame 0
9806(config)#
```

Related Command show system

system hostname

Syntax **system hostname** *STRING*

Purpose To configure system hostname

Parameter Description The following table provides parameter description:

Parameter	Description	Value
<i>STRING</i>	Host name	-

Mode 9806(config)#

Example The following example describes how to use system hostname command.

```
9806(config)# system hostname shanghai
shanghai(config)#
```

Related Command show system

system contact

Syntax system contact *STRING*

Purpose To configure system contact

Parameter Description The following table provides parameter description:

Parameter	Description	Value
<i>STRING</i>	System contact	-

Mode 9806(config)#

Example The following example describes how to use system contact command.

```
9806(config)# system contact ZTE
9806(config)#
```

Related Command show system

system location

Syntax system location *STRING*

Purpose To configure system location

Parameter Description The following table provides parameter description:

Parameter	Description	Value
<i>STRING</i>	System location	-

Mode 9806(config)#

Example The following example describes how to use system location command.

```
9806(config)# system location china9806(config)#
```

Related Command show system

temperature-check

Syntax temperature-check {enable | disable | high-threshold }

purpose To enable temperature check function

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
enable	Enable temperature check	-
disable	Disable temperature check	-
high-threshold	Assign a high-threshold temperature value	Range: 60 ~ 80

Mode 9806(config)#

Example The following example describes how to use temperature-check command.

```
9806(config)# temperature-check enable
9806(config)#
```

Related Command show temperature-check

uaps protection-time

Syntax uaps protection-time *time*

Purpose To configure the UAPS (Uplink Automatic Protection Switching) protection time

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>time</i>	Protection time	Range: 10 ~ 900 sec

Mode 9806(config)#

Example The following example describes how to use uaps protection-time command.

```
9806(config)# uaps protection-time 300
9806(config)#
```

Related Command show uaps

uaps revertive

Syntax uaps revertive {enable | disable}

Purpose To enable or disable UAPS revertive on 9806H

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
enable	Enable UAPS revertive	–
disable	Disable UAPS revertive	–

Mode 9806(config)#

Example The following example describes how to use uaps revertive command.

```
9806(config)# uaps revertive enable
9806(config)#
```

Related Command show uaps

uaps swap

Syntax uaps swap

Purpose To perform UAPS swap on the system

Usage Guideline None

Mode 9806(config)#

Example The following example describes how to use uaps swap command.

```
9806(config)# uaps swap
9806(config)#
```

Related Command show uaps

uplink-mode

Syntax `uplink-mode {cascade | uaps | link-aggregation}`
`[master-port slot/port]`

Purpose To configure the uplink mode

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
cascade	Cascading mode	-
uaps	UAPS mode	-
link-aggregation	Link-aggregation mode	-
master-port <i>slot/port</i>	Master port	Range: 5/1 ~ 5/2

Mode 9806(config)#

Example The following example describes how to use uplink-mode command.

```
9806(config)# uplink-mode cascade master-port 5/1
9806(config)#
```

Related Command show uplink-mode

vdsl2-alarm-profile

Syntax `vdsl2-alarm-profile alarm-profile-name`
`no vdsl2-alarm-profile alarm-profile-name`

Purpose To create/delete a new VDSL2 alarm profile or modify an existing VDSL2 alarm profile

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>alarm-profile-name</i>	Alarm profile name	String

This command is used to create a new or modify an existing VDSL2 alarm profile.

1. Create a new VDSL2 alarm profile by executing this command for the first time.
2. Modify line parameters of an existing VDSL2 alarm profile by executing this command for the second time.

Mode 9806(config)#

Example The following example describes how to use vdsl2-alarm-profile command.

```
9806(config)# vdsl2-alarm-profile test

9806(config)# vdsl2-alarm-profile test
xdsl2LineAlarmConfProfileXtucThresh15MinFecs(0..900s):
[0]
xdsl2LineAlarmConfProfileXtucThresh15MinEs(0..900s):[0]
xdsl2LineAlarmConfProfileXtucThresh15MinSes(0..900s):[
0]
xdsl2LineAlarmConfProfileXtucThresh15MinLoss(0..900s):
[0]
xdsl2LineAlarmConfProfileXtucThresh15MinUas(0..900s):[
0]
xdsl2LineAlarmConfProfileXturThresh15MinFecs(0..900s):
[0]
xdsl2LineAlarmConfProfileXturThresh15MinEs(0..900s):[0]
xdsl2LineAlarmConfProfileXturThresh15MinSes(0..900s):[
0]
xdsl2LineAlarmConfProfileXturThresh15MinLoss(0..900s):
[0]
xdsl2LineAlarmConfProfileXturThresh15MinUas(0..900s):[
0]
xdsl2LineAlarmConfProfileThresh15MinFailedFullInt:[0]
xdsl2LineAlarmConfProfileThresh15MinFailedShrtInt:[0]
Press M or m key to modify, or the other key to
complete?[C]
```

The following table shows parameter explanation of the example.

Parameters	Description
xdsl2LineAlarmConfProfileXtucThresh15MinFecs	XTUC forward error corrections threshold in 15 minutes
xdsl2LineAlarmConfProfileXtucThresh15MinEs	XTUC error seconds threshold in 15 minutes
xdsl2LineAlarmConfProfileXtucThresh15MinSes	XTUC severe error seconds threshold in 15 minutes
xdsl2LineAlarmConfProfileXtucThresh15MinLoss	XTUC signal loss threshold in 15 minutes
xdsl2LineAlarmConfProfileXtucThresh15MinUas	XTUC unavailable seconds threshold in 15 minutes
xdsl2LineAlarmConfProfileXturThresh15MinFecs	XTUR forward error corrections threshold in 15 minutes

Parameters	Description
xdsl2LineAlarmConfProfileXturThresh15MinEs	XTUR error seconds threshold in 15 minutes
xdsl2LineAlarmConfProfileXturThresh15MinSes	XTUR severe error seconds threshold in 15 minutes
xdsl2LineAlarmConfProfileXturThresh15MinLoss	XTUR signal loss threshold in 15 minutes
xdsl2LineAlarmConfProfileXturThresh15MinUas	XTUR unavailable seconds threshold in 15 minutes
xdsl2LineAlarmConfProfileThresh15MinFailedFullInt	Full initialization failures threshold in 15 minutes
xdsl2LineAlarmConfProfileThresh15MinFailedShrtInt	Short initialization failures threshold in 15 minutes

Related Command show vdsl2 alarm-profile

vdsl2-chan-alarm-profile

Syntax **vdsl2-chan-alarm-profile** *chan-alarm-profile-name*

no vdsl2-chan-alarm-profile *chan-alarm-profile-name*

Purpose To create a new VDSL2 channel alarm profile or modify an existing VDSL2 channel alarm profile

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>chan-alarm-profile-name</i>	Channel alarm profile name	String

This command is used to create a new or modify an existing VDSL2 channel alarm profile.

1. Create a new VDSL2 channel alarm profile by executing this command for the first time.
2. Modify line parameters of an existing VDSL2 channel alarm profile by executing this command for the second time.

Mode 9806(config)#

Example The following example describes how to use vdsl2-chan-alarm-profile command.

```
9806(config)# vdsl2-chan-alarm-profile test
```

```
9806(config)# vdsl2-chan-alarm-profile test
```

```
xdsl2ChAlarmConfProfileXtucThresh15MinCodingViolations  
(0..255):[0]
```

```

xds12ChAlarmConfProfileXtucThresh15MinCorrected(0..255
):[0]
xds12ChAlarmConfProfileXturThresh15MinCodingViolations
(0..255):[0]
xds12ChAlarmConfProfileXturThresh15MinCorrected(0..255
):[0]
Press M or m key to modify, or the other key to
complete?[C]

```

The following table shows parameter explanation of the example.

Parameters	Description
xds12ChAlarmConfProfileXtucThresh15MinCodingViolations	XTUC coding violations threshold in 15 minutes
xds12ChAlarmConfProfileXtucThresh15MinCorrected	XTUC corrected codes threshold in 15 minutes
xds12ChAlarmConfProfileXturThresh15MinCodingViolations	XTUR coding violations threshold in 15 minutes
xds12ChAlarmConfProfileXturThresh15MinCorrected	XTUR corrected codes threshold in 15 minutes

Related Command

show vds12 chan-alarm-profile

vds12-service-profile

Syntax **vds12-service-profile** *service-profile-name*

no vds12-service-profile

Purpose To configure a VDSL2 service profile

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>service-profile-name</i>	service-profile-name	String

This command is used to create a new or modify an existing VDSL2 channel profile.

1. Create a new VDSL2 service profile by executing this command for the first time.
2. Modify line parameters of an existing VDSL2 service profile by executing this command for the second time.

Mode 9806(config)#
Example

The following example describes how to use service-profile-name command.

```
9806(config)# vdsl2-service-profile zte
9806(config)# vdsl2-service-profile zte
9806(config)# vdsl2-service-profile zte
zxAnXdsl2LConfProfForceInp(1-Enable,2-Disable):[1]
zxAnXdsl2LConfProfRaModeDs(1-manual,2-raInit,3-
dynamicRa):[2]
zxAnXdsl2LConfProfRaModeUs(1-manual,2-raInit,3-
dynamicRa):[2]
zxAnXdsl2LConfProfTargetSnrmDs(0..310(0.1dB)): [60]
zxAnXdsl2LConfProfTargetSnrmUs(0..310(0.1dB)): [60]
zxAnXdsl2LConfProfMaxSnrmDs(0..310(0.1dB)): [310]
zxAnXdsl2LConfProfMaxSnrmUs(0..310(0.1dB)): [310]
zxAnXdsl2LConfProfMinSnrmDs(0..310(0.1dB)): [0]
zxAnXdsl2LConfProfMinSnrmUs(0..310(0.1dB)): [0]
zxAnXdsl2Ch1ConfProfMaxDataRateDs((0..200,000)kbps): [1
20000]
zxAnXdsl2Ch1ConfProfMaxDataRateUs((0..200,000)kbps): [1
20000]
zxAnXdsl2Ch1ConfProfMinDataRateDs((0..200,000)kbps): [3
2]
zxAnXdsl2Ch1ConfProfMinDataRateUs((0..200,000)kbps): [3
2]
zxAnXdsl2Ch1ConfProfMaxDelayDs((0..63)ms): [16]
zxAnXdsl2Ch1ConfProfMaxDelayUs((0..63)ms): [16]
```

Please configure MinProtection:

noProtection (1)	- INP not required
halfSymbol (2)	- INP length = 1/2 symbol
singleSymbol (3)	- INP length = 1 symbol
twoSymbols (4)	- INP length = 2 symbols
threeSymbols (5)	- INP length = 3 symbols
fourSymbols (6)	- INP length = 4 symbols
fiveSymbols (7)	- INP length = 5 symbols
sixSymbols (8)	- INP length = 6 symbols
sevenSymbols (9)	- INP length = 7 symbols
eightSymbols (10)	- INP length = 8 symbols
nineSymbols (11)	- INP length = 9 symbols
tenSymbols (12)	- INP length = 10 symbols
elevenSymbols (13)	- INP length = 11 symbols

```

twelveSymbols (14) - INP length = 12 symbols
thirteenSymbols (15) - INP length = 13 symbols
fourteenSymbols (16) - INP length = 14 symbols
fifteenSymbols (17) - INP length = 15 symbols
sixteenSymbols (18) - INP length = 16 symbols
zxAnXdsl2Ch1ConfProfMinProtectionDs((1..18)Symbol):[1]
zxAnXdsl2Ch1ConfProfMinProtectionUs((1..18)Symbol):[1]
Press M or m key to modify, or the other key to
complete?[C]
9806(config)#

```

The following table shows parameter explanation of the example.

Parameter	Description
zxAnXdsl2LConfProfForceInp	This parameter indicates that the bearer framer setting that is selected such a way that the impulse noise protection should be computed according to the relevant formula. Recommended value is greater or equal to the minimal impulse noise protection requirements. This flag has the same value for all the bearers of one line in the same direction.
zxAnxdsl2LConfProfRaModeDs:	The mode of operation of a rate-adaptive xTU-C in the transmit direction.
zxAnXdsl2LConfProfRaModeUs	The mode of operation of a rate-adaptive xTU-R in the transmit direction.
zxAnXdsl2LConfProfTargetSnrmDs	The minimum noise margin of xTU-R receiver is achieved by relative to the BER requirement. The target noise margin ranges from 0 to 310 units of 0.1 dB
zxAnXdsl2LConfProfTargetSnrmUs	The minimum noise margin of xTU-C receiver is achieved by relative to the BER requirement. The target noise margin ranges from 0 to 310 units of 0.1 dB
zxAnXdsl2LConfProfMaxSnrmDs	The maximum noise margin of xTU-R tries to sustain. If the noise margin is above this level, then xTU-R sends the request to the xTU-C. The xTU-C reduces transmitted power to get a noise margin below this limit.

Parameter	Description
	The maximum noise margin ranges from 0 to 310 units of 0.1 dB (Physical values are 0 to 31 dB). A value of 0x7FFFFFFF (2147483647) means that there is no maximum.
zxAnXdsl2LConfProfMaxSnrmUs	The maximum noise margin of xTU-c tries to sustain. If the noise margin is above this level, then xTU-c sends the request to the xTU-C. The xTU-C reduces transmitted power to get a noise margin below this limit..
	The maximum noise margin ranges from 0 to 310 units of 0.1 dB (Physical values are 0 to 31 dB). A value of 0x7FFFFFFF (2147483647) means that there is no maximum.
zxAnXdsl2LConfProfMinSnrmDs	The minimum noise margin of xTU-R receiver tolerates. If the noise margin falls below this level, the xTU-R requests the xTU-C to increase the xTU-C transmit power. If an increase to xTU-C transmit power is not possible then loss-of-margin(LOM) defect occurs, the xTU-R fails and attempt to reinitialize and the NMS is notified. The minimum noise margin ranges from 0 to 310 units of 0.1 dB (Physical values are 0 to 31 dB).
zxAnXdsl2LConfProfMinSnrmUs	The minimum noise margin of a xTU-C receiver shall tolerate. If noise margin falls below this level then xTU-C send request to the xTU-R which increase the xTU-R transmit power. If an increase to xTU-C transmitting power is not possible then loss-of-margin (LOM) defect occurs, the xTU-C shall fail and attempt to reinitialize and the NMS will notify it. The minimum noise margin ranges from 0 to 310 units of 0.1 dB (Physical values are 0 to 31 dB).
zxAnXdsl2Ch1ConfProfMaxDataRateDs	Maximum Data Rate on Downstream direction. The maximum net data rate for the bearer channel, coded in bit/s.

Parameter	Description
zxAnXdsl2Ch1ConfProfMaxDataRateUs	Maximum Data Rate on upstream direction. The maximum net data rate for the bearer channel, coded in bit/s.
zxAnXdsl2Ch1ConfProfMinDataRateDs	Minimum Data Rate on Downstream direction. The minimum net data rate for the bearer channel, coded in bit/s.
zxAnXdsl2Ch1ConfProfMinDataRateUs	Minimum Data Rate on Upstream direction. The minimum net data rate for the bearer channel, coded in bit/s.
zxAnXdsl2Ch1ConfProfMaxDelayDs	Maximum interleave delay on downstream direction. The maximum one-way interleaving delay introduced by the PMS-TC on Downstream direction. The xTU chooses the S (factor) and D (depth) values such that the actual one-way interleaving delay (Xdsl2ChStatusActDelay) is as close as possible to, but less than or equal to xdsl2ChConfProfMaxDelayDs. The delay is coded in ms, with the value 0 indicating no delay bound is being imposed."
zxAnXdsl2Ch1ConfProfMaxDelayUs	Maximum interleave delay on upstream direction. The maximum one-way interleaving delay introduced by the PMS-TC on Upstream direction. The xTUs chooses the S (factor) and D (depth) values such that the actual one-way interleaving delay (Xdsl2ChStatusActDelay) is as close as possible to, but less than or equal to xdsl2ChConfProfMaxDelayDs. The delay is coded in ms, with the value 0 indicating no delay bound is being impose.
zxAnXdsl2Ch1ConfProfMinProtectionDs	This parameter specifies the minimum impulse noise protection for the bearer channel if it is transported over DMT symbols with a sub-carrier spacing of 4.3125 kHz. The impulse noise protection is expressed in DMT symbols with a sub-carrier spacing of 4.3125 kHz and can take the values 1/2 and 0 to 16 symbols by step of 1.

Parameter	Description
	If the xTU does not support the configured INPMIN value, it shall use the nearest supported impulse noise protection greater than INPMIN.
zxAnXdsl2Ch1ConfProfMinProtectionUs	Minimum Impulse Noise Protection on Upstream direction. The minimum impulse noise protection for the bearer channel, expressed in symbols.

Related Command show vdsl2 service-profile

vdsl2-base-profile

Syntax **vdsl2-base-profile** *base-profile-name*

no vdsl2-base-profile

Purpose To configure a VDSL2 base profile

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>base-profile-name</i>	base-profile-name	String

This command is used to create a new or modify an existing VDSL2 channel profile.

1. Create a new VDSL2 base profile by executing this command for the first time.
2. Modify line parameters of an existing VDSL2 base profile by executing this command for the second time.

Mode 9806(config)#

Example The following example describes how to use vdsl2-base-profile command.

```
9806(config)# vdsl2-base-profile shanghai
```

```
9806(config)# vdsl2-base-profile shanghai
```

First configure vdsl2 transmode bits:

Preferred modes:

```
[0] None
```

```
[1] G.993.2 Region A (North America) (Annex A/G.993.2).
```

```
[2] G.993.2 Region B (Europe) (Annex B/G.993.2).
```

```
[3] G.993.2 Region C (Japan) (Annex C/G.993.2).
```

Please choose one from the preferred modes:[2]2

Second configure adsl2 transmode bits:

Preferred modes:

- [1] T1.413 G.dmt(fdm)
- [2] T1.413 G.dmt(ec)
- [3] Adsl2(fdm) Adsl2+(fdm) G.dmt(fdm) ReAdsl2(fdm)
- [4] Adsl2(fdm) Adsl2+(ec) G.dmt(fdm) ReAdsl2(fdm)
- [5] Adsl2(fdm) Adsl2+(fdm) G.dmt(fdm) ReAdsl2(fdm)
- T1.413
- [6] Adsl2(fdm) Adsl2+(ec) G.dmt(fdm) ReAdsl2(fdm)
- T1.413
- [7] Custom
- [8] All Capability

Please choose one transmode to change to (1-8):[3]3

please configure the StandardProfile:

- g993_2_8A (0-disable,1-enable)[0]
- g993_2_8B (0-disable,1-enable)[0]
- g993_2_8C (0-disable,1-enable)[0]
- g993_2_8D (0-disable,1-enable)[0]
- g993_2_12A (0-disable,1-enable)[1]
- g993_2_12B (0-disable,1-enable)[0]
- g993_2_17A (0-disable,1-enable)[0]

Annex_B common BandPlans:

- [1] BP_B7_1 997-M1c-A-7
- [2] BP_B7_2 997-M1x-M-8
- [3] BP_B7_3 997-M1x-M
- [4] BP_B7_4 997-M2x-M-8
- [5] BP_B7_5 997-M2x-A
- [6] BP_B7_6 997-M2x-M
- [7] BP_B7_7 HPE17-M1-NUS0
- [9] BP_B7_9 997E17-M2x-NUS0
- [11] BP_B8_1 998-M1x-A
- [12] BP_B8_2 998-M1x-B
- [13] BP_B8_3 998-M1x-NUS0
- [14] BP_B8_4 998-M2x-A
- [15] BP_B8_5 998-M2x-M
- [16] BP_B8_6 998-M2x-B
- [17] BP_B8_7 998-M2x-NUS0
- [18] BP_B8_8 998E17-M2x-NUS0

```

[19] BP_B8_9 998E17-M2x-NUS0-M
[20] BP_B8_10 998ADE17-M2x-NUS0-M
[21] BP_B8_11 998ADE17-M2x-A
[22] BP_B8_12 998ADE17-M2x-B
please configure the VDSL2 Limit PSD Masks and
Bandplans:[14]
zxAnXdsl2LConfProfUs0Disable(enable(1),disable(2)):[1]
xdsl2LConfProfRfiBands:
There are 0 bands been set, please to choose (0-no
change, 1-modify the bands, 2
-delete all bands):[0]
xdsl2LConfProfVdsl2CarMask:
There are 0 bands been set, please to choose (0-no
change, 1-modify the bands, 2
-delete all bands):[0]
zxAnXdsl2LConfProfVdslMaxNomAtpDs(0..255
(0.1dBm)):[205]
Press M or m key to modify, or the other key to
complete?[C]
Need more detailed base profile parameters ? Y/N: [N]y
zxAnXdsl2LConfProfVdslMaxNomAtpUs(0..255
(0.1dBm)):[145]
zxAnXdsl2LConfProfAdslMaxNomAtpDs(0..255
(0.1dBm)):[205]
zxAnXdsl2LConfProfAdslMaxNomAtpUs(0..255
(0.1dBm)):[145]
zxAnXdsl2LConfProfRaUsNrmDs(0..310(0.1dB)):[90]
zxAnXdsl2LConfProfRaUsNrmUs(0..310(0.1dB)):[90]
zxAnXdsl2LConfProfRaUsTimeDs(0..16383(s)):[60]
zxAnXdsl2LConfProfRaUsTimeUs(0..16383(s)):[60]
zxAnXdsl2LConfProfRaDsNrmsDs(0..310(0.1dB)):[30]
zxAnXdsl2LConfProfRaDsNrmsUs(0..310(0.1dB)):[30]
zxAnXdsl2LConfProfRaDsTimeDs(0..16383(s)):[60]
zxAnXdsl2LConfProfRaDsTimeUs(0..16383(s)):[60]
Please configure zxAnXdsl2LConfProfPmMode:
[0] none
[1] allowTransitionsToIdle
[2] allowTransitionsToLowPower
[3]
allowTransitionsToIdle|allowTransitionsToLowPower
zxAnXdsl2LConfProfPmMode:[0]

```

```

zxAnXdsl2LConfProfL0Time(0..255)s:[255]
zxAnXdsl2LConfProfL2Time(0..255)s:[255]
zxAnXdsl2LConfProfL2Atpr(0..31) dB:[3]
zxAnXdsl2LConfProfL2Atprt(0..31) dB:[31]
zxAnXdsl2LConfProfPsdMaskDs:
There are 0 breakpoints been set, please to choose (0-
no change, 1-modify the ba
nds, 2-delete all bands):[0]
zxAnXdsl2LConfProfPsdMaskUs:
There are 0 breakpoints been set, please to choose (0-
no change, 1-modify the ba
nds, 2-delete all bands):[0]
zxAnXdsl2LConfProfBitswapDs(enabled    (1),    disabled
(2)):[1]
zxAnXdsl2LConfProfBitswapUs(enabled    (1),    disabled
(2)):[1]
zxAnXdsl2LConfProfRetrainMode(enabled   (1),    disabled
(2)):[1]
zxAnXdsl2LConfProfSnrModeDs(enabled     (1),    disabled
(2)):[2]
zxAnXdsl2LConfProfSnrModeUs(enabled     (1),    disabled
(2)):[2]
zxAnXdsl2LConfProfTxRefVNDs:
There are 0 breakpoints been set, please to choose (0-
no change, 1-modify the ba
nds, 2-delete all bands):[0]
zxAnXdsl2LConfProfTxRefVNUs:
There are 0 breakpoints been set, please to choose (0-
no change, 1-modify the ba
nds, 2-delete all bands):[0]
zxAnXdsl2Ch1ConfProfMinDataRateLowPwrDs((0..200,000)kb
ps):[128]
Need more detailed base profile parameters ? Y/N: [N]

```

The following table shows parameter explanation of the example.

Parameter	Description
zxAnXdsl2LConfProfUs0Disable	If Upstream band 0 (US0) is disabled then each PSD mask is enabled in the LIMITMASK parameter.

Parameter	Description
xdsl2LConfProfRfiBands:	Each band represents start and stop subcarrier with a spacing of 4.3125 kHz. Maximum 16 bands can be specified. This parameter defines the RFI bands for both upstream and downstream directions.
zxAnXdsl2LConfProfVdslMaxNomAtpDs	Defines maximum nominal aggregate transmitting power in the downstream direction during initialization and showtime. It ranges from 0 to 255 units of 0.1 dBm (physical values are 0 to 25.5 dBm).
xdsl2LConfProfVdsl2CarMask	VDSL2 specific sub-carriers mask.
zxAnXdsl2LConfProfRaUsNrmDs	Downstream up-shift noise margin value is used when xsdsl2LConfProfRaModeDs is set to dynamicRa. The Downstream Up-shift Noise Margin ranges from 0 to 310 units of 0.1 dB (Physical values are 0 to 31 dB).
zxAnXdsl2LConfProfRaUsNrmUs	Upstream up-shift noise margin value is used when xsdsl2LConfProfRaModeUs is set to dynamicRa.
zxAnXdsl2LConfProfRaUsTimeDs	Downstream up-shift time interval is used when xsdsl2LConfProfRaModeDs is set to dynamicRa.
zxAnXdsl2LConfProfRaUsTimeUs	Upstream up-shift time interval is used when xsdsl2LConfProfRaModeUs is set to dynamicRa.
zxAnXdsl2LConfProfRaDsNrmsDs	Downstream up-shift time interval is used when xsdsl2LConfProfRaModeDs is set to dynamicRa.
zxAnXdsl2LConfProfRaDsNrmsUs	Upstream down-shift noise margin value is used when xsdsl2LConfProfRaModeUs is set to dynamicRa
zxAnXdsl2LConfProfRaDsTimeDs	Downstream down-shift time interval, to be used when xsdsl2LConfProfRaModeDs is set to dynamicRa.
zxAnXdsl2LConfProfRaDsTimeUs	Upstream down-shift time interval is used when xsdsl2LConfProfRaModeUs is set to dynamicRa.
zxAnXdsl2LConfProfRetrainMode	Enabled or disabled the retrain

Parameter	Description
zxAnXdsl2LconfProfSnrModeDs	This parameter enables/disables the transmitter referred virtual noise in the downstream direction.
zxAnXdsl2LconfProfSnrModeUs	This parameter enables/disables the transmitter referred virtual noise in the Upstream direction.
zxAnXdsl2LConfProfTxRefVNds	Downstream Transmitter Referred Virtual Noise (TXREFVNds). There are 0 breakpoints has been set, please choose (0-no change, 1-modify the bands, 2-delete all bands):[0]
zxAnXdsl2LConfProfTxRefVNus	Upstream Transmitter Referred Virtual Noise (TXREFVNus). There are 0 breakpoints has been set, please choose (0-no change, 1-modify the bands, 2-delete all bands):[0]

Related Command

show vdsl2-base-profile

vdsl2-dpbo-profile

Syntax **vdsl2-dpbo-profile** *dpbo-profile-name*

no vdsl2-dpbo-profile

Purpose To configure a VDSL2 Downstream Power Back-Off (dpbo) profile

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>dpbo-profile-name</i>	dpbo-profile-name	String

This command is used to create a new or modify an existing VDSL2 channel profile.

1. Create a new VDSL2 dpbo profile by executing this command for the first time.
2. Modify line parameters of an existing VDSL2 dpbo profile by executing this command for the second time.

Mode 9806(config)#

Example The following example describes how to use vdsl2-dpbo-profile command.

