



AN5116-06B

Optical Line Terminal Equipment

GUI Reference

Version: B

Code: MN000000070

FiberHome Telecommunication Technologies Co., Ltd.

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Fiberhome Telecommunication Technologies Co., Ltd.

Address: No.5 Dongxin Rd., Hongshan Dist., Wuhan, China

Zip code: 430073

Tel: +86 27 8769 1549

Fax: +86 27 8769 1755

Website: <http://www.fiberhomegroup.com>

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Preface

Related Documentation

Document	Description
<i>AN5116-06B Optical Line Terminal Equipment Documentation Guide</i>	Introduces the retrieval method, contents, releasing, reading approach, and suggestion feedback method for the complete manual set for the AN5116-06B.
<i>AN5116-06B Optical Line Terminal Equipment Product Description</i>	Introduces the AN5116-06B's network location, functional features, hardware structure, FTTx application model, equipment configuration, network management system and technical specifications. It is the foundation of the complete manual set. Other manuals extend and enrich the concepts introduced in the Product Description.
<i>AN5116-06B Optical Line Terminal Equipment Feature Description</i>	Introduces the key features supported by the AN5116-06B, including GPON / EPON access, GPON / EPON terminal management, VLAN, multicast, voice and safety; and introduces these functions in details in terms of definition, features, specification, principle description, references and so on.
<i>AN5116-06B Optical Line Terminal Equipment Hardware Description</i>	Introduces the appearance, structure, functions, technical specifications, and operating method for the AN5116-06B's cabinet, PDP, subrack, cards, cables and wires, facilitating users' mastery of the hardware features of the equipment.
<i>AN5116-06B Optical Line Terminal Equipment Installation Guide</i>	Introduces the overall installation and acceptance inspection procedures from unpacking inspection to power-on examination after the equipment is delivered on site, and provides reference information (e.g. safety principles and wiring scheme of various interfaces) to guide users to install the equipment.
<i>AN5116-06B Optical Line Terminal Equipment EPON Configuration Guide</i>	Introduces the method for configuring the EPON services supported by the AN5116-06B via the ANM2000, such as basic configuration, voice service configuration, data service configuration, multicast service configuration, and software upgrading configuration, to guide users on start-up for various services and software upgrading.

Document	Description
<i>AN5116-06B Optical Line Terminal Equipment GPON Configuration Guide</i>	Introduces the method for configuring the GPON services supported by the AN5116-06B via the ANM2000, such as basic configuration, voice service configuration, data service configuration, multicast service configuration, and software upgrading configuration, to guide users on start-up for various services and software upgrading.
<i>AN5116-06B Optical Line Terminal Equipment GUI Reference</i>	Introduces the shortcut menu for every card of the AN5116-06B on the ANM2000, including the function, parameter explanation, precautions and configuration example of every command in the shortcut menu of each card, to help users master the operation of the AN5116-06B using the ANM2000.
<i>AN5116-06B Optical Line Terminal Equipment Component Replacement</i>	Introduces the operation procedures for replacing the AN5116-06B's components, including preparations, precautions, early operations, operation process and subsequent operations, so as to guide users with the component replacement on the hardware.
<i>AN5116-06B Optical Line Terminal Equipment Routine Maintenance</i>	Introduces the daily, weekly, monthly, quarterly and annual routine maintenance operations on the AN5116-06B. Users are able to eliminate silent failures in the equipment operation process as early as possible via implementing the routine maintenance.
<i>AN5116-06B Optical Line Terminal Equipment Alarm and Event Reference</i>	Introduces the AN5116-06B's alarm / event information, including alarm / event names, alarm / event levels, possible reasons, effects on the system, and processing procedures, to guide users on effective alarm / event processing.
<i>AN5116-06B Optical Line Terminal Equipment Troubleshooting Guide</i>	Introduces the fault processing principles and methods of fault diagnosis and locating for the AN5116-06B. Also discusses the typical fault cases of various EPON / GPON services. If the trouble is too complicated to process, users can refer to FiberHome for technical support according to the instructions in this document.

Version

Version	Description
A	This manual corresponds to the AN5116-06B EPON V2.1. Initial version.
B	Compared with version A, this manual is added with related contents of GUI explanations, such as VLAN attribute configuration and the newly-added Lay 3 routing function. This manual corresponds to the AN5116-06B equipment releases GPON V3.1.