```
9806(config)# vdsl2-dpbo-profile new
```

```

9806(config)# vdsl2-dpbo-profile new
zxAnXdsl2LConfProfDpboEPsd:
    [1] adsl    mode
    [2] adsl2+  mode
    [3] vdsl2   mode
    [4] custom
zxAnXdsl2LConfProfDpboEPsd:[2]2
zxAnXdsl2LConfProfDpboEsEL(0(0 db)..511(255.5 dB) 0.5
dB:[0]
zxAnXdsl2LConfProfDpboEsCableModelA(0..640) 2e-8:[263]
zxAnXdsl2LConfProfDpboEsCableModelB(0..640) 2e-8:[509]
zxAnXdsl2LConfProfDpboEsCableModelC(0..640) 2e-8:[261]
xdsl2LineConfProfDpboMus(0..255) 0.5dBm:[190]
xdsl2LineConfProfDpboFmin(0..2048) 4.3125 KHz:[32]
xdsl2LineConfProfDpboFmax(32..6956) 4.3125 KHz:[511]
Press M or m key to modify, or the other key to
complete?[C]
9806(config)#

```

The following table shows parameter explanation of the example.

Parameter	Description
zxAnXdsl2LConfProfDpboEPsd	Assumed exchange PSD mask (DPBOEPSD) defines the PSD mask, which is assumed to be permitted at the exchange.
	The maximum number of breakpoints for DPBOEPSD is 16.
zxAnXdsl2LConfProfDpboEsEL	E-side Electrical Length (DPBOESEL) defines the assumed electrical length of cables (E-side cables), which connects exchange based on DSL services to a remote flexibility point (cabinet).. DPBOESEL is coded as an unsigned integer representing an electrical length from 0 dB (coded as 0) to 255.5 dB (coded as 511) in steps of 0.5 dB.
	If DPBOESEL is set to zero then DPBO in this section is disabled.

Parameter	Description
zxAnXdsl2LConfProfDpboEsCableModelA	E-side cable model parameter A (DPBOESCMA) is the cable model (DPBOESCM) cables. These are connected exchanges based DSL services to a remote flexibility point (cabinet). Power back-off (DPBO) depending on this value.
	There are three scalar of cable models xdsl2LConfProfDpboEsCableModel A (DPBOESCMA), xdsl2LConfProfDpboEsCableModel B (DPBOESCMB), and xdsl2LConfProfDpboEsCableModel C (DPBOESCMC), that are used to calculate the frequency dependent loss of E-side cables.
	Possible values are coded as unsigned integers, representing a scalar value from -1 (coded as 0) to 1.5 (coded as 640) in steps of 2^{-8} .
xdsl2LineConfProfDpboMus	DPBOMUS defines as an assumed minimum usable PSD (in dBm/Hz) received signal in exchange based services. This parameter modifies DPBOFMAX. It can be coded as an unsigned integer representing a PSD level from 0dBm/Hz (coded as 0) to -127.5 dBm/Hz (coded as 255) in steps of 0.5 dB.
xdsl2LineConfProfDpboFmin	DPBOFMIN (DPBO Span Minimum Frequency) defines the minimum frequency from which the DPBO is applied. It is coded as a 16 bits unsigned integer representing a frequency in multiple of 4.3125 KHz. The range of valid values is from 0 kHz (coded as 0) to 8832 kHz (coded as 2048)
xdsl2LineConfProfDpboFmax	This configuration parameter defines the maximum frequency at which DPBO may be applied. It ranges from 138 kHz (coded as 32) to 29997.75 kHz (coded as 6956) in steps of 4.3125 kHz.

Related Command show vdsl2 dpbo-profile new

vdsl2-upbo-profile

Syntax **vdsl2-upbo-profile** *vdsl2-upbo-profile*

no vdsl2-dpbo-profile

Purpose To configure a VDSL2 Upstream Power Back Off (upbo) profile.

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>vdsl2-upbo-profile</i>	vdsl2-upbo-profile	String

This command is used to create a new or modify an existing VDSL2 channel profile.

1. Create a new VDSL2 upbo profile by executing this command for the first time.
2. Modify line parameters of an existing VDSL2 upbo profile by executing this command for the second time.

Mode 9806(config)#

Example The following example describes how to use vdsl2-upbo-profile command.

```
9806(config)# vdsl2-upbo-profile new
```

```
9806(config)# vdsl2-upbo-profile new
```

```
zxAxXdsl2LConfProfUpboKL(0..1280) 0.1dBm:[0]
```

```
zxAxXdsl2LConfProfUpboKLF(auto[1] override[2]  
disableUpbo[3])[3]
```

```
zxAxXdsl2LConfProfUpboU0bandPsdA(4000..8095) 0.01  
dBm/Hz:[4000]
```

```
zxAxXdsl2LConfProfUpboU0bandPsdB(0..4095) 0.01  
dBm/Hz:[0]
```

```
zxAxXdsl2LConfProfUpboU1bandPsdA(4000..8095) 0.01  
dBm/Hz:[5650]
```

```
zxAxXdsl2LConfProfUpboU1bandPsdB(0..4095) 0.01  
dBm/Hz:[1020]
```

```
zxAxXdsl2LConfProfUpboU2bandPsdA(4000..8095) 0.01  
dBm/Hz:[5650]
```

```
zxAxXdsl2LConfProfUpboU2bandPsdB(0..4095) 0.01  
dBm/Hz:[615]
```

```
zxAxXdsl2LConfProfUpboU3bandPsdA(4000..8095) 0.01  
dBm/Hz:[5650]
```

```
zxAxXdsl2LConfProfUpboU3bandPsdB(0..4095) 0.01  
dBm/Hz:[615]
```

```
zxAnXdsl2LConfProfUpboU4bandPsdB(4000..8095)      0.01
dBm/Hz:[4000]
```

```
zxAnXdsl2LConfProfUpboU4bandPsdB(0..4095)          0.01
dBm/Hz:[0]
```

Press M or m key to modify, or the other key to complete?[C]

```
9806(config)#
```

The following table shows parameter explanation of the example.

Parameter	Description
zxAnXdsl2LConfProfUpboKL	Upstream electrical loop length (UPBOKL) This parameter defines the electrical loop length expressed in dB at 1MHz, kI0, configured by the CO-MIB. The value shall be coded as an unsigned 16 bit number in the range 0 (coded as 0) to 128 dB (coded as 1280) in steps of 0.1 d
zxAnXdsl2LConfProfUpboKLF	Force CO-MIB electrical loop length (UPBOKLF) This parameter is a flag that forces the VTU-R to use the electrical loop length of the CO-MIB (UPBOKL) to compute the UPBO. The value shall be forced if the flag is set to 1. Otherwise, the electrical loop length shall be autonomously selected by the VTU-O.
zxAnXdsl2LConfProfUpboU0bandPsdB/ zxAnXdsl2LConfProfUpboXdsl2LCo	Upstream power back-off reference PSD per band (UPBOPSD-pb)

Parameter	Description
nfProfUpboU0bandPsdB	This parameter defines the UPBO reference PSD used to compute the upstream power back-off for each upstream band except US0. A UPBOPSD defined for each band consists of two parameters [a, b]. Parameter a is coded as an unsigned 12-bit number from 40 dBm/Hz (coded as 0) to 80.95 dBm/Hz (coded as 4095) in steps of 0.01 dBm/Hz; and b shall be coded as an unsigned 12 bit number from 0 (coded as 0) to 40.95 dBm/Hz (coded as 4095) in steps of 0.01 dBm/Hz. The UPBO reference PSD at the frequency f expressed in MHz is equal to $-a - b \sqrt{f}$. The set of parameter values $a = 40$ dBm/Hz, $b = 0$ dBm/Hz is a special configuration to disable UPBO in the respective upstream band.

Related Command show vdsl2 upbo-profile

vlan

Syntax **vlan** *vlan-list* *slot/port* [**tag** | **untag**] [**one-to-one**] [**pvc** *pvc-id*]
no vlan *vlan-list* *slot/port* [**one-to-one**] [**pvc** *pvc-id*]

Purpose To configure VLAN parameters, including VLAN number, tag or untag and PVC ID

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>vlan-list</i>	VLAN list number	Range: 1 ~ 4094
<i>slot</i>	Slot number	Range: 1 ~ 5
<i>port</i>	Port number	Range :1 ~ 24
tag	Add ports to VLANs with the tag mode	-
untag	Add ports to VLANs with the un-tag mode	-
one-to-one	Add ports to VLANs one to one	-
pvc <i>pvc-id</i>	PVC ID	Range: 1 ~ 7

Mode	9806(config)#
Example	The following example describes how to use vlan command. 9806(config)# vlan 50-60 2/1-10 untag one-to-one pvc 2 9806(config)#
Related Command	add-vlan show vlan

vlan name

Syntax	vlan <i>vlan-list</i> name <i>name</i>
purpose	To configure VLAN name
Usage Guideline	The following table provides parameter description:

Parameter	Description	Value
<i>vlan-list</i>	VLAN list	Range: 1 ~ 4094
<i>name</i>	VLAN name	String

Mode	9806(config)#
Example	The following example describes how to use vlan name command. 9806(config)# vlan 100 name NMVLAN 9806(config)#
Related Command	show vlan

ADSL Interface Configuration Mode

This section describes ADSL interface configuration mode commands.

accept

Syntax	accept {all tagged-only untagged-only} pvc <i>id</i>
Purpose	To assign a mode for receiving VLAN packets

**Usage
Guideline**

The following table provides parameter description:

Parameter	Description	Value
all	Accept all frames	-
tagged-only	Accept only tagged frame	-
untagged-only	Accept only untagged frame	-
pvc <i>id</i>	PVC ID	Range: 1 ~ 7

By default, an ADSL port receives all frames.

Mode 9806(cfg-if-adsl-slot/port)#

Example The following example describes how to use accept command.

```
9806(cfg-if-adsl-3/1)# accept all pvc 1
```

```
9806(cfg-if-adsl-3/1)#
```

**Related
Command**

show interface

adsl loop-test atm-ping pvc

Syntax **adsl loop-test atm-ping pvc** *pvc*

Purpose To configure the power forstate to a port

**Usage
Guideline**

The following table provides parameter description:

Parameter	Description	Value
<i>pvc</i>	PVC ID	-

Mode 9806(cfg-if-adsl-slot/port)#

Example The following example describes how to use adsl loop-test atm-ping pvc command.

```
9806(cfg-if-adsl-2/2)# adsl loop-test atm-ping pvc 1
```

```
LoopTestResult(SLOT:2 PORT:2 PVC:1): Failed #
```

**Related
Command**

None

add-mac

Syntax **add-mac** *mac-address vlanid pvcid*

no add-mac *mac-address vlanid*

Purpose To add a MAC address to a port.

**Usage
Guideline**

The following table provides parameter description:

Parameter	Description	Value
<i>mac-address</i>	MAC address	AA:BB:CC:DD:EE:FF
<i>vlanid</i>	VLAN ID	Range: 1 ~ 4094
<i>pvcid</i>	PVC ID	Range: 1 ~ 7

Each port is configured with 8 static MAC addresses at most.

Mode

9806(cfg-if-adsl-slot/port)#

Example

The following example describes how to use add-mac command.

```
9806(cfg-if-adsl-3/1)# add-mac 00:11:22:33:44:55 1 1
9806(cfg-if-adsl-3/1)#
```

**Related
Command**

```
show mac
show mac-address-table
```

adsl alarm-profile

Syntax

adsl alarm-profile *name*

no adsl alarm-profile

Purpose

To configure an ADSL alarm profile to a port

**Usage
Guideline**

The following table provides parameter description:

Parameter	Description	Value
<i>name</i>	Alarm profile name	String

Create an ADSL alarm profile before configuring it to a specific port.

no adsl alarm-profile is used to configure default alarm profile to the port.

Mode

```
9806(cfg-if-adsl-slot/port)#
9806(cfg-if-range-adsl)#
```

Example

The following example describes how to use adsl alarm-profile command.

```
9806(cfg-if-adsl-3/1)# adsl alarm-profile zte
9806(cfg-if-adsl-3/1)#
```

**Related
Command**

adsl-alarm-profile

adsl power forcesta

Syntax `adsl power-forcesta {1 | 3 | 4}`

Purpose To configure the power forcesta to a port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
1	L0_FullOn	-
3	L2_LowPower	-
4	L3_Idle	-

Mode `9806(cfg-if-adsl-slot/port)#`

Example The following example describes how to use `adsl power-forcesta` command.

```
9806(cfg-if-adsl-3/1)# adsl power-forcesta 3
```

```
9806(cfg-if-adsl-3/1)#
```

Related Command `show adsl status`

adsl profile

Syntax `adsl profile name`

`no adsl profile`

Purpose To configure an ADSL line profile to a port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>name</i>	Profile name	String

Create an ADSL profile before applying it to a specific port.

`no adsl profile` is used to configure default profile to the port.

Mode `9806(cfg-if-adsl-slot/port)#`

Example The following example describes how to use `adsl profile` command.

```
9806(cfg-if-adsl-3/1)# adsl profile zte
```

```
9806(cfg-if-adsl-3/1)#
```

Related Command `adsl-profile`

adsl trans-mode

Syntax `adsl trans mode`

Purpose To configure the ADSL transmode to a port

Usage Guideline None

Mode `9806(cfg-if-adsl-slot/port)#`

Example The following example describes how to use `adsl trans-mode` command.

```
9806(cfg-if-adsl-3/1)# adsl trans-mode
```

Preferred modes:

```
[1] T1.413 G.dmt(fdm)
[2] T1.413 G.dmt(ec)
[3] Adsl2(fdm) Adsl2+(fdm) G.dmt(fdm) ReAdsl2(fdm)
[4] Adsl2(fdm) Adsl2+(ec) G.dmt(fdm) ReAdsl2(fdm)
[5] Adsl2(fdm) Adsl2+(fdm) G.dmt(fdm) ReAdsl2(fdm)
T1.413
[6] Adsl2(fdm) Adsl2+(ec) G.dmt(fdm) ReAdsl2(fdm)
T1.413
[7] Custom
[8] All Capability
```

Please choose one transmode to change to (1-8):[3]

Related Command `show adsl status`

adsl loop-test atm-ping pvc

Syntax `adsl loop-test atm-ping pvc pvc`

Purpose To configure the power for test to a port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>pvc</i>	PVC ID	-

Mode `9806(cfg-if-adsl-slot/port)#`

Example The following example describes how to use `adsl loop-test atm-ping pvc` command.

```
9806(cfg-if-adsl-2/2)# adsl loop-test atm-ping pvc 1
LoopTestResult(SLOT:2 PORT:2 PVC:1): Failed #
```

Related Command None

atm pvc

Syntax **atm pvc** *id* **vpi** *vpi* **vci** *vci* [**common** | **multicast**]
no atm pvc *id*

Purpose To configure ATM PVC on a port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
pvc <i>id</i>	PVC ID	Range: 1 ~ 7
vpi <i>vpi</i>	VPI ID	Range: 0 ~ 255
vci <i>vci</i>	VCID ID	Range: 0 ~ 65535
common	Common type	-
multicast	Multicast type	-

Mode 9806(cfg-if-adsl-slot/port)#
 9806(cfg-if-range-adsl)#

Example The following example describes how to use atm pvc command.
 9806(cfg-if-adsl-3/1)# atm pvc 2 vpi 0 vci 32 common
 9806(cfg-if-adsl-3/1)#

Related Command show atm

bind

Syntax **bind** {**ip-address** *ip-address* | **mac-address** *mac-address*}
no bind {**ip-address** *ip-address* | **mac-address** *mac-address*}

Purpose To bind or unbind IP address and MAC address to a port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
ip-address <i>ip-address</i>	IP address	A.B.C.D

Parameter	Description	Value
mac-address <i>mac-address</i>	MAC address	AA:BB:CC:DD:EE:FF

Mode 9806(cfg-if-adsl-slot/port)#
9806(cfg-if-range-adsl)#

Example The following example describes how to use bind command.
9806(cfg-if-adsl-3/1)# bind ip-address 10.61.86.71
9806(cfg-if-adsl-3/1)#

Related Command show bind

dhcp-option82

Syntax dhcp-option82 {enable | disable}

Purpose To enable or disable DHCP sub-option82 on a port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
enable	Enable DHCP sub-option82	–
disable	Disable DHCP sub-option82	–

Mode 9806(cfg-if-adsl-slot/port)#

Example The following example describes how to use dhcp-option82 command.
9806(cfg-if-adsl-3/1)# dhcp-option82 enable
9806(cfg-if-adsl-3/1)#

Related Command show interface

dhcp-option82 sub-option

Syntax dhcp-option82 sub-option {china-telecom | wt101 | china-netcom}

Purpose To configure the DHCP-option82 sub-options format

**Usage
Guideline**

The following table provides parameter description:

Parameter	Description	Value
china-telecom	China Telecom format	-
wt101	WT101 format	-
china-netcom	China Netcom format	-

Mode 9806(cfg-if-adsl-slot/port)#

Example The following example describes how to use dhcp-option82 sub-option command.

```
9806(cfg-if-adsl-3/1)# dhcp-option82 sub-option wt101
9806(cfg-if-adsl-3/1)#
```

**Related
Command**

show interface

dhcp-option82 sub-option rid

Syntax dhcp-option82 sub-option rid {enable | disable}

Purpose To enable or disable the DHCP-option82 sub-option remote ID of a port

**Usage
Guideline**

The following table provides parameter description:

Parameter	Description	Value
enable	Enable remote ID	-
disable	Disable remote ID	-

Mode 9806(cfg-if-adsl-slot/port)#

Example The following example describes how to use dhcp-option82 sub-option rid command.

```
9806(cfg-if-adsl-3/1)# dhcp-option82 sub-option rid
enable
9806(cfg-if-adsl-3/1)#
```

**Related
Command**

show interface

dhcp-option82 sub-option rid name

Syntax dhcp-option82 sub-option rid name *name*

Purpose To configure DHCP-option82 sub-option remote ID name

**Usage
Guideline**

The following table provides parameter description:

Parameter	Description	Value
name <i>name</i>	Remote ID name	string

Mode

9806(cfg-if-vdsl-slot/port)#

Example

The following example describes how to use dhcp-option82 sub-option rid command.

```
9806(cfg-if-adsl-3/1)# dhcp-option82 sub-option rid  
name 9806
```

```
9806(cfg-if-adsl-3/1)#
```

**Related
Command**

show interface

dhcp-packet-limit

**Syntax
Purpose**

dhcp-packet-limit *number*

To configure maximum number of DHCP packets

**Usage
Guideline**

The following table provides parameter description:

Parameter	Description	Value
<i>number</i>	Maximum number of DHCP packets	Range: 0 ~ 16 (pps), 0 for no limit

Mode

9806(cfg-if-adsl-slot/port)#

Example

The following example describes how to use dhcp-packet-limit command.

```
9806(cfg-if-adsl-3/1)# dhcp-packet-limit 1
```

```
9806(cfg-if-adsl-3/1)#
```

**Related
Command**

None

dhcp-snooping

**Syntax
Purpose**

dhcp-snooping {enable | disable}

To enable or disable DHCP snooping on a port

**Usage
Guideline**

The following table provides parameter description:

Parameter	Description	Value
enable	Enable DHCP snooping	-

Parameter	Description	Value
disable	Disable DHCP snooping	–

Mode 9806(cfg-if-adsl-slot/port)#

Example The following example describes how to use dhcp-snooping command.

```
9806(cfg-if-adsl-3/1)# dhcp-snooping enable
```

```
9806(cfg-if-adsl-3/1)#
```

Related Command show dhcp-snooping

dhcp-snooping-limit

Syntax Purpose **dhcp-snooping-limit** *number*

To configure interface DHCP snooping record limit parameters

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>number</i>	DHCP snooping record limit	Range: 1 ~ 8

Mode 9806(cfg-if-adsl-slot/port)#

Example The following example describes how to use dhcp-snooping-limit command.

```
9806(cfg-if-adsl-3/1)# dhcp-snooping-limit 8
```

```
9806(cfg-if-adsl-3/1)#
```

Related Command show dhcp-snooping

dhcp-source-guard

Syntax Purpose **dhcp-source-guard** {enable | disable} pvc *id*

To enable or disable DHCP source guard on a port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
enable	Enable DHCP source guard	–
disable	Disable DHCP source guard	–
pvc <i>id</i>	PVC ID	Range: 1 ~ 7

Mode	9806(cfg-if-adsl-slot/port)#
Example	The following example describes how to use dhcp-source-guard command. <pre>9806(cfg-if-adsl-3/1)# dhcp-source-guard enable pvc 1 9806(cfg-if-adsl-3/1)#</pre>
Related Command	show interface

egress-shaping-queue

Syntax	egress-shaping-queue <i>queue id</i> average-rate <i>average-rate</i> [burst-size <i>burst-size</i>] no egress-shaping-queue <i>queue id</i>
Purpose	To configure egress shaping parameters
Usage Guideline	The following table provides parameter description:

Parameter	Description	Value
queue <i>id</i>	Queue ID	Range: 1 ~ 8
average-rate <i>average-rate</i>	Average rate	Range: 74 ~ 40960 Kbps, granularity of 74 kbps
burst-size <i>burst-size</i>	Burst-size	Range: 4 kbyte ~ 16384 kbyte, granularity of 4 kbyte

Mode	9806(cfg-if-adsl-slot/port)#
Example	The following example describes how to use egress-shaping-queue command. <pre>9806(cfg-if-adsl-3/1)# egress-shaping-queue queue 1 average-rate 740 burst-size 1000 9806(cfg-if-adsl-3/1)#</pre>
Related Command	show qos interface

filter mac-address

Syntax	filter mac-address <i>mac-address</i> no filter mac-address <i>mac-address</i>
Purpose	To configure MAC address filter on a port

**Usage
Guideline**

The following table provides parameter description:

Parameter	Description	Value
<i>mac-address</i>	MAC address	AA:BB:CC:DD:EE:FF

Mode

9806(cfg-if-adsl-slot/port)#

Example

The following example describes how to use filter mac-address command.

```
9806(cfg-if-adsl-3/1)#          filter          mac-address
00:00:00:11:12:13
```

```
9806(cfg-if-adsl-3/1)#
```

**Related
Command**

show filter mac-address

igmp

Syntax

igmp {enable | disable}

Purpose

To enable or disable the IGMP on a port

**Usage
Guideline**

The following table provides parameter description:

Parameter	Description	Value
enable	Enable IGMP	–
disable	Disable IGMP	–

Mode

9806(cfg-if-adsl-slot/port)#

Example

The following example describes how to use igmp command.

```
9806(cfg-if-adsl-3/1)# igmp enable
```

```
9806(cfg-if-adsl-3/1)#
```

**Related
Command**

show igmp interface

igmp bandwidth

Syntax

igmp bandwidth *bandwidth*

Purpose

To configure the IGMP bandwidth on a port

**Usage
Guideline**

The following table provides parameter description:

Parameter	Description	Value
bandwidth <i>bandwidth</i>	IGMP bandwidth	Range: 1 Kbps ~ 1048576 Kbps

Mode	9806(cfg-if-adsl-slot/port)#
Example	The following example describes how to use igmp bandwidth command. 9806(cfg-if-adsl-3/1)# igmp bandwidth 1000 9806(cfg-if-adsl-3/1)#
Related Command	show igmp interface

igmp fast-leave

Syntax	igmp fast-leave {enable disable}
Purpose	To enable or disable the IGMP fast-leave on a port
Usage Guideline	The following table provides parameter description:

Parameter	Description	Value
enable	Enable IGMP fast-leave	–
disable	Disable IGMP fast-leave	–

Mode	9806(cfg-if-adsl-slot/port)#
Example	The following example describes how to use igmp fast-leave command. 9806(cfg-if-adsl-3/1)# igmp fast-leave enable 9806(cfg-if-adsl-3/1)#
Related Command	show igmp interface

igmp groups-limit

Syntax	igmp groups-limit <i>number</i>
Purpose	To configure the maximum number of IGMP group on a port
Usage Guideline	The following table provides parameter description:

Parameter	Description	Value
groups-limit <i>number</i>	Groups limit number	Range: 1 ~ 16 Default: 1

Mode	9806(cfg-if-adsl-slot/port)# 9806(cfg-if-range-adsl)#
-------------	--

Example The following example describes how to use `igmp groups-limit` command.

```
9806(cfg-if-adsl-3/1)# igmp groups-limit 8
```

```
9806(cfg-if-adsl-3/1)#
```

Related Command show igmp interface

igmp igmp-packet-limit

Syntax `igmp igmp-packet-limit number`

Purpose To configure the maximum number of IGMP packets on a port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<code>igmp igmp-packet-limit number</code>	IGMP packets limit number	Range: 1 ~ 16 0 for no limit

Mode 9806(cfg-if-adsl-slot/port)#

```
9806(cfg-if-range-adsl)#
```

Example The following example describes how to use `igmp igmp-packet-limit` command.

```
9806(cfg-if-adsl-3/1)# igmp igmp-packet-limit 16
```

```
9806(cfg-if-adsl-3/1)#
```

Related Command show igmp interface

igmp last-query-interval

Syntax `igmp last-query-interval time`

Purpose To configure the interval of IGMP group specific query on a port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<code>time</code>	Query interval time	Range: 0 ~ 255 (unit: 0.1 sec) Default: 10

Mode 9806(cfg-if-adsl-slot/port)#

Example The following example describes how to use `igmp last-query-interval` command.

```
9806(cfg-if-adsl-3/1)# igmp last-query-interval 120
```

```
9806(cfg-if-adsl-3/1)#
```

Related Command `show igmp interface`

igmp query-interval

Syntax `igmp query-interval time`

Purpose To configure IGMP-query interval time on a port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>time</i>	Query interval time	Range: 60 ~ 3600 sec Default: 125

Mode `9806(cfg-if-adsl-slot/port)#`

Example The following example describes how to use `igmp query-interval` command.

```
9806(cfg-if-adsl-3/1)# igmp query-interval 100
```

```
9806(cfg-if-adsl-3/1)#
```

Related Command `show igmp interface`

igmp query-max-resp

Syntax `igmp query-max-resp time`

Purpose To configure maximum IGMP query response time on a port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>time</i>	Maximum response time	Range: 0 ~ 255 (unit: 0.1 sec) Default: 100

Mode `9806(cfg-if-adsl-slot/port)#`

Example The following example describes how to use `igmp query-max-resp` command.

```
9806(cfg-if-adsl-3/1)# igmp query-max-resp 60
```

```
9806(cfg-if-adsl-3/1)#
```

Related Command show igmp interface

igmp robustness

Syntax igmp robustness *number*

Purpose To configure IGMP robustness number on a port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>number</i>	Robustness number	Range: 1 ~ 255 Default: 2

Mode 9806(cfg-if-adsl-slot/port)#
9806(cfg-if-range-adsl)#

Example The following example describes how to use igmp robustness command.

```
9806(cfg-if-adsl-3/1)# igmp robustness 100
9806(cfg-if-adsl-3/1)#
```

Related Command show igmp interface

igmp version

Syntax igmp version *number*

Purpose To configure the IGMP version on a port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>number</i>	Version number	Range: 1 ~ 3 Default: 2

Mode 9806(cfg-if-adsl-slot/port)#

Example The following example describes how to use igmp version command.

```
9806(cfg-if-adsl-3/1)# igmp version 2
9806(cfg-if-adsl-3/1)#
```

Related Command show igmp interface

ingress

Syntax ingress {discard | accept}

Purpose To configure the port filtering policy when receiving port is not in the VLAN of the frame VID

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
discard	Discard the frame if this port is not in tag VLAN	–
accept	Accept the frame no matter this port is in tag VLAN or not	–

Mode 9806(cfg-if-adsl-slot/port)#

Example The following example describes how to use ingress command.

```
9806(cfg-if-adsl-3/1)# ingress accept
9806(cfg-if-adsl-3/1)#
```

Related Command show interface

max-mac-learn

Syntax max-mac-learn *number*

no max-mac-learn

Purpose To configure the maximum number of MAC addresses learned by a port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>number</i>	Maximum learned number of MAC address	Range: 1 ~ 10 Default: 10

Mode 9806(cfg-if-adsl-slot/port)#

9806(cfg-if-range-adsl)#

Example The following example describes how to use max-mac-learn command.

```
9806(cfg-if-adsl-3/1)# max-mac-learn 3
9806(cfg-if-adsl-3/1)#
```

Related Command show interface

modem ip

Syntax modem ip *ipaddress*

Purpose To configure IP address of the MODEM connected to a port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>ipaddress</i>	IP address	A.B.C.D

Mode 9806(cfg-if-adsl-slot/port)#

Example The following example describes how to use modem ip command.
9806(cfg-if-adsl-3/1)# modem ip 192.168.1.1
9806(cfg-if-adsl-3/1)#

Related Command show interface

pppoe-plus

Syntax pppoe-plus {enable | disable}

Purpose To enable or disable PPPoE-plus function

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
enable	Enable PPPoE-plus	–
disable	Disable PPPoE-plus	–

Mode 9806(cfg-if-adsl-slot/port)#

Example The following example describes how to use pppoe-plus command.
9806(cfg-if-adsl-3/1)# pppoe-plus enable
9806(cfg-if-adsl-3/1)#

Related Command show interface

psvid

Syntax `psvid psvid pvc id`

Purpose To configure PSVID of a port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>psvid</i>	PSVID	Range: 1 ~ 4094
pvc <i>id</i>	PVC ID	Range: 1 ~ 7

Mode `9806(cfg-if-adsl-slot/port)#`

Example The following example describes how to use `psvid` command.