Intended Readers

This manual is intended for the following readers:

- ◆ Commissioning engineers
- ◆ Operation and maintenance engineers

To utilize this manual, these prerequisite skills are necessary:




- ◆ Access network technology
- ◆ EPON principles
- ◆ GPON principles
- ◆ Ethernet switch technology
- ◆ Computer network technology
- ◆ Basic operation methods of the ANM2000

Conventions

Terminology Conventions

Terminology	Convention
AN5116-06B	The AN5116-06B Optical Line Terminal Equipment
EC4B	4×EPON-C Interface Card (type B)
EC8B	8×EPON-C Interface Card (type B)
GC4B	4×GPON-C Interface Card (type B)
GC8B	8×GPON-C Interface Card (type B)
XG2B	2×10G EPON-C Interface Card (type B)
C155A	4×GE + 1×10GE Optical Interface Uplink Card (CES Mode)
CE1B	32×E1 Optical Interface Card (CES mode) (type B)
PUBA	Public Card (type A)
HSPA	Core Switch Card (EPON) (card No.: 2.115.334)
	Core Switch Card (type A) (card No.: 2.115.331)
HU1A	4×GE + 1×10GE Optical Interface Uplink Card
HU2A	2×GE + +2×10GE Optical Interface Uplink Card
GU6F	6×GE Optical Interface Uplink Card

Symbol Conventions

Symbol	Convention	Description
	Note	Important features or operation guide.
	Caution	Possible injury to persons or systems, or cause traffic interruption or loss.
	Warning	May cause severe bodily injuries.
→	Jump	Jumps to another step.
→	Cascading menu	Connects multi-level menu options.
↔	Bidirectional service	The service signal is bidirectional.
→	Unidirectional service	The service signal is unidirectional.

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1

Common Command

- Querying Status
- Querying Instant Performance
- Querying Performance History
- Querying Current Alarms
- Querying Alarm History
- Resetting a Card
- Refreshing the Status Indicators Manually
- Deleting an Object
- Querying and Modifying Properties

1.1 Querying Status

Command function

The querying status command is used to query the status information of a certain card or ONU.

Applicable object

EC4B, EC8B, XG2B, GC4B, GC8B, HU1A, HU2A, GU6F, CE1B, C155A, PUBA, FAN and EPON ONUs of various types all support this command.

Access method

◆ Querying status of a card

Right-click a certain card in the **Object Tree** pane, and select **Status Query** in the shortcut menu to access the **Status Query** tab.

◆ Querying status of an ONU

Click the interface card that is connected with the designated ONU in the **Object Tree** pane, and right-click this ONU in the ONU list tab at the right of the GUI; then select **Status Query** in the shortcut menu to access the **Status Query** tab.

Parameter

◆ Parameter of the card status

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot ID	The number of the slot that installs the card.	-	Read-only	-
Software Version	The software number of the card.	-	Read-only	-
Hardware Version	The hardware number of the card	-	Read-only	-
Online-Status	The present status of the uplink card, only suitable for an uplink card.	-	Read-only	-
Link Status	The connection status of the uplink card, only suitable for an uplink card.	-	Read-only	-

◆ Parameter of the ONU status

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot ID	The number of the slot that offers the PON interface connected with the ONU.	-	Read-only	-
ONU Authorized No.	The authorization number of the ONU.	-	Read-only	-
ONU Online-Status	The online status of the ONU.	-	Read-only	-
ONU Type	The type of the ONU.	-	Read-only	-
ONU MAC	The MAC address of the ONU.	-	Read-only	-

◆ Parameters of the FAN card status

Item	Description	Value Range / Requirement	Property	Configuration Method
FAN NO	The number of the slot that installs the FAN card.	-	Read-only	-
Online-Status	Whether the FAN card is present and in use.	-	Read-only	-
FAN-Speed	The rotating speed of the FAN card.	-	Read-only	-
Temperature	The ambient temperature of the FAN card.	-	Read-only	-
Humidity	The ambient humidity of the FAN card.	-	Read-only	-

1.2 Querying Instant Performance

Command function

The querying instant performance command is used to query the current 15-minute performance data and the past sixteen 15-minute performance data records of a certain card or ONU.