```
9806(cfg-if-adsl-3/1)# psvid 100 pvc 2
9806(cfg-if-adsl-3/1)#
```

Related Command `show interface`

pvc

Syntax `pvc id {enable | disable}`

Purpose To enable or disable PVC of a port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>id</i>	PVC ID	Range: 1 ~ 8
enable	Enable the PVC	–
disable	Disable the PVC	–

Mode `9806(cfg-if-adsl-slot/port)#`

Example The following example describes how to use `pvc` command.

```
9806(cfg-if-adsl-3/1)# pvc 2 enable
9806(cfg-if-adsl-3/1)#
```

Related Command `show interface`

pvid

Syntax `pvid pvid pvc id`

Purpose To configure PVID of a port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>pvid</i>	PVID	Range: 1 ~ 4094
pvc <i>id</i>	PVC ID	Range: 1 ~ 7

Mode 9806(cfg-if-adsl-slot/port)#
9806(cfg-if-range-adsl)#

Example The following example describes how to use pvid command.
9806(cfg-if-range-adsl)# pvid 10 pvc 1
9806(cfg-if-adsl-3/1)#

Related Command show interface

qos cvid

Syntax `qos cvid id1 translate-to [svid id2] cvid id3`
`no qos cvid id1 translate-to {svid and cvid | cvid}`

Purpose To configure QoS CVID mapping

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
cvid <i>id1</i>	VID from user interface	Range: 1 ~ 4094
svid <i>id2</i>	SVID	Range: 1 ~ 4094
cvid <i>id3</i>	CVID	Range: 1 ~ 4094

Mode 9806(cfg-if-adsl-slot/port)#

Example The following example describes how to use qos cvid command.
9806(cfg-if-adsl-3/1)# qos cvid 10 translate-to cvid 100
9806(cfg-if-adsl-3/1)#

Related Command show interface

qos def-cos

Syntax `qos def-cos cospriority [pvc id]`

Purpose To configure the default priority of CoS

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>cospriority</i>	Default CoS priority	Range: 0 ~ 7
<i>pvc id</i>	PVC ID	Range: 1 ~ 7

Mode `9806(cfg-if-adsl-slot/port)#`

Example The following example describes how to use qos def-cos command.

```
9806(cfg-if-adsl-3/1)# qos def-cos 3 pvc 2
9806(cfg-if-adsl-3/1)#
```

Related Command `show interface`

qos override-cos

Syntax `qos override-cos cos-priority [pvc id]`
`no qos override-cos`

Purpose To configure interface QoS override CoS priority

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>cos-priority</i>	Override CoS priority	Range: 0 ~ 7
<i>pvc id</i>	PVC ID	Range: 1 ~ 7

Mode `9806(cfg-if-adsl-slot/port)#`

Example The following example describes how to use qos override-cos command.

```
9806(cfg-if-adsl-3/1)# qos override-cos 5 pvc 2
9806(cfg-if-adsl-3/1)#
```

Related Command `show qos interface`

qos pvc2queue

Syntax `qos pvc2queue datalist:data`

Purpose To configure interface QoS PVC to queue mapping

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>datalist:</i>	PVC list	Range: 1 ~ 6
<i>data</i>	queue	Range: 1 ~ 8

Mode `9806(cfg-if-adsl-slot/port)#`

Example The following example describes how to use qos pvc2queue command.

```
9806(cfg-if-adsl-3/1)# qos pvc2queue 1,3-5:8
9806(cfg-if-adsl-3/1)#
```

Related Command show qos mapping

qos trust

Syntax `qos trust {cos [mapping] [pvc id] | dscp mapping [pvc id]}`
`no qos trust`

Purpose To configure interface QoS trust CoS or DSCP

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
cos	Trust CoS	-
dscp	Trust DSCP	-
mapping	CoS and DSCP mapping	-
<i>pvc id</i>	PVC ID	Range: 1 ~ 7

The trust cos indicates the CoS priority carried in the packet trusted by the port.

The trust DSCP indicates the DSCP priority carried in the packet trusted by the port.

The mapping means using related mapping relationship. For example, to trust the CoS priority and apply mapping, use the CoS-DSCP mapping to change the DSCP priority.

Mode `9806(cfg-if-adsl-slot/port)#`

Example The following example describes how to use qos trust command.

```
9806(cfg-if-adsl-3/1)# qos trust cos mapping pvc 2
9806(cfg-if-adsl-3/1)#
```

Related Command show qos interface

qos vlan-membership

Syntax qos vlan-membership {enable | disable}

Purpose To enable or disable QoS VLAN membership

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
enable	Enable QoS VLAN membership	-
disable	Disable QoS VLAN membership	-

Mode 9806(cfg-if-adsl-slot/port)#

Example The following example describes how to use qos vlan-membership command.

```
9806(cfg-if-adsl-3/1)# qos vlan-membership enable
9806(cfg-if-adsl-3/1)#
```

Related Command show interface

qos-policy

Syntax qos-policy *name* [egress | ingress]

no qos-policy

Purpose To configure QoS policy on a port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>name</i>	Policy name	String
egress	Apply the policy to egress	-
ingress	Apply the policy to ingress	-

A port can be configured with only one policy.

Mode 9806(cfg-if-adsl-slot/port)#

Example The following example describes how to use qos-policy command.

```
9806(cfg-if-adsl-3/1)# qos-policy test egress
9806(cfg-if-adsl-3/1)#
```

Related Command show qos policy

range

Syntax range

Purpose To display the port range list

Usage Guideline None

Mode 9806(cfg-if-range-adsl)#

Examples The following example describes how to use range command.

```
9806(cfg-if-range-vdsl)# range
Portlist of the range : 1/1-24
```

Related Command interface range

rate-limit broadcast

Syntax rate-limit broadcast *rate*

no rate-limit broadcast

Purpose To configure port broadcast rate limit parameters

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>rate</i>	Broadcast rate limit	Range: 32 ~ 16384 kbps

Mode 9806(cfg-if-adsl-slot/port)#

Example The following example describes how to use rate-limit broadcast command.

```
9806(cfg-if-adsl-3/1)# rate-limit broadcast 3200
9806(cfg-if-adsl-3/1)#
```

Related Command show interface

shutdown

Syntax	shutdown no shutdown
Purpose	To enable or disable a port
Usage Guideline	None
Mode	9806(cfg-if-adsl-slot/port)# 9806(cfg-if-range-adsl)#
Example	The following example describes how to use shutdown command. 9806(cfg-if-adsl-1/2)# shutdown 9806(cfg-if-adsl-3/1)#
Related Command	show interface

sub-channel

Syntax	sub-channel <i>id</i> pvc <i>id</i> { all protocol data } no sub-channel <i>id</i>																				
Purpose	To configure ADSL sub-channel																				
Usage Guideline	The following table provides parameter description:																				
	<table><tr><th>Parameter</th><th>Description</th><th>Value</th></tr><tr><td><i>id</i></td><td>Sub-channel ID</td><td>Range: 2 ~ 8</td></tr><tr><td>pvc <i>id</i></td><td>PVC ID</td><td>Range: 1 ~ 7</td></tr><tr><td>all</td><td>Assign sub channel support all packets</td><td>–</td></tr><tr><td>protocol</td><td>Assign sub channel support protocol packet</td><td>–</td></tr><tr><td>data</td><td>Assign sub channel support data packet</td><td>–</td></tr></table>	Parameter	Description	Value	<i>id</i>	Sub-channel ID	Range: 2 ~ 8	pvc <i>id</i>	PVC ID	Range: 1 ~ 7	all	Assign sub channel support all packets	–	protocol	Assign sub channel support protocol packet	–	data	Assign sub channel support data packet	–		
Parameter	Description	Value																			
<i>id</i>	Sub-channel ID	Range: 2 ~ 8																			
pvc <i>id</i>	PVC ID	Range: 1 ~ 7																			
all	Assign sub channel support all packets	–																			
protocol	Assign sub channel support protocol packet	–																			
data	Assign sub channel support data packet	–																			
Mode	9806(cfg-if-adsl-slot/port)# 9806(cfg-if-range-adsl)#																				
Example	The following command shows how to use sub-channel command.																				

```
9806(cfg-if-adsl-3/1)# sub-channel 2 pvc 2 all
9806(cfg-if-adsl-3/1)#
```

Related Command show interface

svlan

Syntax `svlan {enable | disable} pvc id`

Purpose To enable or disable SVLAN mode of the port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
enable	Enable SVLAN mode of port	-
disable	Disable SVLAN mode of port	-
pvc id	PVC ID	Range: 1 ~ 6

Mode 9806(cfg-if-adsl-slot/port)#

Example The following example describes how to use svlan command.

```
9806(cfg-if-adsl-3/1)# svlan enable pvc 2
9806(cfg-if-adsl-3/1)#
```

Related Command show interface

trap-control

Syntax `trap-control {enable | disable}`

Purpose To enable or disable trap sending

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
enable	Enable trap sending	-
disable	Disable trap sending	-

Mode 9806(cfg-if-adsl-slot/port)#

9806(cfg-if-range-adsl)#

Example The following example describes how to use trap-control command.

```
9806(cfg-if-adsl-3/1)# trap-control enable
```

```
9806(cfg-if-adsl-3/1)#
```

Related Command None

VDSL Interface Configuration Mode

This section describes VDSL interface configuration mode commands.

accept

Syntax `accept {all | tagged-only | untagged-only}`

Purpose To assign a mode for receiving VLAN packets

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
all	Accept all frames	-
tagged-only	Accept only tagged frame	-
untagged-only	Accept only untagged frame	-

By default, a VDSL port receives all frames.

Mode `9806(cfg-if-vdsl-slot/port)#`

Example The following example describes how to use `accept` command.

```
9806(cfg-if-vdsl-4/3)# accept all
9806(cfg-if-vdsl-4/3)#
```

Related Command `show interface`

add-mac

Syntax `add-mac mac-address vlanid`
`no add-mac mac-address vlanid`

Purpose To add a MAC address to a port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>mac-address</i>	MAC address	AA:BB:CC:DD:EE:FF
<i>vlanid</i>	VLAN ID	Range: 1 ~ 4094

A port can configured with maximum 8 static MAC addresses.

Mode 9806(cfg-if-vdsl-slot/port)#

Example The following example describes how to use add-mac command.

```
9806(cfg-if-vdsl-4/3)# add-mac 00:11:22:33:44:55 1
9806(cfg-if-vdsl-4/3)#
```

Related Command show mac
show mac-address-table

bind

Syntax bind {ip-address *ip-address* | mac-address *mac-address*}

no bind {ip-address *ip-address* | mac-address *mac-address*}

Purpose To bind or unbind IP address and MAC address to a port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
ip-address <i>ip-address</i>	IP address	A.B.C.D
mac-address <i>mac-address</i>	MAC address	AA:BB:CC:DD:EE:FF

Mode 9806(cfg-if-vdsl-slot/port)#

9806(cfg-if-range-vdsl)#

Example The following example describes how to bind IP address to a port.

```
9806(cfg-if-vdsl-4/3)# bind ip-address 10.61.86.71
9806(cfg-if-vdsl-4/3)#
```

Related Command show bind

dhcp-option82

Syntax dhcp-option82 {enable | disable}

Purpose To enable or disable DHCP sub-option82 on a port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
enable	Enable DHCP sub-option82	-
disable	Disable DHCP sub-option82	-

Mode 9806(cfg-if-vdsl-slot/port)#

Example The following example describes how to use dhcp-option82 command.

```
9806(cfg-if-vdsl-4/3)# dhcp-option82 enable
9806(cfg-if-vdsl-4/3)#
```

Related Command show interface

dhcp-option82 sub-option

Syntax **dhcp-option82 sub-option {china-telecom | wt101 | china-netcom}**

Purpose To configure the DHCP-option82 sub-options format

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
china-telecom	China Telecom format	-
wt101	WT101 format	-
china-netcom	China Netcom format	-

Mode 9806(cfg-if-vdsl-slot/port)#

Example The following example describes how to use dhcp-option82 sub-option command.

```
9806(cfg-if-vdsl-4/3)# dhcp-option82 sub-option wt101
9806(cfg-if-vdsl-4/3)#
```

Related Command show interface

dhcp-option82 sub-option rid

Syntax **dhcp-option82 sub-option rid {enable | disable} name name**

Purpose To enable or disable the dhcp-option82 sub-option remote ID of a port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
enable	Enable remote ID	–
disable	Disable remote ID	–
name <i>name</i>	Remote ID name	string

Mode 9806(cfg-if-vdsl-slot/port)#

Example The following example describes how to use dhcp-option82 sub-option rid command.

```
9806(cfg-if-vdsl-4/3)# dhcp-option82 sub-option rid
enable
9806(cfg-if-vdsl-4/3)#
```

Related Command show interface

dhcp-option82 sub-option rid name

Syntax **dhcp-option82 sub-option rid name** *name*

Purpose To configure DHCP-option82 sub-option remote ID name

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
name <i>name</i>	Remote ID name	string

Mode 9806(cfg-if-vdsl-slot/port)#

Example The following example describes how to use dhcp-option82 sub-option rid name command.

```
9806(cfg-if-vdsl-4/3)# dhcp-option82 sub-option rid
name 9806
9806(cfg-if-vdsl-4/3)#
```

Related Command show interface

dhcp-packet-limit

Syntax **dhcp-packet-limit** *number*
Purpose

To configure maximum number of DHCP packets.

**Usage
Guideline**

The following table provides parameter description:

Parameter	Description	Value
<i>number</i>	DHCP packet maximum number	Range: 0 ~ 16 (pps), 0 for no limit

Mode 9806(cfg-if-vdsl-slot/port)#

Example The following example describes how to use dhcp-packet-limit command.

```
9806(cfg-if-vdsl-4/3)# dhcp-packet-limit 8
```

```
9806(cfg-if-vdsl-4/3)#
```

**Related
Command** None

dhcp-snooping

**Syntax
Purpose** **dhcp-snooping {enable | disable}**

To enable or disable DHCP snooping

**Usage
Guideline**

The following table provides parameter description:

Parameter	Description	Value
enable	Enable DHCP snooping	–
disable	Disable DHCP snooping	–

Mode 9806(cfg-if-vdsl-slot/port)#

Example The following example describes how to use dhcp-snooping command.

```
9806(cfg-if-vdsl-4/3)# dhcp-snooping enable
```

```
9806(cfg-if-vdsl-4/3)#
```

**Related
Command** show dhcp-snooping

dhcp-snooping-limit

**Syntax
Purpose** **dhcp-snooping-limit** *number*

To configure interface DHCP snooping record limit parameters

**Usage
Guideline**

The following table provides parameter description:

Parameter	Description	Value
<i>number</i>	DHCP snooping record limit	Range: 1 ~ 8

Mode 9806(cfg-if-vdsl-slot/port)#

Example The following example describes how to use dhcp-snooping-limit command.

```
9806(cfg-if-vdsl-4/3)# dhcp-snooping-limit 8
```

```
9806(cfg-if-vdsl-4/3)#
```

Related Command show dhcp-snooping

dhcp-source-guard

Syntax Purpose **dhcp-source-guard {enable | disable}**
To enable or disable DHCP source guard

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
enable	Enable DHCP source guard	–
disable	Disable DHCP source guard	–

Mode 9806(cfg-if-vdsl-slot/port)#

Example The following example describes how to use dhcp-source-guard command.

```
9806(cfg-if-vdsl-4/3)# dhcp-source-guard enable
```

```
9806(cfg-if-vdsl-4/3)#
```

Related Command show interface

filter mac-address

Syntax **filter mac-address** *mac-address*
no filter mac-address *mac-address*

Purpose To configure MAC address filter on a port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
-----------	-------------	-------

Parameter	Description	Value
<i>mac-address</i>	MAC address	AA:BB:CC:DD:EE:FF

Mode 9806(cfg-if-vdsl-slot/port)#

Example The following example describes how to use filter mac-address command.

```
9806(cfg-if-vdsl-4/3)# filter mac-address 00:00:00:11:12:13
9806(cfg-if-vdsl-4/3)#
```

Related Command show filter mac-address

igmp

Syntax igmp {enable | disable}

Purpose To enable or disable the IGMP on a port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
enable	Enable IGMP	–
disable	Disable IGMP	–

Mode 9806(cfg-if-vdsl-slot/port)#

Example The following example describes how to use igmp command.

```
9806(cfg-if-vdsl-4/3)# igmp enable
9806(cfg-if-vdsl-4/3)#
```

Related Command show igmp interface

igmp bandwidth

Syntax igmp bandwidth *bandwidth*

Purpose To configure the IGMP bandwidth on a port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
bandwidth <i>bandwidth</i>	IGMP bandwidth	Range: 1 ~ 1048576 Kbps

Mode 9806(cfg-if-vdsl-slot/port)#

Example The following example describes how to use igmp bandwidth command.

```
9806(cfg-if-vdsl-4/3)# igmp bandwidth 1000
9806(cfg-if-vdsl-4/3)#
```

Related Command show igmp interface

igmp fast-leave

Syntax igmp fast-leave {enable | disable}

Purpose To enable or disable the IGMP fast-leave on a port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
enable	Enable IGMP fast-leave	–
disable	Disable IGMP fast-leave	–

Mode 9806(cfg-if-vdsl-slot/port)#

Example The following example describes how to use igmp fast-leave command.

```
9806(cfg-if-vdsl-4/3)# igmp fast-leave enable
9806(cfg-if-vdsl-4/3)#
```

Related Command show igmp interface

igmp groups-limit

Syntax igmp groups-limit *number*

Purpose To configure the maximum number of IGMP group on a port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
groups-limit <i>number</i>	Groups limit number	Range: 1 ~ 16 Default: 1

Mode 9806(cfg-if-vdsl-slot/port)#
9806(cfg-if-range-vdsl)#

Example The following example describes how to use `igmp groups-limit` command.

```
9806(cfg-if-vdsl-4/3)# igmp groups-limit 4
```

```
9806(cfg-if-vdsl-4/3)#
```

Related Command show igmp interface

igmp igmp-packet-limit

Syntax `igmp igmp-packet-limit number`

Purpose To configure the maximum number of IGMP packets on a port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>number</i>	IGMP packets limit number	Range: 1 ~ 16 0 for no limit

Mode 9806(cfg-if-vdsl-slot/port)#

```
9806(cfg-if-range-vdsl)#
```

Example The following example describes how to use `igmp igmp-packet-limit` command.

```
9806(cfg-if-vdsl-1/11)# igmp igmp-packet-limit 16
```

```
9806(cfg-if-vdsl-4/3)#
```

Related Command show igmp interface

igmp last-query-interval

Syntax `igmp last-query-interval time`

Purpose To configure the interval of IGMP group-specific query on a port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>time</i>	Query interval time	Range: 0 ~ 255 (unit: 0.1 sec) Default: 10

Mode 9806(cfg-if-vdsl-slot/port)#

Example The following example describes how to use `igmp last-query-interval` command.

```
9806(cfg-if-vdsl-4/3)# igmp last-query-interval 120
9806(cfg-if-vdsl-4/3)#
```

Related Command show igmp interface

igmp query-interval

Syntax igmp query-interval *time*

Purpose To configure IGMP-query interval time on a port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>time</i>	Query interval time	Range: 60 ~ 3600(unit: sec) Default: 125

Mode 9806(cfg-if-vdsl-slot/port)#

Example The following example describes how to use igmp query-interval command.

```
9806(cfg-if-vdsl-4/3)# igmp query-interval 300
9806(cfg-if-vdsl-4/3)#
```

Related Command show igmp interface

igmp query-max-resp

Syntax igmp query-max-resp *time*

Purpose To configure maximum IGMP query response time on a port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>time</i>	Maximum response time	Range: 0 ~ 255 (unit: 0.1 sec) Default: 100

Mode 9806(cfg-if-vdsl-slot/port)#

Example The following example describes how to use igmp query-max-resp command.

```
9806(cfg-if-vdsl-4/3)# igmp query-max-resp 150
9806(cfg-if-vdsl-4/3)#
```

Related Command show igmp interface

igmp robustness

Syntax igmp robustness *number*

Purpose To configure IGMP robustness number on a port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
robustness <i>number</i>	Robustness Number	Range: 1 ~ 255 Default: 2

Mode 9806(cfg-if-vdsl-slot/port)#

9806(cfg-if-range-vdsl)#

Example The following example describes how to use igmp robustness command.

9806(cfg-if-vdsl-4/3)# igmp robustness 100

9806(cfg-if-vdsl-4/3)#

Related Command show igmp interface

igmp version

Syntax igmp version *number*

Purpose To configure the IGMP version used on a port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>number</i>	Version number	Range: 1 ~ 3 Default: 2

Mode 9806(cfg-if-vdsl-slot/port)#

Example The following example describes how to use igmp version command.

9806(cfg-if-vdsl-4/3)# igmp version 2

9806(cfg-if-vdsl-4/3)#

Related Command show igmp interface

ingress

Syntax ingress {discard | accept}

Purpose To configure the port filtering policy when receiving port is not in the VLAN of the frame VID

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
discard	Discard the frame if this port is not in tag VLAN	–
accept	Accept the frame no matter this port is in tag VLAN or not	–

Mode 9806(cfg-if-vdsl-slot/port)#

Example The following example describes how to use ingress command.
9806(cfg-if-vdsl-4/3)# ingress accept
9806(cfg-if-vdsl-4/3)#

Related Command show interface

max-mac-learn

Syntax max-mac-learn *number*
no max-mac-learn

Purpose To configure the maximum number of MAC addresses by a port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>number</i>	Maximum learned number of MAC address	Range: 1 ~ 10 Default: 10

Mode 9806(cfg-if-vdsl-slot/port)#
9806(cfg-if-range-vdsl)#

Example The following example describes how to use max-mac-learn command.
9806(cfg-if-vdsl-4/3)# igmp max-mac-learn 2
9806(cfg-if-vdsl-4/3)#

Related Command show interface

pppoe-plus

Syntax pppoe-plus {enable | disable}

Purpose To enable or disable PPPoE-plus function

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
enable	Enable PPPoE-plus	–
disable	Disable PPPoE-plus	–

Mode 9806(cfg-if-vdsl-slot/port)#

Example The following example describes how to use pppoe-plus command.

```
9806(cfg-if-vdsl-4/3)# pppoe-plus enable
9806(cfg-if-vdsl-4/3)#
```

Related Command show interface

psvid

Syntax psvid *psvid*

Purpose To configure PSVID of a port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>psvid</i>	PSVID	Range: 1 ~ 4094

Mode 9806(cfg-if-vdsl-slot/port)#

Example The following example describes how to use psvid command.

```
9806(cfg-if-vdsl-4/3)# psvid 20
9806(cfg-if-vdsl-4/3)#
```

Related Command show interface

pvid

Syntax `pvid pvid`

Purpose To configure PVID of a port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>pvid</i>	PVID	Range: 1 ~ 4094

Mode `9806(cfg-if-vdsl-slot/port)#`

`9806(cfg-if-range-vdsl)#`

Example The following example describes how to use `pvid` command.

`9806(cfg-if-range-vdsl)# pvid 10`

`9806(cfg-if-range-vdsl)#`

Related Command `show interface`

qos cvid

Syntax `qos cvid id1 translate-to [svid id2] cvid id3`

`no qos cvid id1 translate-to {svid and cvid | cvid}`

Purpose To configure QoS CVID mapping

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
cvid <i>id1</i>	VID from user interface	Range: 1 ~ 4094
svid <i>id2</i>	SVID	Range: 1 ~ 4094
cvid <i>id3</i>	CVID	Range: 1 ~ 4094

Mode `9806(cfg-if-vdsl-slot/port)#`

Example The following example describes how to use `qos cvid` command.

`9806(cfg-if-vdsl-4/3)# qos cvid 10 translate-to cvid 100`

`9806(cfg-if-vdsl-4/3)#`

Related Command `show interface`

qos def-cos

Syntax `qos def-cos cospriority`

Purpose To configure the default priority of CoS

Usage The following table provides parameter description:

Guideline

Parameter	Description	Value
def-cos <i>cospriority</i>	Default CoS priority	Range: 0 ~ 7

Mode `9806(cfg-if-vdsl-slot/port)#`

Example The following example describes how to use qos def-cos command.

```
9806(cfg-if-vdsl-4/3)# qos def-cos 3
9806(cfg-if-vdsl-4/3)#
```

Related Command `show interface`

qos override-cos

Syntax `qos override-cos cos-priority`
`no qos override-cos`

Purpose To configure interface QoS override CoS priority

Usage The following table provides parameter description:

Guideline

Parameter	Description	Value
<i>cos-priority</i>	Override CoS priority	Range: 0 ~ 7

Mode `9806(cfg-if-vdsl-slot/port)#`

Example The following example describes how to use qos override-cos command.

```
9806(cfg-if-vdsl-4/3)# qos override-cos 5
9806(cfg-if-vdsl-4/3)#
```

Related Command `show qos interface`

qos trust

Syntax `qos trust {cos [mapping] | dhcp mapping}`

no qos trust

Purpose To configure interface QoS trust CoS or DSCP

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
cos	Trust CoS	-
dhcp	Trust DHCP	-
mapping	CoS and DSCP mapping	-

The trust cos indicates the CoS priority carried in the packet trusted by the port.

The trust DSCP indicates the DSCP priority carried in the packet trusted by the port.

The mapping means using related mapping relationship. For example, to trust the CoS priority and apply mapping, use the CoS-DSCP mapping to change the DSCP priority.

Mode 9806(cfg-if-vdsl-slot/port)#

Example The following example describes how to use qos trust command.

```
9806(cfg-if-vdsl-4/3)# qos trust cos mapping
```

```
9806(cfg-if-vdsl-4/3)#
```

Related Command show qos interface

qos vlan-membership

Syntax qos vlan-membership {enable | disable}

Purpose To enable or disable QoS VLAN membership

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
enable	Enable QoS VLAN membership	-
disable	Disable QoS VLAN membership	-

Mode 9806(cfg-if-vdsl-slot/port)#

Example The following example describes how to use qos vlan-membership command.

```
9806(cfg-if-vdsl-4/3)# qos vlan-membership enable
```

```
9806(cfg-if-vdsl-4/3)#
```

Related Command show interface

qos-policy

Syntax qos-policy *name* [egress | ingress]

no qos-policy

Purpose To configure QoS policy on a port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>name</i>	Policy name	String
egress	Apply the policy to egress	-
ingress	Apply the policy to ingress	-

A port can be configured with only one policy.

Mode 9806(cfg-if-vdsl-slot/port)#

Example The following example describes how to use qos-policy command.

```
9806(cfg-if-vdsl-4/3)# qos-policy test
9806(cfg-if-vdsl-4/3)#
```

Related Command show qos policy

range

Syntax range

Purpose To display the port range list

Usage Guideline None

Mode 9806(cfg-if-range-vdsl)#

Examples The following example describes how to use range command.

```
9806(cfg-if-range-vdsl)# range
Portlist of the range : 1/1-16
```

Related Command interface range

rate-limit broadcast

Syntax `rate-limit broadcast` *rate*

`no rate-limit broadcast`

Purpose To configure port broadcast rate limit parameters

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>rate</i>	Broadcast rate-limit	Range: 32 ~ 16384 kbps, granularity: 32 kbps

Mode 9806(cfg-slot-vdsl-slot)#

Example The following example describes how to use rate-limit broadcast command.

```
9806(cfg-if-vdsl-4/3)# rate-limit broadcast 3200
```

```
9806(cfg-if-vdsl-4/3)#
```

Related Command show interface

shutdown

Syntax `shutdown`

`no shutdown`

Purpose To enable or disable a VDSL port

Usage Guideline None

Mode 9806(cfg-if-vdsl-slot/port)#

```
9806(cfg-if-range-vdsl)#
```

None

Example The following example describes how to use shutdown command.

```
9806(cfg-if-vdsl-4/3)# shutdown
```

```
9806(cfg-if-vdsl-4/3)#
```

Related Command show interface

svlan

Syntax `svlan {enable | disable}`

Purpose To enable or disable SVLAN mode of the port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
enable	Enable SVLAN mode of port	-
disable	Disable SVLAN mode of port	-

Mode `9806(cfg-if-vdsl-slot/port)#`

Example The following example describes how to use `svlan` command.

```
9806(cfg-if-vdsl-4/3)# svlan enable
9806(cfg-if-vdsl-4/3)#
```

Related Command `show interface`

trap-control

Syntax `trap-control {enable | disable}`

Purpose To enable or disable trap sending

The following table provides parameter description:

Parameter	Description	Value
enable	Enable trap sending	-
disable	Disable trap sending	-

Mode `9806(cfg-if-vdsl-slot/port)#`
`9806(cfg-if-range-vdsl)#`

Example The following example describes how to use `trap-control` command.

```
9806(cfg-if-vdsl-4/3)# trap-control enable
9806(cfg-if-vdsl-4/3)#
```

Related Command None

vdsl2 alarm-template

Syntax `vdsl2 alarm-template alarm-template-name`

Purpose To configure a VDSL2 alarm template to a VDSL port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>alarm-template-name</i>	Alarm template name	String

Create a VDSL2 alarm template before applying it to a specific port.

`no vdsl2 alarm-template` configures default alarm template to the port.

Mode `9806(cfg-if-vdsl-slot/port)#`
`9806(cfg-if-range-vdsl)#`

Example The following example describes how to use `vdsl2 alarm-template` command.

```
9806(cfg-if-vdsl-4/3)# vdsl2 alarm-template test
9806(cfg-if-vdsl-4/3)#
```

Related Command `show vdsl2 alarm-template`

vdsl2 base-profile

Syntax `vdsl2 base-profile base-profile-name`

Purpose To configure a VDSL2 base profile to a VDSL port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>base-profile-name</i>	Base profile name	String

Create a VDSL2 base profile before applying it to a specific port.

`no vdsl2 base-profile` configures default base profile to the port.

Mode `9806(cfg-if-vdsl-slot/port)#`
`9806(cfg-if-range-vdsl)#`

Example The following example describes how to use `vdsl2 base-profile` command.

```
9806(cfg-if-vdsl-4/3)# vdsl2 base-profile test
```

```
9806(cfg-if-vdsl-4/3)#
```

Related Command show vdsl2 base-profile

vdsl2 dpbo-profile

Syntax **vdsl2 dpbo-profile** *dpbo-profile-name*

Purpose To configure a VDSL2 dpbo profile to a VDSL port.

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>dpbo-profile-name</i>	Dpbo profile name	String

Create a VDSL2 dpbo profile before applying it to a specific port.
no vdsl2 dpbo-profile configures default dpbo profile to the port.

Mode 9806(cfg-if-vdsl-slot/port)#
9806(cfg-if-range-vdsl)#

Example The following example describes how to use vdsl2 dpbo-profile command.

```
9806(cfg-if-vdsl-4/3)# vdsl2 dpbo-profile test
9806(cfg-if-vdsl-4/3)#
```

Related Command show vdsl2 dpbo-profile

vdsl2 service-profile

Syntax **vdsl2 service-profile** *service-profile-name*

Purpose To configure a VDSL2 service profile to a VDSL port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>service-profile-name</i>	Service profile name	String

Create a VDSL2 service profile before applying it to a specific port.

no vdsl2 service-profile configures default service profile to the port.

Mode 9806(cfg-if-vdsl-slot/port)#

```
9806(cfg-if-range-vdsl)#
```

Example The following example describes how to use vdsl2 service-profile command.

```
9806(cfg-if-vdsl-4/3)# vdsl2 service-profile test
9806(cfg-if-vdsl-4/3)#
```

Related Command show vdsl2 service-profile

vdsl2 upbo-profile

Syntax **vdsl2 upbo-profile** *upbo-profile-name*

Purpose To configure a VDSL2 upbo profile to a VDSL port.

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>upbo-profile-name</i>	Upbo profile name	String

Create a VDSL2 upbo profile before applying it to a specific port.
no vdsl2 upbo-profile configures default upbo profile to the port.

Mode

```
9806(cfg-if-vdsl-slot/port)#
9806(cfg-if-range-vdsl)#
```

Example The following example describes how to use vdsl2 upbo-profile command.

```
9806(cfg-if-vdsl-4/3)# vdsl2 upbo-profile test
9806(cfg-if-vdsl-4/3)#
```

Related Command show vdsl2 upbo-profile

Ethernet Interface Configuration Mode

This section describes Ethernet interface configuration mode commands.

accept

- Syntax** `accept {all | tagged-only}`
- Purpose** To assign a mode for receiving VLAN packets
- Usage Guideline** The following table provides parameter description:

Parameter	Description	Value
all	Accept all frames	-
tagged-only	Accept only tagged frame	-

- Mode** `9806(cfg-if-eth-slot/port)#`
`9806(cfg-if-ge-slot/port)#`
- Example** The following example describes how to use `accept` command.
`9806(cfg-if-ge-5/1)# accept all`
`9806(cfg-if-ge-5/1)#`
- Related Command** `show interface`

add-mac

- Syntax** `add-mac mac-address vlanid`
`no add-mac mac-address vlanid`
- Purpose** To configure static MAC address to a port
- Usage Guideline** The following table provides parameter description:

Parameter	Description	Value
<i>mac-address</i>	MAC address	AA:BB:CC:DD:EE:FF
<i>vlanid</i>	VLAN ID	Range: 1 ~ 4094

- Mode** `9806(cfg-if-eth-slot/port)#`
`9806(cfg-if-ge-slot/port)#`
- Example** The following example describes how to use `add-mac` command.
`9806(cfg-if-ge-5/1)# add-mac 00:D0:00:11:12:22 100`
`9806(cfg-if-ge-5/1)#`

Related Command show mac address table

auto-negotiate

Syntax auto-negotiate enable

Purpose To configure auto-negotiation mode on a port

Usage Guideline None

Mode 9806(cfg-if-eth-slot/port)#
9806(cfg-if-ge-slot/port)#

Example The following example describes how to use auto-negotiate command.

```
9806(cfg-if-ge-5/1)# auto-negotiate enable
9806(cfg-if-ge-5/1)#
```

Related Command show interface

dhcp-packet-limit

Syntax dhcp-packet-limit *number*

Purpose To configure maximum number of DHCP packets

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>number</i>	Maximum number of DHCP packets	Range: 0 ~ 2048 pps 0 for no limit

Mode 9806(cfg-if-eth-slot/port)#
9806(cfg-if-ge-slot/port)#

Example The following example describes how to use dhcp-packet-limit command.

```
9806(cfg-if-ge-5/1)# dhcp-packet-limit 24
9806(cfg-if-ge-5/1)#
```

Related Command None

duplex

Syntax `duplex {half | full}`

Purpose To configure the duplex mode of a port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
half	Half duplex	-
full	Full duplex	-

Mode `9806(cfg-if-eth-slot/port)#`
`9806(cfg-if-ge-slot/port)#`

Example The following example describes how to use `duplex` command.

```
9806(cfg-if-ge-5/1)# duplex full
9806(cfg-if-ge-5/1)#
```

Related Command `show interface`

egress-shaping

Syntax `egress-shaping average-rate average-rate`
`no egress-shaping`

Purpose To configure egress shaping parameters

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
average-rate <i>average-rate</i>	Average rate	Range: 35 ~ 163840 kbps, granularity of 350 kbps

Mode `9806(cfg-if-eth-slot/port)#`
`9806(cfg-if-ge-slot/port)#`

Example The following example describes how to use `egress-shaping` command.

```
9806(cfg-if-ge-5/1)# egress-shaping average-rate 7000
9806(cfg-if-ge-5/1)#
```

Related Command `show interface`

flow-control

Syntax `flow-control {force-enable | force-disable}`

Purpose To configure flow control parameters

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
force-enable	Force-enable mode	–
force-disable	Force-disable mode	–

Mode 9806(cfg-if-eth-slot/port)#
9806(cfg-if-ge-slot/port)#

Example The following example describes how to use flow-control command.
9806(cfg-if-ge-5/1)# flow-control force-enable
9806(cfg-if-ge-5/1)#

Related Command show interface

igmp igmp-packet-limit

Syntax `igmp igmp-packet-limit number`

Purpose To configure the maximum number of IGMP packets on a port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>number</i>	IGMP packets limit number	Range: 1 ~ 2048 0 for no limit

Mode 9806(cfg-if-eth-slot/port)#
9806(cfg-if-ge-slot/port)#

Example The following example describes how to use igmp igmp-packet-limit command.
9806(cfg-if-ge-5/1)# igmp igmp-packet-limit 128
9806(cfg-if-ge-5/1)#

Related Command show igmp interface

ingress

Syntax `ingress {discard | accept}`

Purpose To configure the port filtering policy when receiving port is not in the VLAN of the frame VID

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
discard	Discard the frame if this port is not in tag VLAN	–
accept	Accept the frame no matter this port is in tag VLAN or not	–

Mode `9806(cfg-if-eth-slot/port)#`

`9806(cfg-if-ge-slot/port)#`

Example The following example describes how to use `ingress` command.

`9806(cfg-if-ge-5/1)# ingress accept`

`9806(cfg-if-ge-5/1)#`

Related Command `show interface`

pvid

Syntax `pvid pvid`

Purpose To configure PVID of an Ethernet port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>pvid</i>	PVID	Range: 1 ~ 4094

Mode `9806(cfg-if-eth-slot/port)#`

`9806(cfg-if-ge-slot/port)#`

Example The following example describes how to use `pvid` command..

`9806(cfg-if-ge-5/1)# pvid 1`

`9806(cfg-if-ge-5/1)#`

Related Command `show interface`

qos def-cos

Syntax `qos def-cos cospriority`

Purpose To configure the default priority of CoS

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>cospriority</i>	Default CoS priority	Range: 0 ~ 7

Mode 9806(cfg-if-eth-slot/port)#

9806(cfg-if-ge-slot/port)#

Example The following example describes how to use qos def-cos command.

9806(cfg-if-ge-5/1)# qos def-cos 3

9806(cfg-if-ge-5/1)#

Related Command show interface

qos override-cos

Syntax `qos override-cos cos-priority`

`no qos override-cos`

Purpose To configure interface QoS override CoS priority

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>cos-priority</i>	Override CoS priority	Range: 0 ~ 7

Mode 9806(cfg-if-eth-slot/port)#

9806(cfg-if-ge-slot/port)#

Example The following example describes how to use qos override-cos command.

9806(cfg-if-ge-5/1)# qos override-cos 5

9806(cfg-if-ge-5/1)#

Related Command show qos interface

qos trust

Syntax	qos trust {cos [mapping] dscp mapping} no qos trust		
Purpose	To configure interface QOS trust CoS or DSCP		
Usage Guideline	The following table provides parameter description:		
	Parameter	Description	Value
	cos	Trust CoS	-
	dscp	Trust DSCP	-
	mapping	CoS and DSCP mapping	-
	The trust cos indicates the CoS priority carried in the packet trusted by the port.		
	The trust DSCP indicates the DSCP priority carried in the packet trusted by the port.		
	The mapping means using related mapping relationship. For example, to trust the CoS priority and apply mapping, use the CoS-DSCP mapping to change the DSCP priority.		
Mode	9806(cfg-if-eth-slot/port)# 9806(cfg-if-ge-slot/port)#		
Example	The following example describes how to use qos trust command. 9806(cfg-if-ge-5/1)# qos trust cos mapping 9806(cfg-if-ge-5/1)#		
Related Command	show qos interface		

qos-policy

Syntax

`qos-policy` *name* [`egress` | `ingress`]
`no qos-policy`

Purpose

To configure QoS policy on a port

Usage Guideline

The following table provides parameter description:

Parameter	Description	Value
<i>name</i>	Policy name	String
egress	Apply the policy to egress	-
ingress	Apply the policy to ingress	-

A port can be configured with only one policy.

Mode 9806(cfg-if-eth-slot/port)#
9806(cfg-if-ge-slot/port)#

Example The following example describes how to use qos-policy command.
9806(cfg-if-ge-5/1)# qos-policy test
9806(cfg-if-ge-5/1)#

Related Command show qos policy

rate-limit broadcast

Syntax rate-limit broadcast *rate*
no rate-limit broadcast

Purpose To configure port broadcast rate limit parameters

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
<i>rate</i>	Broadcast rate limit	Range: 2048 ~ 1048576 kbps, granularity: 2048 kbps

Mode 9806(cfg-if-eth-slot/port)#
9806(cfg-if-ge-slot/port)#

Example The following example describes how to use rate-limit broadcast command.
9806(cfg-if-ge-5/1)# rate-limit broadcast 3200
9806(cfg-if-ge-5/1)#

Related Command show interface

shutdown

Syntax shutdown
no shutdown

Purpose To enable or disable a port

Usage Guideline None

Mode 9806(cfg-if-eth-slot/port)#
9806(cfg-if-ge-slot/port)#

Example The following example describes how to use shutdown command.

```
9806(cfg-if-ge-5/1)# shutdown
```

```
9806(cfg-if-ge-5/1)#
```

Related Command show interface

rmon history

Syntax rmon history {enable | disable}

Purpose To enable or disable RMON history

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
enable	Enable RMON history	-
disable	Disable RMON history	-

Mode 9806(cfg-if-eth-slot/port)#

```
9806(cfg-if-ge-slot/port)#
```

Example The following example describes how to use rmon history command.

```
9806(cfg-if-ge-5/1)# rmon history enable
```

```
9806(cfg-if-ge-5/1)#
```

Related Command show rmon

spanning-tree

Syntax spanning-tree {enable | disable}

Purpose To enable or disable spanning-tree protocol

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
enable	Enable spanning-tree protocol	-
disable	Disable spanning-tree protocol	-

Mode 9806(cfg-if-eth-slot/port)#

```
9806(cfg-if-ge-slot/port)#
```

Example

The following example describes how to use spanning-tree command.

```
9806(cfg-if-ge-5/1)# spanning-tree enable
```

```
9806(cfg-if-ge-5/1)#
```

Related Command show spanning-tree

spanning-tree classic-stp cost

Syntax spanning-tree classic-stp cost *cost*

Purpose To configure classic spanning-tree cost

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
cost <i>cost</i>	Classic spanning-tree cost	Range: 1 ~ 65535 Default: 10

Mode 9806(cfg-if-eth-slot/port)#
9806(cfg-if-ge-slot/port)#

Example The following example describes how to use spanning-tree classic-stp cost command.

```
9806(cfg-if-ge-5/1)# spanning-tree classic-stp cost 1
```

```
9806(cfg-if-ge-5/1)#
```

Related Command show spanning-tree

spanning-tree classic-stp priority

Syntax spanning-tree classic-stp priority *priority*

Purpose To configure classic spanning-tree priority

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
priority <i>priority</i>	Classic spanning-tree priority	Range: 0 ~ 255 Default: 128

Mode 9806(cfg-if-eth-slot/port)#
9806(cfg-if-ge-slot/port)#

Example The following example describes how to use spanning-tree classic-stp priority command.

```
9806(cfg-if-ge-5/1)# spanning-tree classic-stp
priority 1
9806(cfg-if-ge-5/1)#
```

Related Command show spanning-tree

spanning-tree rapid-stp admin-cost

Syntax spanning-tree rapid-stp admin-cost *number*

Purpose To configure rapid spanning-tree admin cost

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
admin-cost <i>number</i>	Admin cost number	Range: 0 ~ 200,000,000 Default: 0, 0 for protocol count self

Mode 9806(cfg-if-eth-slot/port)#
9806(cfg-if-ge-slot/port)#

Example The following example describes how to use spanning-tree rapid-stp admin-cost command.

```
9806(cfg-if-ge-5/1)# spanning-tree rapid-stp admin-
cost 100
9806(cfg-if-ge-5/1)#
```

Related Command show spanning-tree

spanning-tree rapid-stp edge-port

Syntax spanning-tree rapid-stp edge-port {enable | disable}

Purpose To enable or disable rapid spanning-tree edge port

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
enable	Enable edge-port	–
disable	Disable edge-port	–

Mode 9806(cfg-if-eth-slot/port)#
9806(cfg-if-ge-slot/port)#

Example The following example describes how to use spanning-tree rapid-stp edge-port command.

```
9806(cfg-if-ge-5/1)# spanning-tree rapid-stp edge-port enable
9806(cfg-if-ge-5/1)#
```

Related Command show spanning-tree

spanning-tree rapid-stp packet-type

Syntax spanning-tree rapid-stp packet-type {IEEE_TYPE | CISCO_TYPE}

Purpose To configure rapid-spanning-tree parameters packet type

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
IEEE_TYPE	IEEE BPDU packet type	-
CISCO_TYPE	CISCO BPDU packet type	-

Mode 9806(cfg-if-eth-slot/port)#
9806(cfg-if-ge-slot/port)#

Example The following example describes how to use spanning-tree rapid-stp packet-type command.

```
9806(cfg-if-ge-5/1)# spanning-tree rapid-stp packet-type IEEE_TYPE
9806(cfg-if-ge-5/1)#
```

Related Command show spanning-tree

spanning-tree rapid-stp point2point-port

Syntax spanning-tree rapid-stp point2point-port {true | false | auto}

Purpose To configure rapid-spanning-tree point-to-point-link attribute

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
-----------	-------------	-------

Parameter	Description	Value
true	Force point-to-point-link true	–
false	Force point-to-point-link false	–
auto	Auto set point-to-point-link	–

Mode 9806(cfg-if-eth-slot/port)#
9806(cfg-if-ge-slot/port)#

Example The following example describes how to use spanning-tree rapid-stp point2point-port command.

```
9806(cfg-if-ge-5/1)# spanning-tree rapid-stp
point2point-port auto
9806(cfg-if-ge-5/1)#
```

Related Command show spanning-tree

spanning-tree rapid-stp priority

Syntax spanning-tree rapid-stp priority *priority*

Purpose To configure slot rapid-spanning-tree parameters

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
priority <i>priority</i>	Rapid spanning-tree priority	Range: 0 ~ 240, Default: 128

Mode 9806(cfg-if-eth-slot/port)#
9806(cfg-if-ge-slot/port)#

Example The following example describes how to use spanning-tree rapid-stp priority command.

```
9806(cfg-if-ge-5/1)# spanning-tree rapid-stp admin-
cost priority 100
9806(cfg-if-ge-5/1)#
```

Related Command show spanning-tree

spanning-tree rapid-stp protocol-migration

Syntax `spanning-tree rapid-stp protocol-migration {enable | disable}`

Purpose To configure slot rapid-spanning-tree parameters

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
enable	Enable protocol-migration	–
disable	Disable protocol-migration	–

Mode 9806(cfg-if-eth-slot/port)#
9806(cfg-if-ge-slot/port)#

Example The following example describes how to use spanning-tree rapid-stp command.

```
9806(cfg-if-ge-5/1)# spanning-tree rapid-stp protocol-migration enable
9806(cfg-if-ge-5/1)#
```

Related Command show spanning-tree

speed

Syntax `speed {10 | 100 | 1000}`

Purpose To configure speed parameters

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
10	Assign speed 10 Mbps	–
100	Assign speed 100 Mbps	–
1000	Assign speed 1000 Mbps	–

Mode 9806(cfg-if-eth-slot/port)#
9806(cfg-if-ge-slot/port)#

The port speed varies in different port type.

- The port speeds for 1000 M Ethernet port are 10 Mbps, 100 Mbps and 1000 Mbps.

- The port speeds for 100M Ethernet port are 10 Mbps and 100 Mbps.

Example The following example describes how to use speed command.

```
9806(cfg-if-ge-5/1)# speed 100
```

```
9806(cfg-if-ge-5/1)#
```

Related Command show interface

trap-control

Syntax trap-control {enable | disable}

Purpose To enable or disable trap sending.

Usage Guideline The following table provides parameter description:

Parameter	Description	Value
enable	Enable trap sending	–
disable	Disable trap sending	–

By default, the TRAP report function of the port is disabled.

Mode 9806(cfg-if-eth-slot/port)#
9806(cfg-if-ge-slot/port)#

Example The following example describes how to use trap-control command.

```
9806(cfg-if-ge-5/1)# trap-control enable
```

```
9806(cfg-if-ge-5/1)#
```

Related Command None

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Chapter 5

System Operations

This chapter covers the following topics:

- Access Methods
- Terminal Configuration
- User Management Configuration
- Network Management Configuration
- xDSL Service Configuration
- Multicast Configuration
- Spanning Tree Protocol Configuration
- QoS Configuration
- Port Location Configuration
- Subscriber Security Management

Access Methods

ZXDSL 9806H (V1.2) provides a Command Line Interface (CLI) based maintenance console. Common methods to access CLI are:

- HyperTerminal
- Telnet

Terminal Configuration

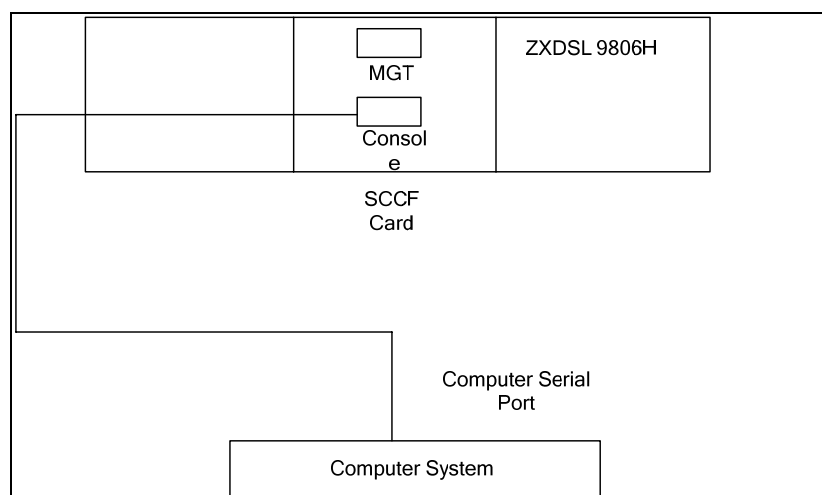
Terminal configuration includes the following:

- Configuring HyperTerminal Access
- Configuring Telnet Access

Configuring HyperTerminal Access

- Purpose** Perform this procedure to configure the Windows HyperTerminal utility to access ZXDSL 9806H (V1.2).
- Preliminary Setup** None
- Steps** To configure the Windows HyperTerminal utility to access ZXDSL 9806H (V1.2), perform the following steps:
1. Connect console port on SCCF card to the serial port of a computer with a console cable, as shown in Figure 27.

FIGURE 27 – CONSOLE PORT CONNECTION



2. Select **Start** → **Programs** → **Accessories** → **Communications** → **HyperTerminal** to start the HyperTerminal. Connection description dialog box pops up, as shown in Figure 28.

FIGURE 28 – CONNECTION DESCRIPTION



3. In the **Connection Description** interface, enter a connection name and click **OK** to display the **Connect To** interface, as shown in Figure 29.

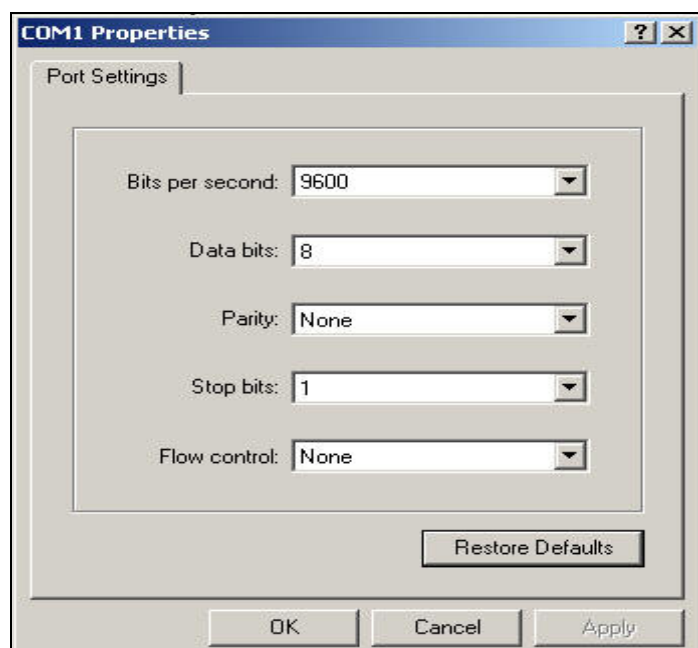
FIGURE 29 – SELECT COMMUNICATION PORT



4. In the **Connect To** interface, select the serial port No. of the PC for connection with 9806H and click **OK** to display the **COM1 Properties** interface, as shown in Figure 30.

In the **COM Properties** dialog box, select **9600** in **Bits per second** list box, **8** in **Data bits**, **None** in **Parity**, **1** in **stop bits** and **None** in **Flow control**. Click **OK** to finish

FIGURE 30 – COMMUNICATION PORT SETTING



5. In the **COM Properties** dialog box, select **9600** in **Bits per second** list box, **8** in **Data bits**, **None** in **Parity**, **1** in **stop bits** and **None** in **Flow control**. Click **OK** to finish. **HyperTerminal application** pops up as shown below.

```
#####
#                                                                    #
#   Welcome to ZTE Full Service Access Platform                      #
#                                                                    #
#       Press Return to get started                                  #
#                                                                    #
#       Copyright 2005-2009 , ZTE Co.,Ltd.                          #
#                                                                    #
#####
Login:admin
Password:

9806>en
Please input password:
```

9806#

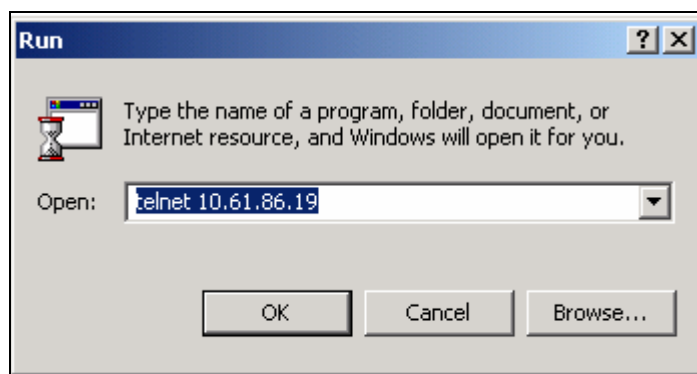
END OF STEPS

Result HyperTerminal access configuration is completed.

Configuring Telnet Access

- Purpose** Perform this procedure to configure windows Telnet utility to access ZXDSL 9806H (V1.2).
- Preliminary Setup** In-band or out-of-band NM IP address is configured.
- Steps** To configure windows Telnet utility to access ZXDSL 9806H (V1.2), perform the following steps:
1. Connect a computer to ZXDSL 9806H (V1.2) through LAN or WAN.
 2. Click **Start** → **Run** to run telnet application in Windows operating system. Run dialog box is shown in Figure 31. Enter command telnet and NM interface IP address. Click Enter to run telnet application.

FIGURE 31 – RUN DIALOG BOX



3. TELNET interface pops up, as shown below. Enter username and password to login 9806H.