Note:

Before querying the instant performance of a card or ONU, users need to enable the performance collection function in the **Performance Group** tab of this card or ONU.

Applicable object

The EC4B, EC8B, XG2B, GC4B, GC8B, HU1A, HU2A, GU6F cards, PON ports of various PON interface cards and ONUs of various types all support this command.

Access method

- ◆ Querying instant performance of a card
Right-click a certain card or a PON port in the **Object Tree** pane, and select **Status Query** in the shortcut menu to access the **Status Query** tab.
- ◆ Querying instant performance of an ONU
Click the interface card that is connected with the designated ONU in the **Object Tree** pane, and right-click this ONU in the ONU list tab at the right of the GUI. Select **Instant Performance** in the shortcut menu to access the **Instant Performance** tab.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Object	The card, ONU or PON port to be queried.	-	Read-only	-
Performance Type	The query result of the performance type.	-	Read-only	-
Value	The current value of the performance.	-	Read-only	-
Unit	The unit of the performance value.	-	Read-only	-
Begin Time	The start time of performance statistics.	-	Read-only	-
End Time	The end time of performance statistics.	-	Read-only	-

1.3 Querying Performance History

Command function

The querying performance history command is used to query the performance history of a certain card or ONU in a designated 15-minute or 24-hour period.

**Note:**

Before querying the performance history, users need to set the performance collection scheme. The command access method is: clicking **Performance Performance Collection Scheme** in the main menu.

Applicable object

The system, module, EC4B, EC8B, XG2B, GC4B, GC8B, HU1A, HU2A, GU6F cards, PON ports of various PON interface cards and ONUs of various types all support this command.

Access method

- ◆ Querying performance history of a system, module, or card
Right-click a certain card or a PON port in the **Object Tree** pane, and select **Status Query** in the shortcut menu to enter the **Status Query** tab.
- ◆ Querying performance history of an ONU
Click the interface card that is connected with the designated ONU in the **Object Tree** pane, and right-click this ONU in the ONU list tab at the right of the GUI. Select **Historical Performance** in the shortcut menu to enter the **Historical Performance** tab.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Object	For the system, module, card or PON port, the object refers to the name of the system, module, card, the slot number and port of the card; For the ONU, the object refers to the name and port of the ONU to be queried.	-	Read-only	-
Performance Type	The query result of the performance type.	-	Read-only	-
Value	The current value of the performance.	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
Unit	The unit of the performance value.	-	Read-only	-
Begin Time	The start time of performance statistics.	-	Read-only	-
End Time	The end time of performance statistics.	-	Read-only	-

1.4 Querying Current Alarms

Command function

The querying current alarms command is used to query current alarms of a card or ONU, including all alarms that are not handled and not confirmed by users.

Applicable object

The system, module, HSWA, EC4B, EC8B, XG2B, GC4B, GC8B, HU1A, HU2A, GU6F, CE1B, C155A, PUBA and FAN cards, PON ports of various PON interface cards and ONUs of various types all support this command.

Access method

- ◆ Querying current alarms of a system, module, or card
Right-click a system, module, card or port in the **Object Tree** pane, and select **Current Alarm** in the shortcut menu to enter the **Current Alarm** tab.
- ◆ Querying current alarms of an ONU
Click the interface card that is connected with the designated ONU in the **Object Tree** pane, and right-click this ONU in the ONU list tab at the right of the GUI. Select **Current Alarm** in the shortcut menu to enter the **Current Alarm** tab.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Network Element	The NE that the alarmed object belongs to.	-	Read-only	-
Object	The alarmed object.	-	Read-only	-
Alarm Name	The name of the reported alarm.	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
Alarm Type	The type of the alarm.	-	Read-only	-
Begin Time	The start time of the alarm.	-	Read-only	-
End Time	The end time of the alarm.	-	Read-only	-
Confirm Time	The time when a user confirms the alarm.	-	Read-only	-
Confirm User	The user who confirms the alarm.	-	Read-only	-
Confirm Information	The confirmation information entered by the user confirming the alarm.	-	Read-only	-

1.5 Querying Alarm History

Command function

The querying alarm history command is used to query the alarm history of a card or ONU, including all alarms that have ended and been confirmed by users.

Applicable object

The system, module, HSWA, EC4B, EC8B, XG2B, GC4B, GC8B, HU1A, HU2A, GU6F, CE1B, C155A, PUBA and FAN cards, PON ports of various PON interface cards and ONUs of various types all support this command.

Access method

- ◆ Querying alarm history of a system, module, or card

Right-click a system, module, card or port in the **Object Tree** pane, and select **Historical Alarm** in the shortcut menu to enter the **Historical Alarm** tab.
- ◆ Querying alarm history of an ONU

Click the interface card that is connected with the designated ONU in the **Object Tree** pane, and right-click this ONU in the ONU list tab at the right of the GUI. Select **Historical Alarm** in the shortcut menu to enter the **Historical Alarm** tab.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Network Element	The alarmed NE.	-	Read-only	-
Object	The alarmed object.	-	Read-only	-
Alarm Name	The name of the alarm.	-	Read-only	-
Alarm Type	The type of the alarm.	-	Read-only	-
Begin Time	The start time of the alarm.	-	Read-only	-
End Time	The end time of the alarm.	-	Read-only	-
Last Time	The persistence interval of the alarm.	-	Read-only	-
Confirm Time	The time when a user confirms the alarm.	-	Read-only	-
Confirm User	The user who confirms the alarm.	-	Read-only	-
Confirm Information	The confirmation information entered by the user confirming the alarm.	-	Read-only	-

1.6 Resetting a Card

Command function

The resetting command is used to modify the card at the ANM2000 GUI and the type of the card in the designated slot. When a certain card of the equipment is replaced with a card of another type, users need to perform this command to complete the type modification.

Applicable object

The EC4B, EC8B, XG2B, GC4B, GC8B, HU1A, HU2A, GU6F, CE1B, C155A and PUBA card supports this command.

Access method

Click a certain module in the **Object Tree** pane, and the equipment panel will be displayed in the top right pane of the GUI. Right-click the card in the designated slot, and select **Reset To...** in the shortcut menu. And select the desired card name.

**Caution:**

This command can delete the original card and clear the configured services on this card, so use care when executing it.

1.7 Refreshing the Status Indicators Manually

Command function

The command is used to refresh the status information of a certain card or ONU.

Applicable object

EC4B, EC8B, XG2B, GC4B, GC8B, HU1A, HU2A, GU6F, CE1B, C155A, PUBA, FAN and ONUs of various types all support this command.

Access method

◆ Refresh the status indicators manually

Click a certain module in the **Object Tree** pane, and the equipment panel will be displayed in the top right pane of the GUI. Right-click the card in the designated slot, and select **Reset To...** in the shortcut menu to execute the command.

◆ Refresh the ONU status indicators manually

Click the EPON/GPON interface card in the **Object Tree** pane, and right-click this ONU in the ONU list tab at the right of the GUI; then select **Status Query** in the shortcut menu to execute the command.

1.8 Deleting an Object

Command function

The deleting command is used to delete the designated object and subscriber service configuration on this object.

Applicable object

The system, the module, the HSWA, EC4B, EC8B, GC4B, GC8B, HU1A, HU2A, GU6F, CE1B, C155A, PUBA, FAN cards and ONUs of various types all support this command.

Access method

- ◆ Deleting a card, module, or system

Right-click a card, module, or system in the **Object Tree** pane, and select **Delete** in the shortcut menu to bring up the **Delete** alert box.

- ◆ Deleting an ONU

Click the interface card that is connected with the designated ONU in the **Object Tree** pane, and right-click this ONU in the ONU list tab at the right of the GUI; then select **Delete** in the shortcut menu to bring up the **Delete** alert box.



Caution:

This command can delete the designated object and the configured services on this object, so use care when executing it.

1.9 Querying and Modifying Properties

Command function

The querying and modifying property command is used to query and modify property parameters of the designated object.

Applicable object

The system, module, HSWA, EC4B, EC8B, XG2B, GC4B, GC8B, HU1A, HU2A, GU6F, CE1B, C155A, PUBA and FAN cards, PON ports of various PON interface cards and ONUs of various types all support this command.

Access method

- ◆ Querying properties of a system, module, card or port

Right-click a system, module, card or port in the **Object Tree** pane, and select **Property** in the shortcut menu to enter the corresponding dialog box.