```
#####  
#                                                                 #  
#  Welcome to ZTE Full Service Access Platform                  #  
#                                                                 #  
#          Press Return to get started                           #  
#                                                                 #  
#          Copyright 2005-2009 , ZTE Co.,Ltd.                    #  
#                                                                 #  
#####  
Login:admin  
Password:
```

```
9806>en
Please input password:
```

```
9806#
```

END OF STEPS

Result Telnet access configuration is completed.

User Management Configuration

This section describes user management methods. User management includes the following:

- Adding a User
- Deleting a User
- Modifying a User
- Viewing User Information

Adding a User

Purpose Perform this procedure to add a system user to ZXDSL 9806H (V1.2) .

Preliminary Setup None

Steps To add a system user, perform the following steps:

1. Log into ZXDSL 9806H (V1.2) in the configuration mode.
2. Add a user by executing user add command. The privileges are read only and read/write.

Example:

```
9806# user add
Please input username(len<=15):[]test
Please input password(len<=15):
Please input password again:
Please input access level(1-R,2-R/W):[2]
9806#
```

END OF STEPS

Result A user (new) is added successfully.

Follow-up Action	None
Related Information	Only the default administrator (admin/admin) has the privilege to add or delete user(s). To add a user, it is necessary to enter user account, password and authority. The rules for creating users are as follows: ■ User name can be a maximum of one to 15 printable characters and unique in entire system. ■ No space is allowed in a user name. ■ User name is case sensitive. ■ Password is composed of 1 to 15 characters, and case sensitive. ■ Operator authority has two levels: read-only and read-write.

Deleting a User

Purpose	Perform this procedure to delete a system user.
Preliminary Setup	None
Steps	To delete a system user, perform the following steps: 1. Log into ZXDSL 9806H (V1.2) in the configuration mode. 2. Delete existing user(s) by executing <code>user delete username</code> command. Example: <pre>9806# user delete testuser</pre> END OF STEPS
Result	A user is deleted successfully.

Modifying a User

Purpose	Perform this procedure to modify a system user.
Preliminary Setup	None
Steps	To modify a system user, perform the following steps: 1. Log into ZXDSL 9806H (V1.2) in the user mode or configuration mode. 2. Execute <code>user modify</code> command to modify a user. Example: <pre>9806# user modify</pre>

```
Please input your password:
Do you need modify your username: yes[Y] or no[N] [N]y
Please input new username(len<=15): [admin]abcd
Do you need modify your password: yes[Y] or no[N] [N]y
Please input new password(len<=15):
Please input new password again:
9806#
```

END OF STEPS

Result	A user is modified successfully.
Related Information	User(s) can modify their certain account attributes. The following user attributes can be modified: ■ User name ■ Password

Viewing User Information

Purpose	Perform this procedure to view active system user(s) and related information on ZXDSL 9806H (V1.2).
Preliminary Setup	None
Steps	To view active system user(s) and related information on ZXDSL 9806H (V1.2), perform the following steps: 1. Log into ZXDSL 9806H (V1.2). 2. Execute <code>show users</code> command to view user(s) the information in details. Example: <pre>9806# show users Username Password AccessLevel admin * administrator test * operator 9806#</pre>
	END OF STEPS
Result	User information is viewed successfully.

Network Management Configuration

ZXDSL 9806H (V1.2) supports in-band and out-of-band NM methods for system operation and maintenance. This topic includes the following:

- Configuring In-band NM
- Configuring Out-of-band NM
- Configuring Access List Management

Configuring In-band NM

Purpose Perform this procedure to configure in-band network management.

Steps To configure in-band network management, perform the following steps:

1. Log into ZXDSL 9806H (V1.2), enter global configuration mode using `configure` command.

Example:

```
9806# configure
```

2. Configure in-band MAC address using `mac inband` command in configuration mode.

Example:

```
9806(config)# mac inband 00:D0:D0:11:22:33
```

3. Create VLAN using `add-vlan` command.

Example:

```
9806(config)# add-vlan 201
```

4. Add Uplink port to the VLAN using `vlan` command.

Example:

```
9806(config)# vlan 201 5/1 tag
```

5. Configure in-band NM IP address using `ip subnet` command.

Example:

```
9806(config)# ip subnet 192.168.2.3 255.255.255.0 201  
name NMVLAN
```

6. (optional)Configure subnet route using `ip route` command.

Example:

```
9806(config)# ip route 0.0.0.0 0.0.0.0 192.168.2.1  
255.255.255.0 201
```

7. Verify in-band NM IP address configuration using show ip subnet command.

Example:

```
9806(config)# show ip subnet
```

Dest IP	Mask	VID	Name
192.168.2.3	255.255.255.0	201	NMVLAN

8. Configure NM server IP address using snmp-server command.

Example:

```
9806(config)# snmp-server host 10.61.84.66
```

9. Test in-band NM channel with ping command.

Example:

```
9806# ping 10.61.84.66
PING 10.61.84.66: 56 data bytes
64 bytes from 10.61.84.66: icmp_seq=0. time=0. ms
64 bytes from 10.61.84.66: icmp_seq=1. time=0. ms
64 bytes from 10.61.84.66: icmp_seq=2. time=0. ms
64 bytes from 10.61.84.66: icmp_seq=3. time=0. ms
64 bytes from 10.61.84.66: icmp_seq=4. time=0. ms
---10.61.84.66 PING Statistics---
5 packets transmitted,
5 packets received,
0% packet loss
round-trip (ms)  min/avg/max = 0/0/0
```

10. Configure system time with sntp command.

Example:

```
9806(config)# sntp enable
9806(config)# sntp server 10.61.84.10
9806(config)# sntp time-zone 8
```

11. Check system time with show time command.

Example:

```
9806# show time
SysTime: 2007-05-28, 11:10:04
```

12. Exit configure mode and save configuration.

Example:

```
9806(config)# exit
9806# save
```

END OF STEPS

Result In-band NM is configured successfully.

Configuring Out-of-band NM

Purpose Perform this procedure to configure out-of-band network management.

Steps To configure out-of-band network management, perform the following steps:

1. Log into ZXDSL 9806H (V1.2), enter global configuration mode using configure command.

Example:

```
9806# configure
```

2. Configure out-of-band NM IP address using ip host command.

Example:

```
9806(config)# ip host 10.61.86.19 255.255.252
```

3. View out-of-band NM IP address using show ip host command.

Example:

```
9806(config)# show ip host
```

```
Host IP address   : 10.61.86.19
```

```
Host IP mask      : 255.255.252.0
```

4. Configure NM server IP address using snmp-server command.

Example:

```
9806(config)# snmp-server host 10.61.84.66
```

5. Test in-band NM channel with ping command.

Example:

```
9806# ping 10.61.84.66
```

```
PING 10.61.84.66: 56 data bytes
```

```
64 bytes from 10.61.84.66: icmp_seq=0. time=0. ms
```

```
64 bytes from 10.61.84.66: icmp_seq=1. time=0. ms
```

```
64 bytes from 10.61.84.66: icmp_seq=2. time=0. ms
```

```
64 bytes from 10.61.84.66: icmp_seq=3. time=0. ms
```

```
64 bytes from 10.61.84.66: icmp_seq=4. time=0. ms
```

```
----10.61.84.66 PING Statistics----
```

```
5 packets transmitted,
```

```
5 packets received,  
0% packet loss  
round-trip (ms)  min/avg/max = 0/0/0
```

6. Configure system time with `sntp` command.

Example:

```
9806(config)# sntp enable  
9806(config)# sntp server 10.61.84.10  
9806(config)# sntp time-zone 8
```

7. Check system time with `show time` command.

Example:

```
9806# show time  
SysTime: 2007-05-28, 11:16:34
```

8. Exit configure mode and save configuration.

Example:

```
9806(config)# exit  
9806# save
```

END OF STEPS

Result Out-of-band NM is configured successfully

Configuring Access List Management

Purpose Perform this procedure to configure the Access List Management (ACM) in ZXDSL 9806H (V1.2).

Preliminary Setup None

Steps To configure the Access List Management (ACM) in ZXDSL 9806H (V1.2), perform the following steps:

1. Log into ZXDSL 9806H (V1.2) in the global configuration mode.
2. Execute `manage-access-list` command to create an access list.

Example:

```
9806(config)# manage-access-list 1 permit source-ip  
10.10.10.1/16 ip-type tcp source-port 200 dest-port  
300  
9806(config)# manage-access-list 2 deny any
```

3. Execute `manage-access-list enable` command to enable the access list function.

Example:

```
9806(config)# manage-access-list enable
```

END OF STEPS

Result The access control list is configured successfully.

xDSL Service Configuration

xDSL service configuration includes the following:

- Configuring ADSL/ADSL2+ Service
- Configuring VDSL2 Service

Configuring ADSL/ADSL2+ Service

Purpose Perform this procedure to activate ADSL/ADSL2+ service.

Example:

- Service VLAN: 201
- Subscriber port: 2/1-24
- Uplink port: 5/1
- Downstream rate: 2 Mbps
- Upstream rate: 512 kbps
- MODEM PVC: 8:81

Step To activate ADSL/ADSL2+ service, perform the following steps:

1. Log into ZXDSL 9806H (V1.2), enter global configuration mode.

Example:

```
9806# configure
```

2. Configure service VLAN.

Example:

```
9806(config)# add-vlan 201
```

3. Add subscriber port to service VLAN with untagged mode.

Example:

```
9806(config)# vlan 201 2/1-24 untag pvc 1
```

4. Configure PVID of subscriber port.

Example:

```
9806(config)# interface range adsl 2/1-24
```

```
9806(cfg-if-range-adsl)# pvid 201 pvc 1
```

```
9806(cfg-if-range-adsl))# exit
```

5. Add uplink port to service VLAN with tag mode.

Example:

```
9806(config)# vlan 201 5/1 tag
```

6. Configure an ADSL line profile.

Example:

```
9806(config)# adsl-profile zte1
```

```
9806(config)# adsl-profile zte1
```

```
AtucConfRateMode(1-fixed,2-adaptAtStartup,3-  
adaptAtRuntime):[2]
```

```
AtucConfRateChanRatio(0..100):[0]
```

```
AtucConfTargetSnrMgn(0..310(0.1dB)): [80]
```

```
AtucConfMaxSnrMgn(80..310(0.1dB)): [310]
```

```
AtucConfMinSnrMgn(0..80(0.1dB)): [0]
```

```
AtucConfDownshiftSnrMgn(0..310): [0]
```

```
AtucConfUpshiftSnrMgn(0..310): [0]
```

```
AtucConfMinUpshiftTime(0..16383): [0]
```

```
AtucConfMinDownshiftTime(0..16383): [0]
```

```
ConfProfileLineType(1-fast-only,2-interleaved-only): [2]
```

```
AtucChanConfFastMaxTxRate(0..102400kbps): [1024]2048
```

```
AtucChanConfFastMinTxRate(0..1024kbps): [0]
```

```
AtucChanConfInterleaveMaxTxRate(0..102400kbps): [1024]  
2048
```

```
AtucChanConfInterleaveMinTxRate(0..1024kbps): [0]
```

```
AtucChanConfMaxInterleaveDelay(0..255ms): [16]
```

```
AturConfRateMode(1-fixed,2-adaptAtStartup,3-  
adaptAtRuntime): [2]
```

```
AturConfRateChanRatio(0..100): [0]
```

```
AturConfTargetSnrMgn(0..310(0.1dB)): [80]
```

```
AturConfMaxSnrMgn(80..310(0.1dB)): [310]
```

```
AturConfMinSnrMgn(0..80(0.1dB)): [0]
```

```
AturConfDownshiftSnrMgn(0..310(0.1dB)): [0]
```

```
AturConfUpshiftSnrMgn(0..310(0.1dB)): [0]
```

```
AturConfMinUpshiftTime(0..16383): [0]
```

```
AturConfMinDownshiftTime(0..16383): [0]
```

```
AturChanConfFastMaxTxRate(0..10240kbps): [512]
```

```
AturChanConfFastMinTxRate(0..512kbps): [0]
```

```

AturChanConfInterleaveMaxTxRate(0..10240kbps):[512]
AturChanConfInterleaveMinTxRate(0..512kbps):[0]
AturChanConfMaxInterleaveDelay(0..255ms):[16]
AtucDMTConfFreqBinsOperType(1-open,2-cancel):[2]
AturDMTConfFreqBinsOperType(1-open,2-cancel):[2]
LineDMTConfEOC(1-byte,2-streaming):[1]
LineDMTConfTrellis(1-on,2-off):[1]
AtucConfMaxBitsPerBin(0..15):[15]
AtucConfTxStartBin(6..511):[32]
AtucConfTxEndBin(32..511):[511]
AtucConfRxStartBin(6..63):[6]
AtucConfRxEndBin(6..63):[31]
AtucConfUseCustomBins(1-on,2-off):[2]
AtucConfDnBitSwap(1-on,2-off):[2]
AtucConfUpBitSwap(1-on,2-off):[2]
AtucConfREADSL2Enable(1-on,2-off):[2]
AtucConfPsdMaskType(1-DMT_PSD_MSK,2-ADSL2_PSD_MSK,3-
ADSL2_READSL_WIDE_PSD_MSK,4-
ADSL2_READSL_NARROW_PSD_MSK):[2]
AtucConfPMMMode(1-DISABLE,2-L2_ENABLE,3-L3_ENABLE,4-
L3_ENABLE | L2_ENABLE):[1]
AtucConfPML0Time(0..255s):[240]
AtucConfPML2Time(0..255s):[120]
AtucConfPML2ATPR(0..31db):[3]
AtucConfPML2Rate(512..1024kbps):[512]
Press M or m key to modify, or the other key to
complete?[C]

```

NOTE:

The downstream rate and upstream rate are determined by the following parameters:

- Downstream

```

AtucChanConfFastMaxTxRate(0..102400kbps):[1024]2048
AtucChanConfInterleaveMaxTxRate(0..102400kbps):[1024]
2048

```

- Upstream

```

AturChanConfFastMaxTxRate(0..10240kbps):[512]
AturChanConfInterleaveMaxTxRate(0..10240kbps):[512]

```

7. Apply the line profile to subscriber ports.

Example:

```
9806(config)# interface range adsl 2/1-24
```

```
9806(cfg-if-range-adsl)# adsl profile zte1
```

8. Configure subscriber PVC to match MODEM PVC.

Example:

```
9806(cfg-if-range-adsl)# atm pvc 1 vpi 8 vci 81
```

9. Save the configuration.

Example:

```
9806(cfg-if-range-adsl)# end
```

```
9806# save
```

END OF STEPS

Result ADSL/ADSL2+ service is configured successfully.

Configuring VDSL2 Service

Purpose Perform this procedure to activate VDSL2 service.

Example:

- Service VLAN: 301
- Subscriber port: 3/1-16
- Uplink port: 5/1
- Downstream rate: 10 Mbps
- Upstream rate: 10 Mbps

Step To activate VDSL2 service, perform the following steps:

1. Log into ZXDSL 9806H (V1.2), enter global configuration mode.

Example:

```
9806# configure
```

2. Configure service VLAN.

Example:

```
9806(config)# add-vlan 301
```

3. Add subscriber port to service VLAN with untagged mode.

Example:

```
9806(config)# vlan 301 3/1-16 untag
```

4. Configure PVID of subscriber port.

Example:

```
9806(config)# interface range vdsl 3/1-16
```

```
9806(cfg-if-range-vdsl)# pvid 301
```

```
9806(cfg-if-range-vdsl))# exit
```

5. Add uplink port to service VLAN with tag mode.

Example:

```
9806(config)# vlan 301 5/1 tag
```

6. Configure a VDSL2 service profile.

Example:

```
9806(config)# vdsl2-service-profile zte
9806(config)# vdsl2-service-profile zte
zxAnXdsl2LConfProfForceInp(1-Enable,2-Disable):[1]
zxAnXdsl2LConfProfRaModeDs(1-manual,2-raInit,3-
dynamicRa):[2]
zxAnXdsl2LConfProfRaModeUs(1-manual,2-raInit,3-
dynamicRa):[2]
zxAnXdsl2LConfProfTargetSnrmDs(0..310(0.1dB)): [60]
zxAnXdsl2LConfProfTargetSnrmUs(0..310(0.1dB)): [60]
zxAnXdsl2LConfProfMaxSnrmDs(61..310(0.1dB)): [310]
zxAnXdsl2LConfProfMaxSnrmUs(61..310(0.1dB)): [310]
zxAnXdsl2LConfProfMinSnrmDs(0..59(0.1dB)): [0]
zxAnXdsl2LConfProfMaxSnrmUs(0..59(0.1dB)): [0]
zxAnXdsl2Ch1ConfProfMaxDataRateDs((0..200,000)kbps): [1
20000]10000
zxAnXdsl2Ch1ConfProfMaxDataRateUs((0..200,000)kbps): [1
20000]10000
zxAnXdsl2Ch1ConfProfMinDataRateDs((0..200,000)kbps): [3
2]
zxAnXdsl2Ch1ConfProfMinDataRateUs((0..200,000)kbps): [3
2]
zxAnXdsl2Ch1ConfProfMaxDelayDs((0..63)ms): [16]
zxAnXdsl2Ch1ConfProfMaxDelayUs((0..63)ms): [16]
```

Please configure MinProtection:

noProtection (1)	- INP not required
halfSymbol (2)	- INP length = 1/2 symbol
singleSymbol (3)	- INP length = 1 symbol
twoSymbols (4)	- INP length = 2 symbols
threeSymbols (5)	- INP length = 3 symbols
fourSymbols (6)	- INP length = 4 symbols
fiveSymbols (7)	- INP length = 5 symbols
sixSymbols (8)	- INP length = 6 symbols
sevenSymbols (9)	- INP length = 7 symbols
eightSymbols (10)	- INP length = 8 symbols
nineSymbols (11)	- INP length = 9 symbols

```

tenSymbols (12)      - INP length = 10 symbols
elevenSymbols (13)   - INP length = 11 symbols
twelveSymbols (14)   - INP length = 12 symbols
thirteenSymbols (15) - INP length = 13 symbols
fourteenSymbols (16) - INP length = 14 symbols
fifteenSymbols (17)  - INP length = 15 symbols
sixteenSymbols (18)  - INP length = 16 symbols
zxAnXdsl2Ch1ConfProfMinProtectionDs((1..18)Symbol):[1]
zxAnXdsl2Ch1ConfProfMinProtectionUs((1..18)Symbol):[1]
Press M or m key to modify, or the other key to
complete?[C]!

```

NOTE:

The downstream rate and upstream rate is determined by the following parameters:

- Downstream

```
xdsl2ChConfProfMaxDataRateDs
```

Maximum Data Rate on downstream direction. The maximum net data rate for the bearer channel is coded in bit/s

- Upstream

```
xdsl2ChConfProfMaxDataRateUs
```

Maximum Data Rate on upstream direction. The maximum net data rate for the bearer channel is coded in bit/s.

7. Assign the VDSL2 service profile to a VDSL2 or range of VDSL2 ports.

Example:

```

9806(config)# interface range vdsl 3/1-16
9806(cfg-if-range-vdsl)# vdsl2 service-profile zte
8. Save the configuration.

```

Example:

```

9806(cfg-if-range-vdsl)# end
9806# save

```

END OF STEPS

Result VDSL2 service is configured successfully.

Multicast Configuration

ZXDSL 9806H (V1.2) multicast configuration includes the following:

- Configuring IGMP
- Configuring MVLAN
- Configuring IGMP Subscriber Management
- Configuring IGMP Channel Package

Configuring IGMP

Purpose	Perform this procedure to configure IGMP.
Preliminary Setup	None
Steps	To configure IGMP, perform the following steps: 1. Log into ZXDSL 9806H (V1.2) in the global configuration mode. Example: <pre>9806# configure</pre> 2. Execute <code>ip igmp enable</code> command to enable the IGMP globally. Example: <pre>9806(config)# ip igmp enable</pre> 3. Execute <code>ip igmp mode {snooping proxy router}</code> command to configure the multicast work mode. By default, the work mode is IGMP snooping. Example: <pre>9806(config)# ip igmp mode snooping</pre> 4. Execute <code>ip igmp snooping-aging-time time</code> command to configure the IGMP snooping aging time (to remove multicast clients from multicast group after a specified time). Example: <pre>9806(config)# ip igmp snooping-aging-time 0</pre> NOTE: The aging time ranges from 30 to 3600 seconds. Setting the aging time to 0 disables the aging time restriction. 5. Execute <code>igmp fast-leave {enable disable}</code> command in port configuration mode to configure the fast-leaving. The function is enabled by default. Example: <pre>9806(config)# interface adsl 3/1 9806(cfg-if-adsl-3/1)# igmp fast-leave enable</pre> End of Steps
Result	IGMP is configured successfully.

Configuring MVLAN

- Purpose** Perform this procedure to configure MVLAN.
- Preliminary Setup** None
- Steps** To configure MVLAN, perform the following steps::
1. Log into ZXDSL 9806H (V1.2) in the global configuration mode.
 2. To configure the MVLAN, create a VLAN first. Then create an MVLAN, based on that VLAN. Execute `ip igmp mvlan mvlan-id` command to configure MVLAN. The following example creates an MVLAN 100 based on VLAN 100. Basic VLAN is not deleted if MVLAN 100 is deleted.

Example:

```
9806(config)# add-vlan 100
```

```
9806(config)# ip igmp mvlan 100
```

3. Execute `ip igmp mvlan vlanid group` command to add a management group to the specified MVLAN. The following example creates a multicast group 224.2.244.149 under MVLAN 100.

Example:

```
9806(config)# ip igmp mvlan 100 group 224.2.244.149
```

4. Execute `ip igmp mvlan vlanid source-port slot/port` command to add multicast source port to the specified MVLAN. The following command configures a tagged port (5/1) of VLAN 100 as MVLAN 100 multicast source port to uplink the multicast services.

Example:

```
9806(config)# vlan 100 5/1 tag
```

```
9806(config)# ip igmp mvlan 100 source-port 5/1
```

5. Execute `ip igmp mvlan vlanid receive-port slot/port` command to add a multicast receiver port to a specified MVLAN. The following command configures an untagged port of VLAN 100 as the multicast receiver port of MVLAN 100.

Example:

```
9806(config)# vlan 100 3/1 untag
```

```
9806(config)# ip igmp mvlan 100 receive-port 3/1
```

6. Execute `ip igmp mvlan vlanid group ipaddress [receive-port slots/ports]` command to add a static port member to a specified management group. The following command configures an untagged port (3/1) of VLAN 100 as the static multicast port of the address 224.2.244.149.

Example:

```
9806(config)# ip igmp mvlan 100 group 224.2.244.149  
receiver-port 3/1
```

NOTE:

Before assigning a port to the static receive port of a group, the port should be configured as the receive port of the corresponding MVLAN.

7. Execute `ip igmp mvlan vlanid max-group maxgroup` command to specify the maximum management group number for a MVLAN.

Example:

```
9806(config)# ip igmp mvlan 100 max-group 100
```

NOTE:

ZXDSL 9806H (V1.2) system supports up to 1024 multicast management groups.

8. Multicast equipment may discard an IGMP IP address of 0.0.0.0. To interconnect with such equipment, ZXDSL 9806H (V1.2) offers a function to modify the source IP address of the reported IGMP packet. Execute the `ip igmp mvlan mvlan-id source-ip source-ip` command to configure the uplink source IP address of a specified MVLAN. The following command configures the uplink source IP address of MVLAN 100 to 172.1.1.2.

Example:

```
9806(config)# ip igmp mvlan 100 source-ip 172.1.1.2
```

END OF STEPS

Result MVLAN is configured successfully.

Configuring IGMP Subscriber Management

Purpose	Perform this procedure to configure IGMP subscriber management.
Preliminary Setup	None
Steps	To configure IGMP subscriber management, perform the following steps: 1. Log into ZXDSL 9806H (V1.2) in the global configuration mode.

2. Execute `ip igmp cac {enable | disable}` command to enable CAC.

Example:

```
9806(config)# ip igmp cac enable
```

NOTE: Use the Channel Access Control (CAC) function to manage user access. The preview authority request is processed by multicast preview control (PRV). Once CAC is enabled, PRV and CDR are enabled at the same time.

3. Execute `ip igmp prw reset` command to reset the preview status of all users.

Example:

```
9806(config)# ip igmp prw reset
```

NOTE: Use multicast preview control (PRV) function to control channel preview. A channel can be previewed for a certain times before being reset. Once the threshold is reached, it cannot be previewed any more. The configuration aims to reset the preview status of all user ports manually to allow users to preview the ports again and receive control of the PRW function. The preview times, Service Manage System (SMS) can set preview duration and preview interval.

4. Execute `ip igmp cac groupip` command to set the group IP address.

Example:

```
9806(config)# ip igmp cac 224.2.1.1
```

```
9806(config)#
```

5. Execute `ip igmp cac-start-ip groupip num` command to set the starting channel multicast address.

Example:

```
9806(config)# ip igmp cac-start-ip 224.2.1.10 10
```

6. Execute `ip igmp prw reset` command to reset the preview status of multicast receivers.

Example:

```
9806(config)# ip igmp prw reset
```

7. Execute `ip igmp prw resetperiod HH:mm:ss` command to configure the PRW reset time.

Example:

```
9806(config)# ip igmp prw resetperiod 00:00:00
```

8. Execute `ip igmp prw recognition-time time` command to configure the PRW recognition time.

Example:

```
9806(config)# ip igmp prw recognition-time 120
```

9. Execute `ip igmp cdr {enable | disable}` command to enable or disable the CDR function.

Example:

```
9806(config)# ip igmp cdr enable
```

NOTE: CDR provides users activity record. CDR is generated by CAC and PRV modules based on IGMP packets and processing of multicast-related events. The records are reported to the SMS server and further to the carrier OSS system for analysis and processing.

10. Execute `ip igmp cdr max-records record` command to configure the maximum CDR that 9806H can save.

Example:

```
9806(config)# ip igmp cdr max-records 5000
```

11. Execute `ip igmp cdr report-interval interval` command to configure the CDR report interval.

Example:

```
9806(config)# ip igmp cdr report-interval 30
```

12. Execute `ip igmp sms-server ipaddress` command to configure the SMS server IP address.

Example:

```
9806(config)# ip igmp sms-server 136.0.0.2
```

NOTE: SMS server is used to initialize and update multicast-related configuration. It saves CDR records and reports them to carrier OSS. Once the SMS server address is configured, the CDR function establishes a TCP Socket connection with the server and maintains the connection status.

13. Execute `ip igmp sms-request-config` command to configure request configuration from SMS.

Example:

```
9806(config)# ip igmp sms-request-config
```

```
9806(config)#
```

14. Execute `ip igmp span-vlan {enable | disable}` command to enable or disable the span VLAN function.

Example:

```
9806(config)# ip igmp span-vlan enable
```

END OF STEPS

Result IGMP subscriber management is configured successfully.

Configuring IGMP Channel Package

Purpose Perform this procedure to configure IGMP channel package.

Preliminary Setup

None

Steps To configure IGMP channel package, perform the following steps:

1. Log into ZXDSL 9806H (V1.2) in the global configuration mode.
2. Execute `ip igmp view-profile profilename` command to configure preview profile.

Example:

```
9806(config)# ip igmp view-profile new
```

```
9806(config)# ip igmp view-profile new
```

```
MaxPreviewCount(0..100):[3]
```

```
MaxPreviewInterval(0..6000s):[120]
```

```
PreviewBlackoutInterval(0..7200s):[60]
```

```
Press M or m key to modify, or the other key to complete?[C]
```

3. Execute `ip igmp cac groupip view profile profilename` command to apply the preview profile to channels.

Example:

```
9806(config)# ip igmp cac 224.2.1.10 view-profile new
```

```
9806(config)# ip igmp cac 224.2.1.11 view-profile new
```

4. Execute `ip igmp channel package name` command to set the group IP address.

Example:

```
9806(config)# ip igmp channel-package new
```

5. Execute `ip igmp channel package name groupip {deny | permit | preview}` command to add channel to channel package.

Example:

```
9806(config)# ip igmp channel-package new group 224.2.1.10 preview
```

```
9806(config)# ip igmp channel-package new group 224.2.1.11 permit
```

6. Execute `ip igmp channel package name slot/port` command to apply the channel package to ports.

Example:

```
9806(config)# ip igmp channel-package new 3/1
```

END OF STEPS

Result Multicast channel package is configured successfully.

Spanning Tree Protocol Configuration

The spanning tree protocol configuration includes the following:

- Activating or Deactivating STP/RSTP
- Configuring RSTP Compatibility
- Configuring Bridge Parameters
- Configuring Ethernet Port Parameters

Activating or Deactivating STP/RSTP

Purpose	Perform this procedure to activate or deactivate STP/RSTP.
Preliminary Setup	None
Steps	To activate or deactivate STP/RSTP, perform the following steps: 1. Global Activation and Deactivation: i. Execute <code>spanning-tree classic-stp enable</code> command to enable STP globally. Example: <pre>9806(config)# spanning-tree classic-stp enable</pre> ii. Execute <code>spanning-tree rapid-stp enable</code> command to enable RSTP globally. Example: <pre>9806(config)# spanning-tree rapid-stp enable</pre> iii. Execute <code>spanning-tree disable</code> command to disable STP/RSTP globally. Example: <pre>9806(config)# spanning-tree disable</pre> 2. Port-based Activation and Deactivation: i. Execute <code>spanning-tree enable</code> command in the Ethernet port configuration mode to enable STP/RSTP on specified Ethernet port. Example: <pre>9806(config)# interface ethernet 5/1 9806(cfg-if-eth-5/1)# spanning-tree enable</pre> ii. Execute <code>spanning-tree disable</code> command in the Ethernet port configuration mode to disable STP/RSTP specified Ethernet port.

Example:

```
9806(config)# interface ethernet 5/1
9806(cfg-if-eth-5/1)# spanning-tree disable
```

END OF STEPS

Result STP/RSTP is activated or deactivated successfully.

Configuring RSTP Compatibility

Purpose Perform this procedure to configure the RSTP compatibility function.

Preliminary Setup None

Steps To configure the RSTP compatibility function, perform the following steps:

1. Log into ZXDSL 9806H (V1.2) in the global configuration mode.
2. Execute `spanning-tree rapid-stp force-version stp-compatible` command to set RSTP compatibility. The `stp-compatible` parameter configures 9806H to be compatible with STP whereas `rstp-only` configures system to support RSTP only.

Example:

```
9806(config)# spanning-tree rapid-stp force-version stp-compatible
```

END OF STEPS

Result RSTP compatibility function is configured successfully.

Configuring Bridge Parameters

Purpose Perform this procedure to configure the bridge parameters.

Preliminary Setup None

Steps To configure the bridge parameters, perform the following steps:

1. Execute `spanning-tree timer forward-time forwardtime` command in global configuration mode to set the forward delay for an STP/RSTP bridge. It is recommended to use the default forward delay (15 seconds).

Example:

```
9806(config)# spanning-tree timer forward-time 1500
```

NOTE: A bridge forward delay is relevant to a network diameter. Generally, a network with larger diameter should be configured with longer forward delay. If the forward delay is too short, it might cause temporary redundant paths. On the other hand, if the forward delay is too long, the network might be unable to resume connectivity for a long time.

2. Execute `spanning-tree timer hello-time hellotime` command to set the time interval between BPDUs with STP/RSTP. It is recommended to use the default hello time (two seconds).

Example:

```
9806(config)# spanning-tree timer hello-time 200
```

NOTE: A suitable hello time ensures that a bridge can rapidly detect link failure on a network without occupying much network resource. A long hello time may lead to packet loss on a link, thereby causing the bridge to assume a link failure and restart calculating a spanning tree. A short hello time can make the bridge send configuration messages frequently, which increases the burden on the network and CPU.

3. Execute `spanning-tree timer max-age maxage` command to set the maximum age of an STP/RSTP message. It is recommended to use the default maximum age (20 seconds).

Example:

```
9806(config)# spanning-tree timer max-age 2000
```

NOTE: Maximum age is used to determine whether a configuration message has expired or not. Configure this parameter according to actual network conditions. If the maximum age is too short, the bridge frequently calculates the spanning tree and possibly assumes network congestion to link failure. If the maximum age is too long, the bridge probably cannot detect link failure, which lowers the network's auto-sensing capability.



Note: The Forward Delay, Hello Time, and Max Age timers should meet the following condition: $2 \times (\text{ForwardTime} - 100) \geq \text{MaxAge} \geq 2 \times (\text{HelloTime} + 100)$

4. Execute `spanning-tree classic-stp priority num` command to set an STP bridge priority. The default STP bridge priority is 32768.

Example:

```
9806(config)# spanning-tree classic-stp priority 32786
9806(config)#
```

NOTE: Bridge priority determines if the bridge can be elected as the root bridge for the complete spanning tree. A bridge with a higher priority (smaller value) is more likely to be elected as the root bridge. If all bridges on a switching network have the same priority, the one with the smallest MAC address is elected as the root bridge. When STP/RSTP is enabled, setting bridge priority causes recalculation of the spanning tree.

5. Execute `spanning-tree rapid-stp priority num` command to set an RSTP bridge priority. The default RSTP bridge priority is 32768.

Example:

```
9806(config)# spanning-tree rapid-stp priority 32768
```

6. Execute `spanning-tree rapid-stp default-cost {short | long}` command to set the default path cost type for an RSTP bridge. The long parameter indicates 32-bit default path cost used by IEEE Standard 802.1t-2001.

Example:

```
9806(config)# spanning-tree rapid-stp default-cost long
```

Important!

Default path can be configured only when RSTP is used.

7. Execute `spanning-tree rapid-stp tx-hold-count num` command to set the maximum rate for an RSTP bridge.

Example:

```
9806(config)# spanning-tree rapid-stp tx-hold-count 10
```

Important!

Maximum rate can be configured only when RSTP is used.

END OF STEPS

Result The bridge parameters are configured successfully.

Configuring Ethernet Port Parameters

Purpose	Perform this procedure to configure Ethernet port parameters.
Preliminary Setup	None
Steps	To configure Ethernet port parameters, perform the following steps: 1. Execute <code>spanning-tree classic-stp cost <i>cost</i></code> command to set the path cost for an STP port. Setting path cost for an

Ethernet port leads to recalculation of the spanning tree. It is recommended to use the default value and let STP to calculate the path cost of the current Ethernet port.

Example:

```
9806(cfg-if-eth-5/1)# spanning-tree classic-stp cost 200
```

2. Execute `spanning-tree classic-stp priority priority` command to set a priority value for an STP port. Changing an Ethernet port's priority leads to recalculation of the spanning tree. It is recommended to use the default priority value (128 for all ports on a bridge).

Example:

```
9806(cfg-if-eth-5/1)# spanning-tree classic-stp priority 128
```

3. Execute `spanning-tree rapid-stp priority priority` command to set a priority value for an RSTP port. The priority value of an RSTP port must be a multiple of 16. Changing an Ethernet port priority leads to recalculation of the spanning tree. It is recommended to use the default priority value (128 for all ports on bridge).

Example:

```
9806(cfg-if-eth-5/1)# spanning-tree rapid-stp priority 128
```

NOTE: User can designate an Ethernet port to be included in the spanning tree by setting a priority value for an Ethernet port. Generally, a port with a smaller value has a higher priority, and is more likely to be included in the spanning tree. If all Ethernet ports on a bridge have the same priority value, their priorities depend on their index IDs.

4. Execute `spanning-tree rapid-stp admin-cost num` command to set the path cost for the RSTP administration port. Changing the RSTP administration port's path cost leads to re-calculation of the spanning tree. It is recommended to use the default path cost.

Example:

```
9806(cfg-if-eth-5/1)# spanning-tree rapid-stp admin-cost 100000
```

Important!

Path cost (for administration port) can be configured only when RSTP is used.

5. Execute `spanning-tree rapid-stp edge-port enable` command to set an Ethernet port to an edge port.

Example:

```
9806(cfg-if-eth-5/1)# spanning-tree rapid-stp edge-port enable
```

Important!

Administration edge port can be configured only when RSTP is used.

6. Execute `spanning-tree rapid-stp packet-type {IEEE_TYPE | CISCO_TYPE}` command to set the BPDU type for a port. The IEEE_TYPE parameter indicates that the port BPDU uses IEEE standard and CISCO_TYPE indicates that the port BPDU uses Cisco standard.

Example:

```
9806(cfg-if-eth-5/1)# spanning-tree rapid-stp packet-type IEEE_TYPE
```

Important!

BPDU type setting for a port can be configured only when RSTP is used.

7. Execute `spanning-tree rapid-stp point2point-port {true | false | auto}` command to enable or disable the port to connect to a point-to-point link.

Example:

```
9806(cfg-if-eth-5/1)# spanning-tree rapid-stp point2point-port auto
```

NOTE: Port(s) can be managed (enabled or disabled) to connect to point-to-point (P2P links) only when RSTP is used. Two ports connected by a point-to-point link can transfer to the forwarding status rapidly by sending synchronization packets, which reduces the unnecessary forward delay. Setting the parameter to auto causes RSTP to automatically check if the current Ethernet port can connect to a point-to-point link. Note that the current Ethernet port must be a convergence port or in the full-duplex mode to make it connect to a point-to-point link. Otherwise, the configuration does not take effect.

8. Execute `spanning-tree rapid-stp protocol-migration enable` command to enable an RSTP port to forcefully send BPDUs.

Example:

```
9806(cfg-if-eth-5/1)# spanning-tree rapid-stp protocol-migration enable
```

Important!

Port(s) can be configured to forcefully send BPDUs only when RSTP is used.

END OF STEPS

Result Ethernet port parameters are configured successfully.

Quality of Service (QoS) Configuration

QoS configuration includes the following:

- Configuring QoS Mapping
- Configuring Qos Scheduler
- Configuring QoS Class and Policy
- Configure Interface OoS Parameters

Configuring QoS Mapping

Purpose	Perform this procedure to configure QoS mapping.
Preliminary Setup	None
Steps	To configure QoS mapping, perform the following steps: 1. Log into ZXDSL 9806H (V1.2) in the global configuration mode. 2. Execute <code>qos mapping cos2queue user-side <i>datalist:data</i></code> command to configure the mapping between the CoS priority and the forwarding queue (FQ) on the user side. The range for CoS-list is 0 - 7. Default range for forwarding queue is 1 - 8. Example: <pre>9806(config)# qos mapping cos2queue user-side 0:3</pre> 3. Execute <code>qos mapping cos2queue network-side <i>datalist:data</i></code> command to configure the mapping between the CoS priority and the forwarding queue (FQ) on the network side. The range of the CoS-list is 0 - 7. Range for forwarding queue is 1 - 8. Example: <pre>9806(config)# qos mapping cos2queue network-side 0:7</pre> 4. Execute <code>qos mapping cos2dscp {default <i>datalist:data</i>}</code> command to configure mapping between CoS priority and DSCP priority. Where, the CoS-priority-list (802.1p value) is in the range of 0 to 7 and the DSCP priority is in the range of 0 to 63. Example: <pre>9806(config)# qos mapping cos2dscp 6:20</pre> 5. Execute <code>qos mapping dscp2cos <i>datalist:data</i></code> command to configure mapping between DSCP priority and CoS priority.

The DSCP priority is in the range of 0 to 63 and the CoS-list (802.1p value) is in the range of 0 to 7.

Example:

```
9806(config)# qos mapping dscp2cos 20:6
```

END OF STEPS

Result QoS mapping is configured successfully.

Configuring QoS Scheduler

Purpose Perform this procedure to configure the QoS scheduler.

Preliminary Setup None

- Steps** To configure the QoS scheduler, perform the following steps:
1. Log into ZXDSL 9806H (V1.2) in the global configuration mode.
 2. Execute `qos queue-scheduler user-side {strict-priority [wrr wrrlist2] | wrr wrrlist2}` command to run the queue scheduling algorithm on user side.

Example:

```
9806(config)# qos queue-scheduler user-side strict-priority
```

3. Execute `qos queue-scheduler network-side {strict-priority [wrr wrrlist2] | wrr wrrlist2}` command to set the queue scheduling algorithm on network side.

Example:

```
9806(config)# qos queue-scheduler network-side wrr 1,2,3,4,5,6,7,8
```

Where 1, 2, 3, 4, 5, 6, 7 and 8 are forwarding queue weights.

END OF STEPS

Result QoS scheduler is configured successfully.

Configuring QoS Policy

Purpose Perform this procedure to configure the QoS policy.

Preliminary Setup None

- Steps** To configure the QoS policy, perform the following steps:
1. Log into ZXDSL 9806H (V1.2) in the global configuration mode.

2. Execute `qos policy policyname class-order {unrestricted | restricted}` command to configure a policy. The policy contains restricted and non-restricted policy types.

Example:

```
9806(config)# qos policy abcd class-order restricted
```

3. Execute `qos class classname match [eth-type type] [source-mac macaddr] [dest-mac macaddr] [cos cos-id] [vlan vlanid]` command to create and configure a service class for the QoS guarantee. Execute the `no qos class class-name` command to delete a QoS class.

Example:

```
9806(config)# qos class abcd match eth-type IP ip-type ICMP source-ip 192.168.1.10/16
```

4. Execute `qos policy policyname class classname {permit [rate-limit limit] [cos cos-id] [dscp dscp-id] [mirrored-to-port slot/port] [directed-to-port slot/port] [vlan vlanid] | deny}` command to configure the associate between the service policy and class.

Example:

```
9806(config)# qos policy abcd class abcd permit rate-limit 10000 burst-size 12000
```

END OF STEPS

Result QoS policy is configured successfully.

Configuring Port QoS Parameters

Purpose	Perform this procedure to configure port QoS parameters.
Preliminary Setup	None
Steps	To configure port QoS parameters, perform the following steps: 1. Log into ZXDSL 9806H (V1.2) in the global configuration mode. 2. Enter port configuration mode, execute <code>qos def-cos <i>cos-priority</i> pvc <i>pvcid</i></code> command to configure the default CoS priority (802.1p). Example: <pre>9806(config)# interface adsl 3/1 9806(cfg-if-adsl-3/1)# qos def-cos 2 pvc 2</pre> 3. Execute <code>qos override-cos <i>override-cos-priority</i> pvc <i>pvcid</i></code> command to configure the override CoS priority (802.1p).

Example:

```
9806(cfg-if-adsl-3/1)# qos override-cos 4 pvc 2
```

Execute no qos override-cos command to delete the override CoS priority (802.1p).

4. Execute the qos pvc2queue command to configure the mapping of PVC to queue.

Example:

```
9806(cfg-if-adsl-3/1)# qos pvc2queue 2:1
```

5. Execute egress-shaping-queue queue *id* average-rate *averagerate* [burst-size *burstsize*] command in port configuration mode to configure the traffic shaping.

Example:

```
9806(cfg-if-adsl-3/1)# egress-shaping-queue queue 1  
average-rate 1024
```

Execute no egress-shaping-queue queue *id* command to disable egress shaping.

END OF STEPS

Result Port QoS parameter is configured successfully.

Port Location Configuration

Port location and identification is the capability to learn subscriber physical location. For a specific DSL subscriber, the BAS can obtain the port number of the DSL subscriber line accessed by the subscriber and identify the subscriber in authentication, accounting and authorization. ZXDSL 9806H (V1.2) port location configuration includes the following:

- Configuring SVLAN
- Configuring VBAS
- Configuring PPPoE-plus
- Configuring DHCP Option-82

Configuring SVLAN

Purpose	Perform this procedure to configure SVLAN.
Preliminary Setup	None
Steps	To configure SVLAN, perform the following steps: 1. Log into ZXDSL 9806H (V1.2) in the global configuration mode.

2. Execute `add-vlan vlan-id` command to create VLAN.

Example:

```
9806(config)# add-vlan 50,100
```

3. Add the uplink interface to VLAN with a tag.

Example:

```
9806(config)# vlan 100 5/1 tag
```

4. Add the subscriber port to the VLAN and un-tag the port.

Example:

```
9806(config)# vlan 100 2/1 untag pvc 1
```

5. Specify the STPID (hexadecimal value) by executing `stpid stpid` command.

Example:

```
9806(config)# stpid 9100
```

6. Enable SVLAN on a specific port by executing `svlan enable` command.

Example:

```
9806(config)# interface adsl 2/1
```

```
9806(cfg-if-adsl-2/1)# svlan enable pvc 1
```

7. Configure PSVID of the ADSL port, which is consistent with the SVLAN.

Example:

```
9806(cfg-if-adsl-2/1)# psvid 100 pvc 1
```

8. Configure the PVID of the ADSL port, which is consistent with the VLAN.

Example:

```
9806(cfg-if-adsl-2/1)# pvid 50 pvc 1
```

END OF STEPS

Result SVLAN is configured successfully.

Configuring VBAS

Purpose	Perform this procedure to configure VBAS.
Preliminary Setup	None
Steps	To configure VBAS, perform the following steps: 1. Log into ZXDSL 9806H (V1.2) in the global configuration mode.

2. Enable VBAS protocol globally by executing port-location vbas enable command.

Example:

```
9806(config)# port-location vbas enable
```

3. Enable VBAS on a VLAN by executing port-location vbas enable vlan *vid* command.

Example:

```
9806(config)# port-location vbas enable vlan 100
```

NOTE:

VBAS packets in the VLAN can be processed only if VBAS is enabled in a VLAN. To disable VBAS on the VLAN, execute the port-location vbas disable vlan *vid* command.

END OF STEPS

Result VBAS is configured successfully.

Configuring PPPoE-plus

Purpose Perform this procedure to configure PPPoE-plus.

Preliminary Setup None

Steps To configure PPPoE-plus, perform the following steps:

1. Log into ZXDSL 9806H (V1.2) in the global configuration mode.
2. Configure the access-node identity by executing port-location access-node-identify {inband-mac | hostname} command.

Example:

```
9806(config)# port-location access-node-id hostname
```

3. Enable the global PPPoE-plus by executing port-location pppoe-plus {enable | disable} command.

Example:

```
9806(config)# port-location pppoe-plus enable
```

4. Enable the PPPoE-plus on a port by executing pppoe-plus {enable | disable} command.

Example:

```
9806(config)# interface adsl 2/1
```

```
9806(cfg-if-adsl-2/1)# pppoe-plus enable
```

END OF STEPS

Result PPPoE-plus is configured successfully.

Configuring DHCP Option-82

Purpose	Perform this procedure to configure the DHCP Option-82.
Preliminary Setup	None
Steps	To configure the DHCP Option-82, perform the following steps: 1. Log into ZXDSL 9806H (V1.2) in the global configuration mode. 2. Configure access node by executing port-location access-node-identify {inband-mac hostname} command. Example: <pre>9806(config)# port-location access-node-identify hostname</pre> 3. Enable the DHCP Option-82 globally by executing port location dhcp-option82 enable command. Example: <pre>9806(config)# port-location dhcp-option82 enable</pre> 4. Enable the DHCP Option-82 on a port by executing dhcp-option82 {enable disable} command. Example: <pre>9806(config)#interface adsl 2/1 9806(cfg-if-adsl-2/1)# dhcp-option82 enable</pre> 5. Enable the DHCP Option-82 remote ID by executing dhcp-option82 sub-option rid command in port configuration mode. Example: <pre>9806(cfg-if-adsl-2/1)# dhcp-option82 sub-option rid enable</pre> 6. Configure the DHCP Option-82 sub-option remote ID name by executing dhcp-option82 sub-option rid name command in port configuration mode. Example: <pre>9806(cfg-if-adsl-2/1)# dhcp-option82 sub-option rid name zte9806</pre> 7. Configure the DHCP Option-82 sub-option by executing dhcp-option82 sub-option command in port configuration mode. Example: <pre>9806(cfg-if-adsl-2/1)# dhcp-option82 sub-option wt101</pre>

END OF STEPS

Result The DHCP Option-82 is configured successfully.

Subscriber Security Management

ZXDSL 9806H (V1.2) subscriber security management includes the following:

- Binding MAC Address
- Binding IP Address
- Restricting MAC Address Number

Binding MAC Address

Purpose Perform this procedure to bind the MAC address.

Preliminary Setup None

- Steps** To bind the MAC address, perform the following steps:
1. Log into ZXDSL 9806H (V1.2) in the global configuration mode.
 2. Execute `bind mac-address mac-addr` command to bind user port with MAC address.

Example:

```
9806(config)# interface adsl 3/1
9806(cfg-if-adsl-3/1)# bind mac-address
00:00:D0:D0:88:88
```

NOTE: MAC address binding works by matching the incoming packet's MAC address against the MAC address table. If the source address of an incoming packet is not included in the MAC address table, the packet is discarded. By implementing MAC address binding, only the desired MAC address is allowed access.

END OF STEPS

Result MAC address binding is successfully completed.

Follow-up Action Execute `show bind mac [interface slot/port]` command to view the MAC address bound to a user port.

Example:

```
9806# show bind mac-address
3/1           : 00:00:D0:D0:88:88
```

Binding IP Address

Purpose	Perform this procedure to bind the IP address.
Preliminary Setup	None
Steps	To bind the IP address, perform the following steps: 1. Log into ZXDSL 9806H (V1.2) in the global configuration mode. 2. Execute <code>bind ip-address ip-addr</code> command to bind user port with IP address.

Example:

```
9806(cfg-if-adsl-3/1)# bind ip-address 10.61.86.71
```

NOTE:

IP address binding works by matching the incoming packet's IP address against the IP address table. If the source address of an incoming packet is not included in the IP address table, the packet is discarded. By implementing IP address binding, only the desired IP address is allowed access.

END OF STEPS

Result	IP address binding is successfully completed.
Follow-up Action	Execute <code>show bind ip [interface slot/port]</code> command to view the IP address bound to a user port.

Example:

```
9806# show bind ip
          3/1                : 10.61.86.71
```

Restricting MAC Address Number

Purpose	Perform this procedure to restrict MAC address (to avoid illegal access).
Preliminary Setup	None
Steps	To restrict MAC address, perform the following steps: 1. Log into ZXDSL 9806H (V1.2) in the global configuration mode. 2. Execute <code>max-mac-learn number</code> command to specify maximum MAC learning number.

Example:

```
9806(config)# interface adsl 3/1
```

```
9806(cfg-if-adsl-3/1)# max-mac-learn 3
```

NOTE:

Configuring the maximum number of MAC address on a port implements address restriction thus prevents illegal access. Once the threshold of the MAC address table is reached, no new address is learnt and all packets from the new addresses are discarded.

END OF STEPS

Result Restricting MAC address number is successfully configured.

Follow-up Action Execute `show interface slot/port` command to view the maximum MAC address restriction of a user port.

Example:

```
9806# show interface 3/1
```

```
Interface                               : 3/1
PVCID      PVID      AcceptShelfs      SvlanMode      PSVID
DHCPSourceGuard
1           100      admitall          disable        1
disable
8           1        admitall          disable        1
disable
```

```
SC_ID      PVC_ID      SC_TYPE
1           1          ALL

AdminStatus                               : enable
TrapControl                              : disable
LinkStatus                                : down
IngressFilter                             : discard
MaxMacLearn                               : 3
BroadCastRateLimit                       : 1024kbps
IfType                                       : ADSL_PORT_TYPE
DHCP                                         : disable
DHCP Access Type                           : china-telecom
Remote ID                                  : disable
Remote ID Name                             :
PPPoE plus                                 : disable
DHCP Snooping                              : disable
DHCP Snooping Limit                        : 8
DHCP Packet Limit                          : 16 pps
IGMP Packet Limit                         : 16 pps
Modem IP                                   : 192.168.2.1
```

Chapter 6

Maintenance

This chapter covers the following topics:

- Version and Data Management
- Routine Maintenance
- Alarm Messages and Handling
- Troubleshooting

Version and Data Management

ZXDSL 9806H (V1.2) version and data management includes the following:

- Configuring FTP Server
- Upgrading Version in Boot Mode
- Upgrading Version in Boot Mode
- Backup Data
- Restore Data

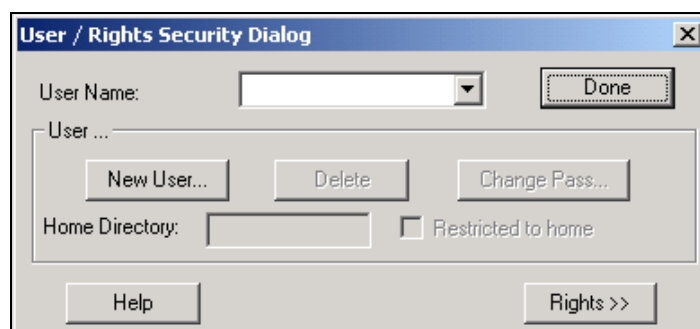
Configuring FTP Server

Purpose Perform this procedure to configure FTP server to upload or download ZXDSL 9806H (V1.2) configuration and software version files.

Steps To configure FTP Server, perform the following steps:

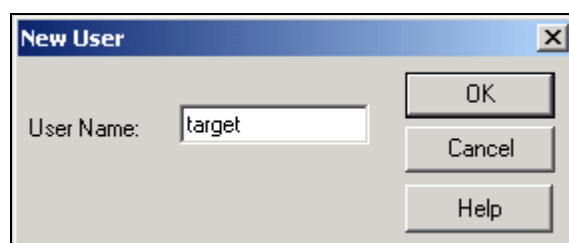
1. Open FTP Software WFTPD on maintenance terminal. Click Security menu and select **User / rights**. **User / Rights Security** dialog box is shown in Figure 32.

FIGURE 32 – USER/RIGHTS SECURITY DIALOG



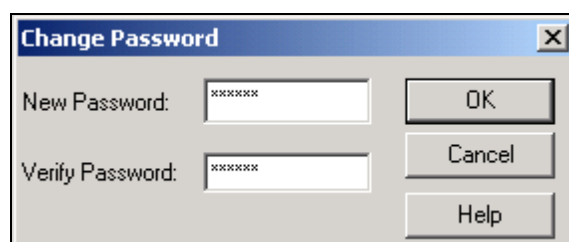
2. Click **New User**. **New User** dialog box appears as shown in Figure 33.

FIGURE 33 – NEW USER DIALOG BOX



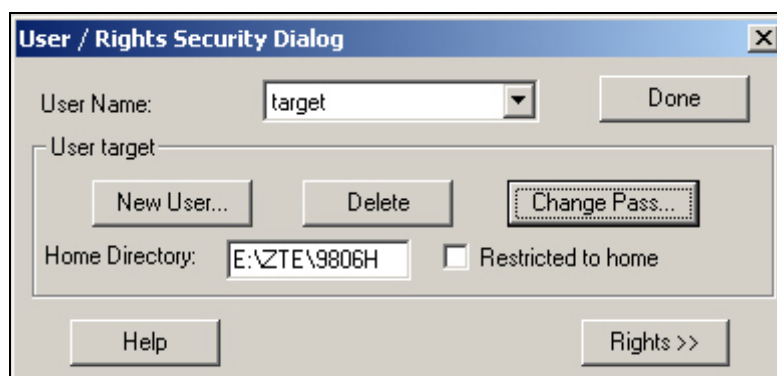
3. Click **OK** to create new user. Password dialog appears automatically as shown in Figure 34. Enter password for user and click **OK**.

FIGURE 34 – USER PASSWORD DIALOG BOX



4. In **User /Right Security** dialog box, enter home directory path in **Home Directory** field as shown in Figure 35.

FIGURE 35 – FTP SERVER HOME DIRECTORY PATHS



5. Click **Done** to complete the configurations

END OF STEPS

Result FTP configuration is completed.

Upgrading Version in Boot Mode

Purpose Perform this procedure to upgrade ZXDSL 9806H (V1.2) system version.

Preliminary Setup Before upgrading 9806H, perform the following steps.

1. Connect the equipment through HyperTerminal.
2. Start the FTP Server.
3. Check the connectivity between FTP server and equipment using ping command.

Steps To upgrade system version, perform the following steps:

1. Enter the privilege mode using enable command.

Example:

```
#####
#                                                                    #
#   Welcome to ZTE Full Service Access Platform                    #
#                                                                    #
#       Press Return to get started                                #
#                                                                    #
#       Copyright 2005-2009 , ZTE Co.,Ltd.                         #
#                                                                    #
#####
Login:admin
Password:
```

9806>en

Please input password:

9806#

2. Reboot 9806H using reboot command
3. Press **Enter** key when Press Enter key to stop auto-boot... appears to stop auto boot and enters Boot mode.

Example:

Enter key to stop auto-boot...

... ..

[ADSL9806H]/DATA/version/SCCF>

4. Use c command to modify out-of-band NM IP address, MAC address, FTP server IP address, FTP user name and password.

Example:

[ADSL9806H]/DATA/version/SCCF>c

Board work type is invalid

Change to default 1

The IP address: [10.61.90.54]10.61.86.19

The subnetMask: [255.255.252.0]

The MAC address: [00D0D0123456]

The FTP HOST IP address: [10.61.90.31]10.61.86.10

The FTP user name: [target]

The FTP password: [target]

The Board WorkType: [1]

Ok!

SecEnd0, the new ip = 10.61.86.19, new mask 255.255.252.0

[ADSL9806H]/DATA/version/SCCF>

5. Use burn command to update the **bsscf.bin** file of SCCF card in boot mode.

Example:

[ADSL9806H]/DATA/version/SCCF>burn bsscf.bin

Start downloading the program.....Done!

Begin burning bootrom.....Done!

Ok

[ADSL9806H]/DATA/version/SCCF>

6. Use lv command to check the updated file.

Example:

```
[ADSL9806H]/DATA/version/SCCF>lv
```

The version file list:

```
....sccf.bin....VALID 2007/06/20 09:18:51
```

1 version file(s) found

```
[ADSL9806H]/DATA/version/SCCF>
```

7. Use ren command to rename the SCCF file for the backup.

Example:

```
[ADSL9806H]/DATA/version/SCCF>ren sccf.bin sccfv.bin
```

Ok

```
[ADSL9806H]/DATA/version/SCCF>
```

8. Use downver command to download the version of the SCCF card.

Example:

```
[ADSL9806H]/DATA/version/SCCF>downver          sccf.bin
sccf.bin sccf
```

```
Start downloading Program.....
```

```
.....Done!
```

```
/DATA/version/SCCF\sccf.bin
```

```
... ..
```

Version download success.