◆ Querying properties of an ONU

Click the interface card that is connected with the designated ONU in the **Object Tree** pane, and right-click this ONU in the ONU list tab at the right of the GUI; then select **Property** in the shortcut menu to bring up the **Property** alert box.

Parameter

◆ System property parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
System No.	The system number of the equipment in the entire ANM2000, generated automatically.	-	Read-only	-
System Name	The system name. It can be defined by users.	It should be composed of English letters or digital numbers.	Optional	Click to enter the system name.
System Type	The equipment type.	-	Read-only	-
Protocol Type	The type of the network management protocol.	-	Optional Users can keep the default setting directly.	Click the drop-down list to select the protocol type.
Version	The version of exchange uplink card.	-	Optional Users do not need to configure this item.	Click to enter the version.
Manufacturer	The manufacturer of the equipment.	It should be composed of English letters or digital numbers.	Optional	Click to enter the manufacturer name.
IP Address	The IP address of the equipment.	-	Compulsory	Click to enter the IP address.
IP Mask	The subnet mask of the equipment.	-	Compulsory	Click to enter the subnet mask.

Item	Description	Value Range / Requirement	Property	Configuration Method
Gateway	The gateway address of the equipment.	-	Compulsory	Click to enter the gateway address.
System description	Describes system characteristics.	-	Optional. Users do not need to configure this item.	Click to enter the system description.
Serial No.	The system sequence number defined by users.	-	Optional. Users do not need to configure this item.	Click to enter the serial number.
UserName	The user name of the AN5116-06B system administrator.	-	Optional. Users do not need to configure this item.	Click to enter the user name.
Password	The password of the AN5116-06B system administrator.	-	Optional. Users do not need to configure this item.	Click to enter the password.
SNMP Group Name	The SNMP group name of the AN5116-06B system.	-	Optional. Users do not need to configure this item.	Click to enter the SNMP group name.

◆ Module property parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Module No.	The number of the module in this system, generated automatically.	-	Read-only	-
Module Name	The name of the equipment module.	-	Optional. Users do not need to configure this item, and can use the module name generated by the system.	Click to enter the module name.
Module Type	The name of the module.	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
Manufacturer	The manufacturer of the equipment.	It should be composed of English letters or digital numbers.	Optional	Click to enter the manufacturer name.
Serial No.	The user defined serial number of equipment module.	-	Optional. Users do not need to configure this item.	Click to enter the serial number.

◆ Card property parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Card No.	The number of the card, generated automatically by the system. It is the same as the slot number of this card.	-	Read-only	-
Card Name	The name of the card.	-	Optional. Users do not need to configure this item, and can use the card name generated by the system.	Click to enter the card name.
Card Type	The type of the card.	-	Read-only	-
Version	The version of the card.	-	Optional. Users do not need to configure this item.	Click to enter the card version.

◆ Port property parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Port No.	The port number is generated automatically by the system.	-	Read-only	-
Port name	The port name.	-	Optional. Users do not need to configure this item, and can use the card name generated by the system.	Click to enter the port name.
Port type	The port type	-	Read-only	-

◆ ONU property parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Card No.	The authorization number of the ONU.	-	Read-only	-
Card Name	The object name of the ONU.	-	Optional. Users can use the default setting, which is composed of the PON port connected with the ONU and the name of the ONU.	Click to enter the ONU name.
Card Type	The type of the ONU.	-	Read-only	-
Version	The version of the ONU.	-	Optional. Users do not need to configure this item.	Click to enter the version.

2 Shortcut Menu Commands of a System

- Adding a Module
- Viewing Topology
- Pinging
- Telnetting
- Detecting Physical Configuration
- Manually Synchronizing ONUs
- Synchronizing Device Capacity
- Authorizing Cards
- Clearing Alarms
- Synchronizing Alarms
- Customized Alarm Management
- Time Calibration
- Batch Configuration
- Defining a Profile
- Layer 3 Routing Function
- Alarm Reverse

2.1 Adding a Module

Command function

The adding module command is used to add equipment modules after a system is created.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Add Module** in the shortcut menu. Then the **Add Module** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Module No.	The number of the module in this system, generated automatically.	-	Read-only	-
Module Name	The name of the equipment module.	-	Optional. Users do not need to configure this item, and can use the module name generated by the system.	Click to enter the module name.
Module Type	The type of the equipment module.	-	Read-only	-
Manufacturer	Manufacturer	-	Optional	Click to enter the manufacturer name.
Serial No.	The user defined serial number of equipment module.	-	Optional	Click to enter the serial number.

2.2 Viewing Topology

Command function

The command is used to view the topology architecture of the equipment.

Access method

Right-click a designated system in the **Object Tree** pane, and select **Show Topo** in the shortcut menu to enter the **Sub-Topology View** window.

2.3 Pinging

Command function

The pinging command is used to ping the equipment from the network management server, so as to check whether the ANM2000 communicates with the system equipment normally.

Access method

Right-click a designated system in the **Object Tree** pane, and select **Ping** in the shortcut menu to enter the **Ping** window.

2.4 Telnetting

Command function

The telnetting command is used to telnet the system equipment, so as to execute the operations in the CLI network management system.

Access method

Right-click a designated system in the **Object Tree** pane, and select **Telnet** in the shortcut menu to enter the **Telnet** window.

2.5 Detecting Physical Configuration

Command function

The detecting physical configuration command is used to synchronize the current physical configuration of the equipment with the network management system.

Access method

Right-click a designated system in the **Object Tree** pane, and select **Detect Physical Configuration** in the shortcut menu to enter the **Detect Physical Configuration** window.

2.6 Manually Synchronizing ONUs

Command function

The manually synchronizing ONU command is used to synchronize information of various ONUs manually of the AN5116-06B.

Access method

Right-click a designated system in the **Object Tree** pane, and select **ONU Manual Synchronization** in the shortcut menu to execute the command.

2.7 Synchronizing Device Capacity

Command function

The synchronizing device capacity command is used to synchronize the equipment's capacity to the network system. The equipment capacity includes batch configuration capacity, management system interconnection status, the active/standby card status and supports the SNMP reliable transmission capacity.

Access method

Right-click a designated system in the **Object Tree** pane, and select **Synchronize Device Capacity** in the shortcut menu to execute the command.

2.8 Authorizing Cards

Command function

The authorizing card command is used to authorize the cards of the system equipment.

Access method

Right-click a designated system in the **Object Tree** pane, and select **Card Config** in the shortcut menu to enter the **Card Config** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The number of the slot containing the card.	-	Read-only	-
Set Card Authorization	Used to select the type of the authorized card, suitable for the pre-authorization application.	-	Optional	Click the drop-down list to select the type of the card to be authorized.
ANMS Config	The type of the card added via the ANM2000.	-	Read-only	-
Device Config	The card type issued to and stored in the RAM of the equipment.	-	Read-only	-
Hardware Config	The type of the card actually inserted in the equipment slot.	-	Read-only	-

2.9 Clearing Alarms

Command function

The clearing alarms command is used to clear current alarms in the network management system.

Access method

Right-click a designated system in the **Object Tree** pane, and select **Alarm Clear** in the shortcut menu to execute the command.

2.10 Synchronizing Alarms

Command function

The synchronizing alarms is used to synchronize the alarm of the equipment with the network management system.

Access method

Right-click a designated system in the **Object Tree** pane, and select **Alarm Synchronize** in the shortcut menu to execute the command.

2.11 Customized Alarm Management

Command function

The customized alarm management command is used to define environment-related alarms of the equipment, such as the fire alarm, the water alarm, and the overhigh / overflow temperature alarm.

Access method

1. Right-click a designated system in the **Object Tree** pane, and select **Custom Alarm Manage** in the shortcut menu to enter the **Custom Alarm Manage** window.
2. In the left pane of the **Custom Alarm Manage** window, select a certain ONU or PUBA card, and click **Hide Undefined** in the toolbar. After switching into **Show Undefined**, click **Add** to customize the user defined alarms.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Device Name	Equipment Name	-	Read-only	-
Default Alarm Name	The default alarm name of the ONU or PUBA card.	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
Alarm Chinese Name	The customized alarm items of the ONU or PUBA card. Corresponds to the English name.	-	Compulsory	Click the drop-down list to select the alarm Chinese name.
Alarm English Name	The customized alarm items of the ONU or PUBA card. Corresponds to the Chinese name.	-	Compulsory	Click the drop-down list to select the alarm English name.