```
[ADSL9806H]/DATA/version/SCCF>
```

9. Use setactver command to activate new version.

Example:

```
[ADSL9806H]/DATA/version/SCCF>setactver sccf sccf.bin
```

```
[ADSL9806H]/DATA/version/SCCF>
```

10. Reboot 9806H with reboot command after the upgrade.

END OF STEPS

Result	ZXDSL 9806H (V1.2) system version upgrade is completed.					
	Check version using show version command.					
Follow-up Action	9806# show version					
	CardType	Type	VerNo	VerLen	Status	
	BuildTime		State	FileName		

	SCCF	MVER	V1.2.0T2	3315936	VALID	
	20070814151700	active	sccfv.bin			
	SCCF	BOOT	V1.2.0T2	374608	VALID	
	20070521165854	backup	BSCCF.bin			
	SCCF	MVER	V1.2.0T2	3053785	VALID	
	20070620091851	backup	sccf.bin			

Upgrading Version in CLI Mode

Purpose Perform this procedure to upgrade ZXDSL 9806H (V1.2) version using Telnet.

Preliminary Setup Before upgrading 9806H, perform the following steps.

1. Connect the equipment through telnet or through HyperTerminal.
2. Start the FTP Server.
3. Check the connectivity between FTP server and equipment using ping command.

Steps To upgrade version in CLI mode, perform the following steps:

1. Enter the privilege mode using enable command.

Example:

```
#####
#
# Welcome to ZTE Full Service Access Platform #
#
# Press Return to get started #
#
# Copyright 2005-2009 , ZTE Co.,Ltd. #
#
#####
Login:admin
Password:
```

9806>en

Please input password:

9806#

2. Execute download command to download the boot version of SCCF card.

Example:

```
9806# download
IP address of the host where the file
resides:[0.0.0.0]10.61.84.66
Name of the file(include path) for programming
FLASH:[]bsccf.bin
Ftp UserName:[]target
Ftp Password:[]target
```

SCCF

Please select one:[]sccf

.....

3. Execute download command to download the SCCF card version.

Example:

9806# download

IP address of the host where the file resides:[0.0.0.0]10.61.84.66

Name of the file(include path) for programming FLASH:[]sccfv.bin

Ftp UserName:[]target

Ftp Password:[]target

SCCF

Please select one:[]sccf

.....

4. Execute activate version command to activate the new version.

Example:

9806# activate-version SCCF sccfv.bin

END OF STEPS

Result ZXDSL 9806H (V1.2) system version upgrade is completed.

Follow-up Action Check version with show version command.

Example:

9806# show version

CardType	Type	VerNo	VerLen	Status
BuildTime	State	FileName		

SCCF	MVER	V1.2.0T2	3315936	VALID
20070814151700	active	sccfv.bin		

SCCF	BOOT	V1.2.0T2	374608	VALID
20070521165854	backup	BSCCF.bin		

SCCF	MVER	V1.2.0T2	3053785	VALID
20070620091851	backup	sccf.bin		

Backup Data

Purpose Perform this procedure to take the backup of the running configuration to the network FTP server.

Preliminary Setup Before taking the backup of data, perform the following steps.

1. Connect the equipment through telnet or through HyperTerminal.
2. Start the FTP Server on network.
3. Check the connectivity between FTP server and equipment using ping command.

Steps To take the backup of the running configuration to the network FTP server, perform the following steps:

1. Copy the running configuration to the flash.

Example:

```
9806# copy running-config startup-config
```

2. Copy the running configuration of 9806H to the FTP server, which is running on the network.

Example:

```
9806# copy running-config network
```

```
IP address of the host where the file resides:[ ]
10.61.90.73
```

```
Name of the file at ftp server:[ ]9806.cfg
```

```
Ftp UserName:[ ]target
```

```
Ftp Password:[ ]target
```

```
.....
```

3. Copy the startup configuration in flash memory data to the FTP server.

Example:

```
9806# copy startup-config network
```

```
IP address of the host where the file resides:[ ]
10.61.90.73
```

```
Name of the file at ftp server:[ ]9806.cfg
```

```
Ftp UserName:[ ]target
```

```
Ftp Password:[ ]target
```

```
.....
```

END OF STEPS

Result ZXDSL 9806H (V1.2) data backup is completed.

Restore Data

Purpose	Perform this procedure to restore ZXDSL 9806H (V1.2) configuration data from the network.
Preliminary Setup	Before restoring configuration data of ZXDSL 9806H (V1.2), perform the following steps. 1. Connect the equipment through telnet or through HyperTerminal. 2. Start the FTP Server on network. 3. Check the connectivity between FTP server and equipment using ping command.
Steps	Copy the data from the network to system startup configuration in flash using copy network startup configuration command. Example: <pre>9806# copy network startup-config IP address of the host where the file resides:[] 10.61.90.73 Name of the file at ftp server:[]9806.cfg Ftp UserName:[]target Ftp Password:[]target</pre> END OF STEPS
Result	ZXDSL 9806H (V1.2) data restore is completed.

Routine Maintenance

Routine maintenance includes the following:

- Checking Equipment Room Environment
- Checking Control and Switch Card
- Checking ADSL/ADSL 2+ Service
- Checking VDSL2 Service
- Checking VLAN Service

Checking Equipment Room Environment

Check the equipment room environment regularly to ensure normal system operation. The specific requirements for equipment room maintenance are listed in Table 12.

TABLE 12 – REQUIREMENTS FOR EQUIPMENT ROOM ENVIRONMENT

Check Items	Requirements
Temperature	-5 °C ~ 45 °C
Humidity	10% ~ 90%
Voltage	-40 V DC ~ -57 V DC
Air-conditioner	Normal functioning
Cleanliness	The concentration of dust particles with diameters over 5 μm should be $\leq 3 \times 10^4$ particles/m ³ . Dust particles should be non-conductive, non-magnetic, and non-corrosive
Cards	The cards should function normally; ensure there is no alarm on LED indicators
NM channel	Ping the NetNumen N31 server IP address from the HyperTerminal of local workstation
Alarm log	Record the alarm details
Splitter function test	Check whether the telephone services are normal, and the two services do not interfere with each other on same splitter

Checking Control and Switch Card

Check control and switch card (SCCF) regularly to ensure normal system operation. The common check items for SCCF card are listed in Table 13.

TABLE 13 – CHECK ITEMS FOR MAIN CONTROL CARD

Check Items	Command for Reference	Description
Query system log	show history	Shows the operation record of subscribers
Query system time	show time	Shows system time, ensure whether the system time is consistent with the current local time

Check Items	Command for Reference	Description
Query card status	show card	Shows card status. The normal status of the card should be ' Inservice ', whereas abnormal or registration failure indication is ' Offline '. When it is ' Offline ', check whether the card is inserted in the designated slot, and whether the card is working normally
Query version information	show version	Shows card version, ensure whether the card versions are upgraded

Checking ADSL/ADSL 2+ Service

Check ADSL/ADSL2+ service operational status regularly to ensure uninterrupted services provided to subscribers. The routine check items for ADSL/ADSL2+ service are listed in Table 14.

TABLE 14 – CHECK ITEMS FOR ADSL SERVICE

Check Items	Command for Reference	Description
Query interface card status	show interface <i>slot/portlist</i>	Shows port status, ensure whether the port status is ' Up '
Query line profile configuration	show adsl profile <i>filename</i>	Shows ADSL line parameters, ensure whether the ADSL line parameter values are consistent with the planned rate
Query physical status of ADSL	show adsl physical <i>slot/port</i>	Shows status of ATUC and ATUR, check whether their parameters values are correct
Query ADSL status	show adsl status <i>slot/port</i>	Shows status of ADSL, check whether correct line profile and alarm profile is assigned to the port
Query PVC configuration	show atm vc <i>slot/portlist</i>	Shows VPI, VCI, and PVID values, ensure whether their parameter values are correct and port status is ' Enable '

Checking VDSL2 Service

Check VDSL2 service operational status regularly to ensure uninterrupted services provided to subscribers. The routine check items for VDSL2 service are listed in Table 15.

TABLE 15 – CHECK ITEMS FOR VDSL SERVICE

Check Items	Command for Reference	Description
Query interface card status	show interface <i>slot/portlist</i>	Shows port status, ensure whether the port status is 'Up'
Query line profile configuration	show vdsl2 service-profile <i>filename</i>	Shows VDSL line parameters, ensure whether the VDSL line parameter values are consistent with the planned rate
Query VDSL status	show vdsl2 line <i>slot/port</i>	Shows status of VDSL, check whether line status is normal

Checking VLAN Service

Check the VLAN status regularly to ensure port division is consistent with the plan. The routine check item for VLAN is listed in Table 16.

TABLE 16 – CHECK ITEM FOR VLAN SERVICE

Check Item	Command for Reference	Description
Query VLAN configuration	show vlan	Shows VLAN ID, VLAN Name, and port list, ensure whether VLAN division is consistent with the plan

Alarm Messages Handling

Purpose Perform this procedure to handle alarm messages.

Steps To handle alarm messages, perform the following steps:

1. Locate and troubleshoot the fault according to alarm reason.
2. If fault persists, please contact ZTE Local office for further troubleshooting.

Table 17 lists all the alarm and notification messages.

TABLE 17 – ALARM AND NOTIFICATION MESSAGES

S.N.	Information	Reason	Classification
1	PrimaryCtrlCardSwapped	Main control switching card is swapped	Major Alarm
2	Card Status	Card offline	
3	CpuLoadAlarm	CPU load exceeds threshold	
4	MemoryOverLoadAlarm	Memory load exceeds threshold	
5	BridgePortLoopAlarm	Bridge port loopback error	Warning
6	Atuc LOFs Threshold	ATU-C loss of shelf seconds exceed threshold	
7	Atuc LOSs Threshold	ATU-C loss of signal seconds exceed threshold	
9	Atuc LPRs Threshold	ATU-C loss of power seconds exceed threshold	
10	Atuc ESs Threshold	ATU-C severe error seconds exceed threshold	
11	Atuc Rate Change	ATU-C rate changes	
12	Atuc LOLs Threshold	ATU-C loss of link seconds exceed threshold	
13	Atuc Initialization Failure	ATU-C initialization fails	
14	Atur LOFs Threshold	ATU-R loss of shelf seconds exceed threshold	
15	Atur LOSs Threshold	ATU-R loss of signal seconds exceed threshold	
16	Atur LPRs Threshold	ATU-R loss of power seconds exceed threshold	
17	Atur ESs Threshold	ATU-R severe error seconds exceed threshold	
18	Atur Rate Change	ATU-R rate changes	
19	Port Link Down	Subscriber port is link up with CPE	Notification
20	Port Link Up	Subscriber port is link down	

END OF STEPS

Result Alarm message handling is completed.

Troubleshooting

Troubleshooting includes the following:

- Replacing Subscriber Cards
- Replacing Control and switch Card
- Troubleshooting Data Configuration

Replacing Subscriber Cards

Purpose	Perfrom this procedure to replace subscriber cards.
Preliminary Setup	1. Prepare labels for the faulty card and the new card before replacement. 2. Open management interface of local HyperTerminal. 3. Replacement operator should wear an antistatic wrist strap.
Steps	To replace subscriber cards, perform the following steps:: 1. Loosen the two screws on the card, press down the locks, and remove the card by pulling the ejector levers. 2. Label the faulty card with a fault description label on the front panel and put it into an antistatic bag. 3. Properly insert new card in the slot, label it, and tighten the screws. END OF STEPS
Result	Subscriber card is successfully replaced.
Follow-up Action	1. Observe the RUN LED of the new card and check the card status. If the LED is OFF, this shows that the card is not working properly reinsert the card. 2. On the HyperTerminal interface, use show card command to view the card status. Status of card should be 'up' otherwise the card is faulty.

Replacing Control and Switch Card

Purpose	Perfrom this procedure to replace control and switch card.
Preliminary Setup	1. Store ZXDSL 9806H (V1.2) service data and NM data on the switch and control card, the service restores only when the data is loaded after replacing the control and switch card. 2. Replacement operator should wear an antistatic wrist strap.
Steps	To replace control and switch card, perform the following steps: 1. Remove the cables from the faulty card.

2. Loosen two screws on the card, press down the locks, and remove the card by pulling the ejector levers on the front panel.
3. Label the faulty card with a fault description label on the front panel, and put it into an antistatic bag.
4. Properly insert new card in the slot, label it, and tighten the screws.

END OF STEPS

- Result** Control and switch card is successfully replaced.
- Follow-up Action**
1. Observe the LEDs on the control and switch card front panel. RUN LED should be flashing. During the self-check process if all LEDs are OFF this shows that the card is inactive. Reinsert the card.
 2. System startup process displays on the HyperTerminal. After the startup self test, the login interface appears.

Troubleshooting Data Configuration

Purpose Perform this procedure to perform data configuration troubleshooting.

Steps To perform data configuration troubleshooting, perform the following steps:

1. Check VLAN settings and separate NM VLAN from service VLAN.
2. When system uplinks through Ethernet card, check the uplink port Tag and untagged mode and make sure both subscriber port and uplink port are in the same VLAN.
3. Check the PVC setting on ZXDSL 9806H.
4. Check whether the subscriber port is activated.
5. Check whether multicast services are enabling.

END OF STEPS

Result Data configuration troubleshooting is completed.

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Chapter 7

Network Applications

This chapter covers the following topics:

- System Networking
- Applications

System Networking

ZXDSL 9806H (V1.2) networking mode is flexible, applicable to residence, commercial office buildings, hotels, hospitals, and enterprises.

ZXDSL 9806H (V1.2) can be connected to BAS equipment at the convergence layer. BAS equipment provides user authentication, user management and service management.

ZXDSL 9806H (V1.2) can also be cascaded to a large capacity DSLAM, for example, ZXDSL 9210.

The two types of networking are shown in Figure 36 and Figure 37.

FIGURE 36 – NETWORKING-1

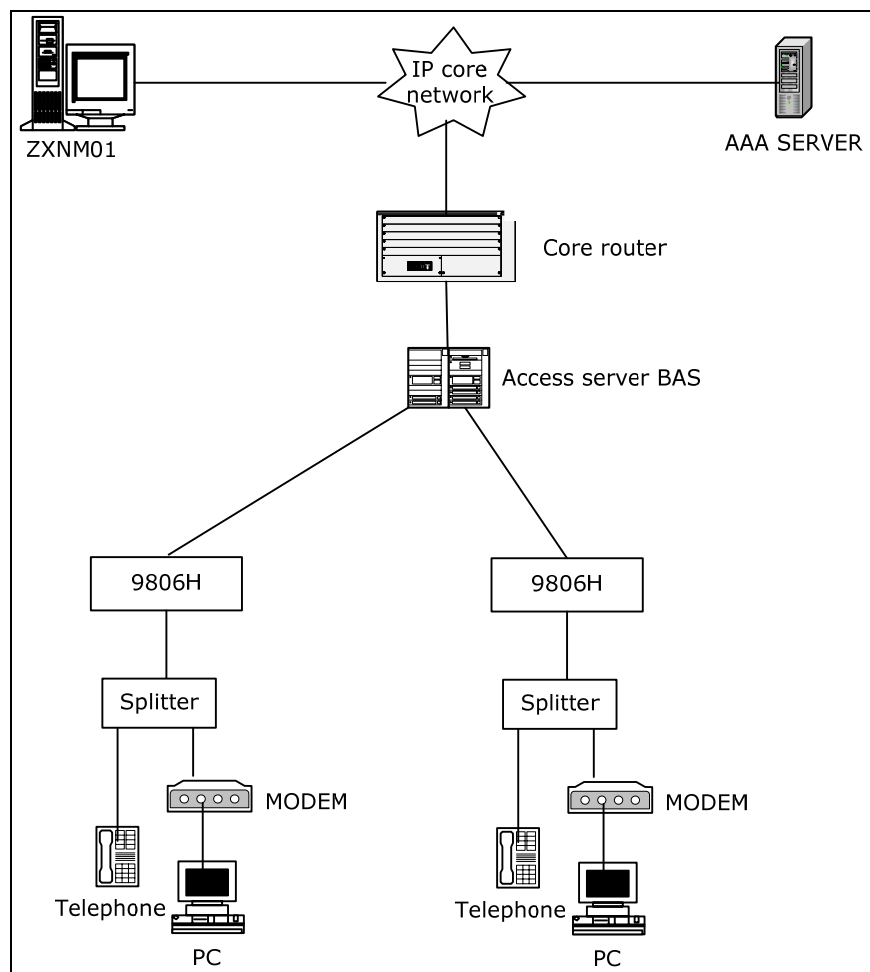
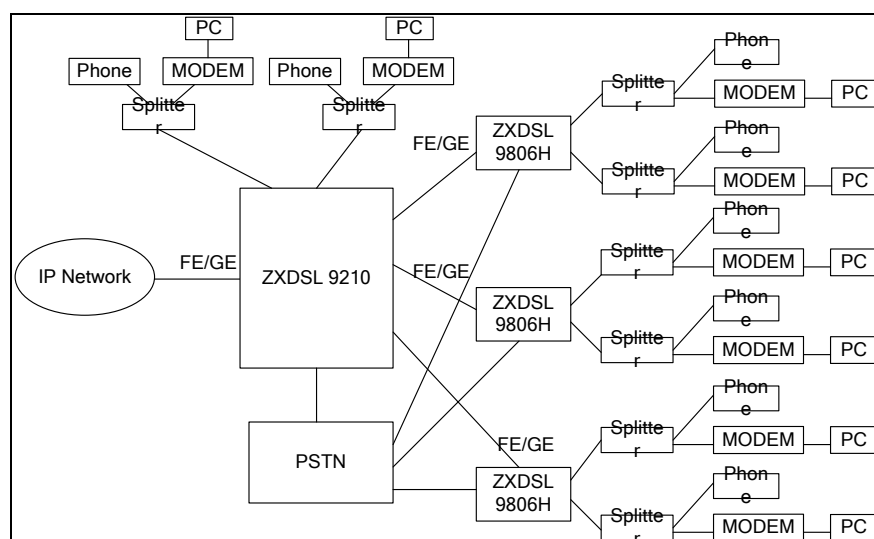


FIGURE 37 – NETWORKING-2



Applications

ZXDSL 9806H (V1.2) network application includes the following:

- SVLAN Networking
- Enterprise Networking

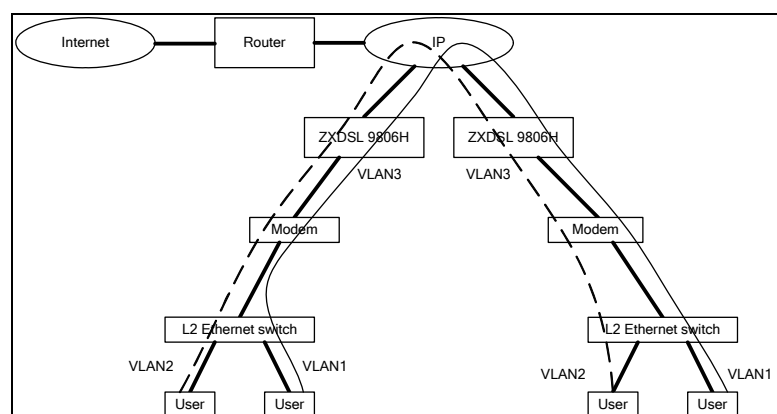
SVLAN Application

ZXDSL 9806H (V1.2) supports SVLAN feature for network applications. Figure 38 shows VLAN 1 and VLAN 2 are the user VLANs; VLAN 3 is a public VLAN. When VLAN1 or VLAN2 enters into public network, ZXDSL 9806H (V1.2) tags a VLAN3 on VLAN1 or VLAN 2. Tagged VLANs are transferred to the core network. When the information reached to other side of the network in tagging form VLAN3, it is removed and resumed as it is.

SVLAN allocates the public network VLAN ID to user packets with tag and forwards the packets in the core network with VLAN ID of the public network. This feature saves number of VLAN ID in public network.

Figure 38 shows SVLAN networking.

FIGURE 38 – SVLAN NETWORKING

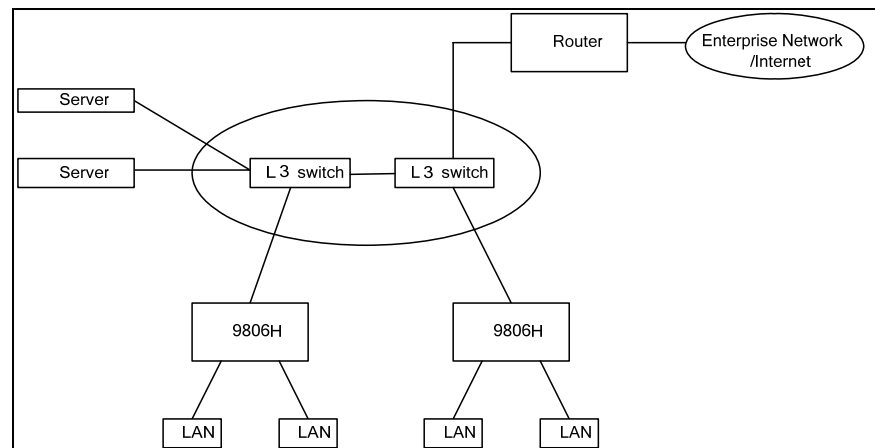


Enterprise Application

ZXDSL 9806H (V1.2) connects head-office and branch-offices through L2 and L3 devices.

Figure 39 shows enterprise networking.

FIGURE 39 – ENTERPRISE NETWORKING

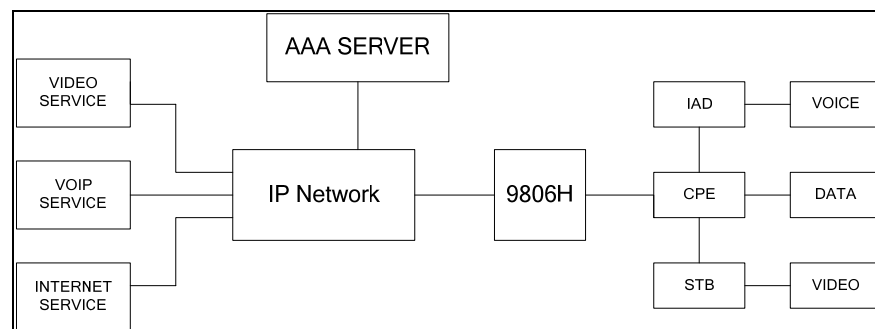


IPTV Application

ZXDSL 9806H (V1.2) supports IPTV application in conjunction with VOD.

Figure 40 shows IPTV networking.

FIGURE 40 – IPTV NETWORKING



Chapter 8

Technical Specifications

This chapter covers the following topics:

- Technical Parameters
- Performance Specifications
- Interface Specifications
- Protocols and Standards

Technical Parameters

ZXDSL 9806H (V1.2) technical parameters include equipment dimensions, equipment weight, operation voltage, operation environment, equipment power consumption and card power consumption.

Equipment Dimensions

Table 18 lists the equipment dimensions.

TABLE 18 – EQUIPMENT DIMENSIONS

Type	Dimensions
9806H shelf	88.1 mm × 485.6 mm × 240 mm (Height × Width × Depth)
SCCF	44 mm × 120 mm × 225 mm (Height × Width × Depth)
Subscriber card	22 mm × 280 mm × 225 mm (Height × Width × Depth)
9806H backplane	84 mm × 320 mm (Height × Width)

Equipment Weight

Table 19 lists the equipment weight.

TABLE 19 – EQUIPMENT WEIGHT

Type	Weight
9806H shelf	3 kg

Operation Voltage Table 20 lists the operation voltage.

TABLE 20 – OPERATION VOLTAGE

Voltage Type	Operation voltage	Voltage range
DC	-48 V DC	-57 V DC ~ -40 V DC
AC	220 V/110 V AC	86 V ~ 276 V AC

Operation Environment Table 21 lists operation environment.

TABLE 21 – OPERATION ENVIRONMENT

Parameters	Description
Ground resistance	< 1 Ω
Ambient temperature	-5 $^{\circ}\text{C}$ ~ 45 $^{\circ}\text{C}$
Ambient humidity	10 % ~ 90 %
Cleanness	Dust concentration with a diameter greater than 5 μm is equal to or less than 3×10^4 grains / m^3 , and the dust is not be electrically conductive, magnetically conductive and erosive.
Illumination	Do not expose the equipment room to direct sunshine, to prevent the circuit boards and other components from aging and deforming due to long-time exposure to the sunshine. Average illumination is 150Lx-200Lx. No glare. Normally, the fluorescence lamps embedded in the ceiling are adopted. Equip the equipment room with emergency lights.
Atmosphere pressure	70 kPa ~ 106 kPa
Air pollution	Do not expose the equipment to corrosive gases (e.g., SO_2 , oxides of SO_2 and ammonia), smog or oil solvents. No smoking in the equipment room.

Equipment Power Consumption Table 22 lists the equipment power consumption.

TABLE 22 – EQUIPMENT POWER CONSUMPTION

Parameters	Description
Single shelf power consumption	150 W
SCCF	17.5 W
ASTEB	28 W
ASTDE	24 W
VSTDC	36 W

Performance Specifications

ZXDSL 9806H (V1.2) performance specifications include system configuration, reliability and security specifications and service specifications.

System Configuration

Table 23 lists the system data configuration.

TABLE 23 – SYSTEM CONFIGURATION DATA TABLE

Parameters	Description
Management interface	SCCF card offers one 100BASE-Tx out-of-band NM interface, one local configuration serial port
ADSL2+ ports in single shelf	96
VDSL2 ports in single shelf	64
The maximum PVC number at each port	ADSL/ADSL2+ ports: 8
Supported QoS queues	At the network side: 8
	At the user side: 8

Reliability and Security

Table 24 lists the reliability and security specifications.

TABLE 24 – RELIABILITY AND SECURITY SPECIFICATIONS

Parameters	standards
Static anti-interference	GB/T 17626-1998 (IEC 61000-4-2:1995) Grade 3 (contact 6 kV, air 8 kV)
Surge anti-interference	GB/T 17626.5-1998 (IEC 61000-4-5:1995)
Electric fast pulse group anti-interference	GB/T 17626.4-1998 (IEC 61000-4-4:1995)
Radio frequency electromagnetic field radiation anti-interference	GB/T 17626.3-1998 (IEC 61000-4-3:1995)
Radio frequency electromagnetic field conduction anti-interference	GB/T 17626.6-1998 (IEC 61000-4-6:1995)
Power supply down anti-interference	GB/T 17626.11-1998 (IEC 61000-4-11:1995)
Conduction transmission	GB 9254-1998 (Grade A ITE) (CISPR 22: 1997)
Radiation transmission	GB 9254-1998 (Grade A ITE) (CISPR 22: 1997)
Leak current to ground	≤ 3.5 mA
Anti-electricity strength	EN60950

Parameters	standards
Power cable bridging	ITU.T K 20
Power cable over-voltage	ITU.T K 20

Service Table 25 lists the system services.

TABLE 25 – SYSTEM SERVICE

Service Types	Descriptions
Access service	ADSL/ADSL2+, VDSL2
Accounting	Remote accounting
User port location	VBAS, Pppoe-plus, DHCP option 82
NM	Console port management
	Telnet management.
	SNMP unified management.
VLAN	4 K VLANs based on 802.1Q at the maximum.
	SVLAN
	PVLAN
	MVLAN
TRUNKING	Converging several physical ports to be one logical port
STP/RSTP	STP and RSTP protocols, complying with IEEE 802.1D and IEEE 802.1w
Multicast	1024 multicast groups at the maximum
	IGMP Snooping
	IGMP Proxy
	Controlled multicast; implement user multicast access authority control, multicast source control and multicast user management, namely multicast service operation management
	Processing of IGMP v1/v2/v3 version packet.
	CAC channel access control
	PRW channel preview
	CDR calling statistics
	SMS service management
	Master/slave changeover
	IGMP fast access
	Detection on connection channel of 9806H and SMS
	User-side IGMP PVC access control

Service Types	Descriptions
	MVLAN transmission data packet source IP control
	Port concurrent access multicast group number restriction function
	MIB value defined with RFC2933
	General query optimization
	Multicast set
Static route	Static subnet route
	Static host route
Broadcast storm control	All ports support the broadcast rate control based on bandwidth percentage.
Port mirror	Port mirror function
MAC address table	Address self-study: IEEE 802.1D standard.
	Address table specification: supporting 8 k MAC addresses at the maximum.
MAC and IP address binding	MAC and IP address binding
QoS	Data flow rule-based packet filter, re-location, flow mirror, flow statistics, flow monitoring, port queue scheduling, port rate restriction, priority policy and VLAN modification policy
	CoS (802.1p), flow priority, 802.1p priority by default
	PQ, WRR, scheduling
Security characteristics	Operation user rights hierarchical management mechanism
	User Layer-2 isolation and controlled exchange visit
	Restrict the quantity of connected hosts on each port
	Restrict the quantity of added multicast groups on each port
	Port location
	Binding IP/MAC address to port
Broadband operation and maintenance	SELT/DELT test of ADSL2+
	ADSL MODEM remote management
Version/configuration management	Remote version download
	Configuration data storage
System management	Real-time clock
	Card hot-swappable
	System remote resetting

Interface Specifications

ZXDSL 9806H (V1.2) provides ADSL2+ interface, VDSL2 interface, EPON interface, GPON interface, 100BASE-Tx interface, 100BASE-Fx single mode interface, 100BASE-Fx multi-mode interface, 1000BASE-Sx interface, 1000BASE-Lx interface. The contents below introduce the specifications of these interfaces.

ADSL2+ Interface

Table 26 lists the ADSL2+ interface specifications.

TABLE 26 – ADSL2+ INTERFACE PROPERTY

Property	Description
Number of ports	24 or 16 ADSL2+ ports
Interface rate	Uplink rate: to 1 Mbps
	Downlink rate: to 24 Mbps
Maximum transmission distance	6.5 km
Cable type	Twisted pairs
Band occupancy	Downlink band: 138 kHz ~ 2.208 MHz
	Uplink band: 30 kHz ~ 138 kHz
Modulation technology	DMT modulation
Service supported	ADSL2+ service
Standards	ANSI T1.413, ITU-T G.992.1 (G.dmt), G.992.2 (G.lite), ITU-T-T G.992.3, G.992.5

VDSL2 Interface

Table 27 lists the VDSL2 interface specifications.

TABLE 27 – VDSL2 INTERFACE SPECIFICATIONS

Property	Remarks
Number of ports	16 VDSL2 ports
Interface rate	Uplink rate: 50 Mbps; Downlink rate: 85 Mbps; uplink rate and the downlink rate can be symmetric
Maximum transmission distance	2.5 km (with the diameter of 0.4 mm)
Cable type	Twisted-pairs
Modulation technology	DMT
Service supported	VDSL2
Standards	ITU-T G.993.2,G.992.1,G.992.3 and G.992.5

**EPON
Interface**

Table 28 lists EPON interface specifications.

TABLE 28 – EPON INTERFACE SPECIFICATIONS

Property	Remarks
Interface type	1000Base-PX10, 1000Base-PX20
Number of ports	1
Interface rate	Uplink rate: 1.25 Gbps Downlink rate: 1.25 Gbps
Maximum transmission distance	20 km
Cable type	Fiber
Central wavelength	Downlink: 1490 nm Uplink: 1310 nm
Standards	IEEE Std802.3ah

**GPON
Interface**

Table 29 lists GPON interface specifications.

TABLE 29 – GPON INTERFACE SPECIFICATIONS

Property	Remarks
Interface type	1000Base-PX10, 1000Base-PX20
Number of ports	1
Interface rate	Uplink rate: 1.244 Gbps downlink rate: 2.448 Gbps
Maximum transmission distance	20 km
Cable type	Fiber
Central wavelength	Downlink: 1490 nm Uplink: 1310 nm
Standards	ITU-T G.984.x

**100Base-Tx
Interface**

Table 30 lists 100Base-Tx interface specifications.

TABLE 30 – 100BASE-TX INTERFACE SPECIFICATIONS

Property	Remarks
Interface type	RJ-45 (TPI)
Interface rate	Full-duplex 100 Mbps
Maximum transmission distance	100 m
Cable type	Category 5 twisted-pairs
Standards	IEEE 802.3u

**100Base-Fx
Single-mode
Interface**

Table 31 lists 100 Base-Fx single-mode interface specifications.

TABLE 31 – 100BASE-FX SINGLE-MODE INTERFACE SPECIFICATIONS

Property	Remarks
Interface type	LC
Interface rate	Full-duplex 100 Mbps
Maximum transmission distance	The transmission distance is 15 km when 9/125 μm single-mode optic fiber is used.
Cable type	Fiber - LD
Central wavelength	1310 nm
Transmission optical power	-8 dBm ~ -14 dBm
Extinction ratio	8.2 dB
Standards	IEEE 802.3u
Maximum receiver sensitivity	-31 dBm

NOTE: In addition, 9806H also supports the long distance 100BASE-Fx single model connection (transmitting distance up to 40 km) and the ultra long distance 100BASE-Fx single model connection (transmitting distance up to 80 km).

**100Base-Fx
Multi-mode
Interface**

Table 32 lists 100Base-Fx multi-mode interface specifications.

TABLE 32 – 100BASE-FX MULTI-MODE INTERFACE SPECIFICATIONS

Property	Remarks
Interface type	LC
Interface rate	Full-duplex 100 Mbps
Maximum transmission distance	The transmission distance is 2 km when 62.5/125 μm multi-mode optic fiber is used.
Cable type	Fiber - LD
Central wavelength	1310 nm
Transmission optical power	-23.5 dBm
Extinction ratio	8 dB
Standards	IEEE 802.3u
Maximum receiver sensitivity	-29 dBm

1000Base-Tx Interface Table 33 lists 1000Base-Tx interface specifications.

TABLE 33 – 1000BASE-TX INTERFACE SPECIFICATIONS

Property	Remarks
Interface type	RJ-45
Interface rate	Full-duplex 1000 Mbps
Maximum transmission distance	100 m
Standards	IEEE 802.3ab

1000Base-Lx Interface Table 34 lists 1000Base-Lx interface specifications.

TABLE 34 – 1000BASE-LX INTERFACE SPECIFICATIONS

Property	Remarks
Interface type	LC
Interface rate	1000 Mbps
Maximum transmission distance	The transmission distance is 10 km when 9/125 μm single-mode fiber is used.
Central wavelength	1310 nm
Transmission optical power	-9.5 dBm
Extinction ratio	8.2 dB
Standards	IEEE 802.3z
Maximum receiver sensitivity	-31 dBm

1000Base-Sx Interface Table 35 lists 1000Base-Sx interface specifications.

TABLE 35 – 1000BASE-SX INTERFACE SPECIFICATIONS

Property	Remarks
Interface type	LC
Interface rate	1000 Mbps
Maximum transmission distance	The transmission distance is 275 m when 62.5/125 μm multi-mode optic fiber is used and 550 m when 50/125 μm multi-mode optic fiber is used.
Central wavelength	850 nm
Transmission optical power	-9.5 dBm
Extinction ratio	9 dB
Standards	IEEE 802.3z

Property	Remarks
Maximum receiver sensitivity	-17 dBm

Protocols and Standards

Protocols and standards related to ZXDSL 9806H (V1.2) include national standards and industry standards, ITUT/IETF/IEEE standards and enterprise standards.

National Standards and Industry Standards

National standards and industry standards include compulsory standards and non-compulsory standards.

Compulsory Standards

Table 36 lists compulsory standards.

TABLE 36 – COMPULSORY STANDARDS

Standard No.	Standard Name
YD/T 1323-2004	Technical Requirements for Access Network – Asymmetric Digital Subscriber Line (ADSL)
YD/T 1244-2002	Digital Subscriber Line (xDSL) Equipment Electromagnetic Compatibility Requirements and Test Methods
YD/T 1187-2002	Asymmetric Digital Subscriber Line (ADSL) Voice Splitter Technical Requirements and Test Methods
YD/T 1188-2002	Technical Requirements for Access Network – ATM-based Asymmetric Digital Subscriber Line (ADSL) User-end Equipment
YD/T 1147-2001	Technical Specifications for Access Network Management Interface -ADSL
YD/T 1055-2000	Test Methods for Access Network Equipment - Asymmetric Digital Subscriber Line (ADSL) with Voice Splitter
YD/T 1055-2005	Test Methods for Access Network Equipment – Asymmetric Digital Subscriber Line (ADSL)
YD/T 1347-2005	Technical Requirements for Access Network – ADSL User-end Equipment Remote Management
GB2423	Basic Environment Experiment Regulations for Electrical/Electronic Products

Standard No.	Standard Name
GB5080-86	General Requirements for Equipment Reliability Experiment and Guide for Experiment Periodic Plan
GB4943-2001	Security of Information Technology Equipment
GB 9254-1998	Information Technology Equipment –Limits and Measurement Methods of Radio Disturbance Characteristics

Non-Compulsory Standards

Table 37 lists non-compulsory standards.

TABLE 37 – NON-COMPULSORY STANDARDS

Standard No.	Standard Name
YD/T 1185-2002	Technical Requirements for Access Network –Single-Pair High-speed Digital Subscriber Line (SHDSL)
YD/T 1064-2000	Technical Requirements for Access Network Technology – Low-speed Asymmetric Digital Subscriber Line (ADSL.lite) without Voice Splitter
YD/T 1046-2000	Technical Specifications for IP Telephone Gateway Equipment Interconnection
YD/T 1044-2000	Global Technical Requirements for IP Telephone/Fax Service
YD/N 065-1997	Global Technical Specifications for Telephone Exchange Issued by Ministry of Posts and Telecommunications
YD/N 034-1997	ISDN Users – Network Interface Specifications
YDN 088-1998	Automatic Exchange Telephone (Digital) Network Technical Mechanism
YDN 065-1997	Global Technical Specifications for Telephone Exchange Issued by Ministry of Posts and Telecommunications
YDN 078-1998	Technical Requirements for Access Network–Asymmetric Digital Subscriber Line (ADSL)
YDN 059-1997	Test Methods for High-Bit-Rate Digital Subscriber Line (HDSL) (Temporary)
YDN 065-1997	Technical Requirements for Access Network–High-Bit-Rate Digital Subscriber Line (HDSL) (Temporary)
YD/T 1348-2005	Technical Requirements for Access Network –Asymmetric Digital Subscriber Line (ADSL) Automatic Test System
YD/T 282-2000	General Methods of Testing Telecommunication Equipment Reliability

Standard No.	Standard Name
GB/T13426-92	Reliability Requirements for Digital Telecommunication Equipment and Experiment Standards
GB/T4064-1983	Security Design Guide for Electric Equipment
GB/T4942.2-1993	Low Voltage Electric Cover Protection Grade
GB/T12501-1990	Electrical/Electronic Equipment Anti-Electric-Shock Protection Classification
GB/T17618-1998	Anti-Interference Requirements for Information Technology Equipment
YD/T1109-2001	Technical Specifications for ATM Exchange
YDN106.1-1999	Technical Requirements for ATM-Based Multimedia Broadband Core Network – Addressing and Signalling
YD/T 852-1996	General Scheme Principle of Telecommunications Management Network (TMN)
YD/T 871-1996	General Information Model of Telecommunications Management Network (TMN)

ITUT/IETF/IEEE Standards

ITUT/IETF/IEEE standards include compulsory standards and non-compulsory standards.

Compulsory Standards

Table 38 lists compulsory standards.

TABLE 38 – ITUT/IETF/IEEE COMPULSORY STANDARDS

Standard No.	Standard Name
ITU-T G0.992.1	Transceiver of Asymmetric Digital Subscriber Line (ADSL)
ITU-T G0.9920.3	Transceiver of Second Generation of Asymmetric Digital Subscriber Line (ADSL2)
ITU-T G0.9920.5	Transceiver of Extended Second Generation of Asymmetric Digital Subscriber Line (ADSL2+)

Non-Compulsory Standards

Table 39 lists non-compulsory standards.

TABLE 39 – ITUT/IETF/IEEE NON-COMPULSORY STANDARDS

Standard No.	Standard Name
ITU-T G0.9910.2	Transceiver of Symmetric Digital Subscriber Line

Standard No.	Standard Name
ITU-T G0.9920.2	Transceiver of Asymmetric Digital Subscriber Line without Splitter
ITU-T G0.993.2	Transceiver of High-Speed Digital Subscriber Line
ITU-T G0.9930.2	Transceiver of Generation 2 High-Speed Digital Subscriber Line
ITU-T G0.994.1	Handshaking Regulations of Digital Subscriber Line (DSL) Transceiver
ITU-T G0.996.1	Test Programs of Digital Subscriber Line (DSL) Transceiver
ITU-T G.997.1	Physical-level Management of Digital Subscriber Line (DSL) Transceiver
ITU-T K.21	Resistibility of Telecommunications Equipment Installed in Customer Premises to Over-voltage and Over-current
ITU-T K.41	Resistibility of Internal Interfaces of Communication Equipment at Telecommunication Center to Surge Over-voltage
ITU-T I.321	B-ISDN Protocol Reference Model and Application
ITU-T I.327	B-ISDN Functional Architecture
ITU-T I.361	B-ISDN ATM Layer Specification
ITU-T I.362	B-ISDN ATM Adaptation Layer (AAL) Function
ITU-T I.363	B-ISDN ATM Adaptation Layer (AAL) Specification
ITU-T I.371	Traffic Control and Congestion Control in B-ISDN
ITU-T G.711(1988)	Pulse Code Modulation of Voice Frequency
ITU-T G.723.1 (1996)	Multimedia Communication Dual-speed Voice Coder at the rates of 5.3 Kbit/s and 6.3 Kbit/s
ITU-T G.728 (1992)	Voice Coding of Low Delay Code with Linear Prediction Inspiration at the rate of 16 Kbit/s
ITU-T G.729 (1996)	8 Kbit/s Voice Code Employing Conjugate Structure Algebra Code Linear Prediction Inspiration
ITU-T H.323 (1999)	Packet-based Multimedia Communication System
ITU-T Q.920 (1993)	IISDN Subscriber Interface Data Link Layer Overview
ITU-T Q.921 (1997)	ISDN Subscriber Interface Data Link Layer Specification
ITU-T T.30 (1998)	Transmission Regulations of File Fax on Public Telephone Exchange Network
ITU-T T.38 (1998)	Regulations of Real-time Communications Among Three Terminals via IP Network
ITU-T H.248 (2003)	Media Gateway Control Protocol (Megaco)

Standard No.	Standard Name
PFC1661	Point-To-Point Protocol (PPP)
RFC1213	Network Management Information Library Based on TCP/IP Internet
RFC1643	Definitions of Managed Objects for the Ethernet-like Interface Types
RFC1757	Remote Network Monitoring Management Information Base
RFC2021	Remote Network Monitoring Management Information Base Version 2 Using SMIV2
RFC2074	Remote Network Monitoring MIB Protocol Identifiers
RFC2613	Remote Network Monitoring MIB Extensions for Switched Networks Version 1.0
RFC2665	Ethernet-like MIB
RFC0768 (1990)	UDP Protocol
RFC0791 (1990)	IP Protocol
RFC0793 (1990)	TCP Protocol
RFC0854 (1990)	TELNET Protocol
RFC0855 (1990)	Telnet Protocol Option Specification
RFC0858 (1990)	Telnet Depressing Forwarding Option
RFC0894 (1990)	Standards of Transmitting IP Data Packets on Ethernet
RFC1157 (1990)	Simple Network Management Protocol (SNMP)
RFC1213 (1991)	Network Management Information Library Based on TCP/IP Internet: MIB-II
RFC1332 (1992)	IPCP Protocol
RFC1334 (1992)	PAP Protocol
RFC1631 (1994)	IP Network Address Transformer
RFC1661 (1994)	PPP Protocol
RFC1990 (1996)	PPP Multi-link Protocol
RFC1994 (1996)	CHAP Protocol

Standard No.	Standard Name
RFC2138 (1997)	RADIUS Protocol
RFC2139 (1997)	RADIUS Accounting Protocol
RFC1944 (1996)	Performance Test Methods of Network Interconnection Equipment
IEEE Std 802.1D 1998	Edition Medium Access Control (MAC) Bridges
IEEE Std 802.1Q 1998	Virtual Bridged Local Area Networks
IEEE Std 802.1ad2000	Aggregation of Multiple Link Segments
IEEE Std 802.2 1998	Logical Link Control
IEEE Std 802.3 1998	Edition Carrier Sense Multiple Access with Collision Detection (CSMA/CD) Access Method and Physical Layer Specifications
IEEE Std 802.3ab 1999	Physical Layer Parameters and Specifications for 1000BASE-T Operation Over 4-Pair of Category 5 Balanced Copper Cabling,
IEEE 802.3x	Full Duplex and Flow control on 10BaseT and 100BaseT ports
IEEE 802.3u	100BaseTX and 100BaseFX specification
IEEE 802.3z	1000BaseX specification

Enterprise Standards

Table 40 lists enterprise standards.

TABLE 40 – ENTERPRISE STANDARDS

Standard No.	Standard Name
Q/ZX 04.002-1998	Software Development Specifications
Q/ZX 04.121-2000	Credibility Design Rule
Q/ZX 04.122-2002	General Application Environment Conditions for Communication Equipment
Q/ZX 04.005-2001	Detailed Rules for Credibility Design Evaluation
Q/ZX 23.020-2001	Reliability Design Requirements –Modelling Distribution Prediction
Q/ZX 04.100-1997	Apparatus Quota Reduction Rule
Q/ZX 23.020.3-2003	Reliability Design Requirement – EMC Design

Standard No.	Standard Name
Q/ZX 23.020.5-2004	Reliability Design Requirement – EMC Design
Q/ZX 23.009-1999	Circuit Error Tolerance Analysis and Error Tolerance Design Guide
Q/ZX 23.021-2005	Communication Equipment Reliability Specifications
Q/ZX 23.020.4-2004	Reliability Design Requirement – Heat Design
Q/ZX.23.018.1–2001	Reliability Experiment Requirement – General Rules
Q/ZX.23.018.2–2001	Reliability Experiment Requirement – Development Phase
Q/ZX.23.018.3 -2001	Reliability Experiment Requirement – Medium-term Experiment Phase
Q/ZX.23.018.4–2001	Reliability Experiment Requirement – Authentication Experiment
Q/ZX.23.018.5–2001	Reliability Experiment Requirement – Routine Experiment
Q/ZX 23.011.1-2004	Electromagnetic Compatibility Experiment Requirement for Communication Equipment–General Rules
Q/ZX 23.011.2-2004	Electromagnetic Compatibility Experiment Requirement for Communication Equipment–Network Equipment
Q/ZX 23.011.3-2004	Electromagnetic Compatibility Experiment Requirement for Communication Equipment–Telecommunication Terminal Equipment
Q/ZX 23.011.4-2004	Electromagnetic Compatibility Experiment Requirement for Communication Equipment–Transmission Equipment
Q/ZX 18.001-2000	Technical Requirements for Equipment Production Static Protection
Q/ZX04.101.(1~6)-2000	Structure Design Specification (Serial Standards)
Q/ZX 04.014-2000	Product Testability Design Guide
Q/ZX 23.004-2002	Fault Mode Affecting Analysis Method Guide
Q/ZX 23.016-2000	Fault Tree Analysis Guide
Q/ZX04.100.1–2003	Printed Circuit Design Specification – Documentation Requirement
Q/ZX04.100.2–2003	Printed Circuit Design Specification – Technology Requirement
Q/ZX04.100.3–2003	Printed Circuit Design Specification – Product Testability Requirement
Q/ZX04.100.4–2003	Printed Circuit Design Specification – Apparatus Package Requirement

Standard No.	Standard Name
Q/ZX04.100.5—2001	Printed Circuit Design Specification – SMD Apparatus Package Requirement
Q/ZX04.100.6—2002	Printed Circuit Design Specification – Connector Package Size Requirement
Q/ZX04.100.8—2002	Printed Circuit Design Specification – PCB Check List
Q/ZX04.100.9—2003	Printed Circuit Design Specification – Version and Identification
Q/ZX04.100.10—2003	Printed Circuit Design Specification – Requirements for Plug-in Board Structure Design
Q/ZX04.104.1—2005	Circuit Board Principle Diagram Design Specification – CANDENCE Apparatus Principle Diagram Storage Requirement
Standard No.	Standard Name
Q/ZX04.104.2—2002	Circuit Board Principle Diagram Design Specification – Design Requirement Based on CANDENCE Platform
Q/ZX04.105—2002	PCB Board Emulation Specification Based on CANDENCE Platform
Q/ZX 04.106-2003	Requirements for Panel Indicator Design

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Appendix A

xDSL Line Parameters

This appendix covers the following topics:

- ADSL Subscriber Line Parameters
- VDSL Subscriber Line Parameters

ADSL Subscriber Line Parameters

The following are the parameters and basic requirements to activate a standard ADSL subscriber.

Twisted-pair Cable	Twisted-pair cable should be used at the subscriber end. If the service wire is a four-core wire, it is recommended to use a four-core twisted-pair cable instead of a four-core parallel wire. For a four-core parallel wire, only one pair is used and the other pair is left spare. The length of twisted-pair cable should not exceed 20 meters.
Splitter	Do not use any inductance coil to connect two parallel subscriber lines; instead use splitter for this purpose, to avoid interference between the two subscriber lines.
Insulation Resistance	The insulation resistance of the subscriber lines to the ground should be greater than 5 M Ω .
Capacitance	The capacitance between the two subscriber lines should be less than 200 nF. The capacitance difference between the ground and the subscriber lines should be less than 5%.
Shielding and Joint	The subscriber lines should not have any joint and no special shielding is required for the subscriber lines.
DC Loop Resistance	The DC loop resistance of the subscriber lines should not be greater than 1.1 K Ω .
Crosstalk Ratio	The near-end crosstalk ratio should be greater than 50 dB. The far-end crosstalk ratio is the total of the near end crosstalk ratio and the line attenuation.

Channel Noise	The idle channel noise should be less than or equal to -55 dBm, and the average noise power spectrum density should be less than or equal to -115 dBm/Hz.
Line Impedance	The nominal characteristic impedance of the subscriber lines should be 100 ohms with a maximum of 10% error tolerance.
Conversion Loss	The longitudinal conversion loss should not be less than 50 dB for ADSL subscriber service with the range of 26 kHz to 1,104 kHz.
Attenuation Requirements	The attenuation after each kilometer for ADSL subscriber line with different cable diameters are listed in Table 41.

TABLE 41 – ATTENUATION REQUIREMENTS FOR ADSL LINES

Frequency (kHz) \ Diameter	40	60	80	120	150	300	1024
0.32 mm	11.4	13.01	14.38	15.12	16.8	18.13	33.5
0.4 mm	8.29	9.34	10.05	10.87	12.1	14.78	27.3
0.5 mm	5.99	6.85	7.06	7.77	9.0	12.18	22.5

Maximum Attenuation	For specific frequencies, the maximum attenuation values are listed in Table 42.
----------------------------	--

TABLE 42 – MAXIMUM FREQUENCY ATTENUATION

Frequency f (kHz)	Maximum Attenuation Value (dB)
60	37
150	49
300	52
400	60
500	67
600	72



Note: If the attenuation is larger than the maximum attenuation value in the table, ADSL service cannot be activated.

VDSL Subscriber Line Parameters

The following are the parameters and basic requirements to activate a standard VDSL subscriber.

Twisted-pair Cable	Twisted-pair cable should be used at the subscriber end. If the service wire is a four-core wire, it is recommended to use a four-core twisted-pair cable instead of a four-core parallel wire. For a four-core parallel wire, only one pair is used and the other pair is left spare. The length of twisted-pair cable should be within 1 km.
Splitter	Do not use any inductance coil to connect two parallel subscriber lines; instead use splitter for this purpose, to avoid interference between the two subscriber lines.
Insulation Resistance	The insulation resistance of the subscriber lines to the ground should be greater than 5 M Ω .
Capacitance	The capacitance between the two subscriber lines should be less than 40 nF. The capacitance difference between the ground and the subscriber lines should be less than 5%.
Shielding and Joint	The subscriber lines should not have any joint and no special shielding is required for the subscriber lines.
DC Loop Resistance	DC loop resistance of the subscriber lines should be less than or equal to 220 Ω .
Crosstalk Ratio	The near-end crosstalk ratio should be greater than 50 dB. The far-end crosstalk ratio is the total of the near end crosstalk ratio and the line attenuation.
Channel Noise	The idle channel noise should be less than or equal to -55 dBm, and the average noise power spectrum density should be less than or equal to -115 dBm/Hz.
Line Impedance	The nominal characteristic impedance of the subscriber lines should be 100 ohms with a maximum of 10% error tolerance.
Conversion Loss	The longitudinal conversion loss should not be less than 50 dB for VDSL subscriber service with the range of 900 kHz to 7.9 MHz.
Attenuation Requirements	The attenuation after each kilometer for VDSL subscriber line with different cable diameters are listed in Table 43.

TABLE 43 – ATTENUATION REQUIREMENTS FOR VDSL LINES

Frequency (kHz) Diameter	40	60	80	120	150	300	1024
0.32 mm	11.4	13.01	14.38	15.12	16.8	18.13	33.5
0.4 mm	8.29	9.34	10.05	10.87	12.1	14.78	27.3
0.5 mm	5.99	6.85	7.06	7.77	9.0	12.18	22.5

Maximum Attenuation For specific frequencies, the maximum attenuation values are listed in Table 44.

TABLE 44 – MAXIMUM FREQUENCY ATTENUATION

Frequency f (kHz)	Maximum Attenuation Value (dB)
60	7.47
150	9.6
300	11.8
400	22



Note: If the attenuation is larger than the maximum attenuation value in the table, the VDSL service cannot be activated.

Appendix B

Abbreviations

Abbreviations	Full Name
ACL	Access Control List
ADSL	Asymmetric Digital Subscriber Line
ATU-R	ADSL Transceiver Unit-Remote end
BSP	Board Support Package
CHAP	Challenge Handshake Authentication Protocol
CLI	Command Line Interface
CSC	Control and Switch Card
CO	Central Office
CPE	Customer Premises Equipment
CoS	Class of Service
DAP	Destination Protocol Address
DELT	Dual End Loop Test
DHA	Destination Hardware Address
DHCP	Dynamic Host Configuration Protocol
DNS	Domain Name Server
DSLAM	Digital Subscriber Line Access Multiplexer
EPON	Ethernet Passive Optical Network
GPON	Gigabit Passive Optical Network
IGMP	Internet Group Management Protocol
ISP	Internet Service Provider
MAN	Metropolitan Area Network
MPCP	Multi-Point Control Protocol
MTU	Maximum Transmission Unit
NM	Network Management
ODF	Optical Distribution Shelf
PAP	Password Authentication Protocol

Abbreviations	Full Name
PVC	Permanent Virtual Circuit
QoS	Quality of Service
RADIUS	Remote Authentication Dial In User Service
SELT	Single End Loop Test
SNMP	Simple Network Management Protocol
SOHO	Small Office and Home Office
SP	Strict Priority
STP	Spanning Tree Protocol
TCP/IP	Transmission Control Protocol/Internet Protocol
ToS	Type of Service
UAPS	Uplink Automatic Protection Switching
VDSL	Very high-bit-rate Digital Subscriber Line
VPN	Virtual Private Network
VTU-R	VDSL Transceiver Unit-Remote end
WFQ	Weighted Fair Queue
WRR	Weighted Round Robin

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