2.12 Time Calibration

Command function

The time calibration command is used to synchronize the system equipment with the network management system.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config**→**Time Calibration** from the shortcut menu to bring up the **Sending Commands...** alert box. Click **OK** to execute the command.

2.13 Batch Configuration

2.13.1 Configuring an ONU Data Port

Command function

The ONU data port configuration command is used to configure rate control and operating mode of an ONU data port. The parameters to be configured include port enabling status, ONU port rate control profile, and port property profile.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config**→**Batch Configure**→**ONU Data Port Configure** in the shortcut menu. Then the **ONU Data Port Configure** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The number of the slot containing the interface card that the ONU is connected with.	The value range is 1 to 8 or 11 to 18.	Compulsory	Select the slot number in the Set Object As Condition pane.
PON NO.	The number of the PON port that is connected with the ONU.	The value range is 1 to 8.	Compulsory	Select the PON port number in the Set Object As Condition pane.
ONU No.	The authorization number of the ONU.	The value range is 1 to 128.	Compulsory	Select the PON port number in the Set Object As Condition pane.
Port No.	The subscriber port number of the ONU.	The value range is 1 to 24.	Compulsory	Select the port number in the Set Object As Condition pane.
Enable/Disable	Enables / disables the data service port.	Includes enable/disable . The default value is Enable .	Compulsory	Click the check box to select enable or disable.
MAC Limit	Restricts the number of MAC address learned of a port, and the value here is the maximum number of MAC addresses learned. For a FTTH ONU, the total number of MAC addresses learned for all ports is 64; for a FTTB ONU, the number of MAC addresses learned for each port is 64.	The value range is 0 to 254.	Optional	Double-click to enter the maximum number of MAC address learned.

Item	Description	Value Range / Requirement	Property	Configuration Method
CTC ONU Port Speed Limit Profile	Used to perform the rate control of the uplink / downlink data stream on an ONU port in the CTC type, so that this ONU port will not occupy too much bandwidth.	Selects a profile name that has been configured in the CTC ONU Port Speed Limit Profile .	Optional	Click the drop-down list to select the alarm English name.
ONU Data Port Attribute Profile	Used to configure the operating mode of an ONU port.	Selects a profile name that has been configured in the ONU Data Port Attribute Profile .	Optional	Click the drop-down list to select the profile name.

2.13.2 Configuring ONU Data Service

Command function

The ONU data service configuration command is used to configure data services in a batch manner. The parameters to be configured include the CVLAN, SVLAN, priority, flow classification rule, binding with the service model profile and the SVLAN profile.

Access method

Right-click the designated system in the **Object Tree** pane, then select **Config**→**Batch Configure**→**ONU Data Port Configure** in the shortcut menu. Then the **ONU Data Port Configure** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The number of the slot containing the interface card that the ONU is connected with.	The value range is 1 to 8 or 11 to 18.	Compulsory	Click Add Item Number in the toolbar to select in the object tree that appears.
PON NO.	The number of the PON port that is connected with the ONU.	The value range is 1 to 8.	Compulsory	Click Add Item Number in the toolbar to select in the object tree that appears.
ONU No.	The authorization number of the ONU.	The value range is 1 to 128.	Compulsory	Click Add Item Number in the toolbar to select in the object tree that appears.
Port No.	The subscriber port number of the ONU.	The value range is 1 to 24.	Compulsory	Click Add Item Number in the toolbar to select in the object tree that appears.
Service ID	The service serial number configured for a subscriber port.	-	Read-only	-
CTPID	The CVLAN TPID value. The TPID value of the inner tag uses 0x8100 defined by the protocol.	The value range is 0 to 65534. The default value is 33024.	Compulsory	Double-click to enter the CVLAN TPID.
CVLAN ID	The inner VLAN ID value.	The value range is 0 to 4085. The default value is null.	Compulsory	Double-click to enter CVLAN ID.
CCOS	The CVLAN priority value or CVLAN CoS priority value of a packet in the PON.	The value range is 0 to 7. The default value is null.	Compulsory	Double-click to enter the priority value.
TTPID	The TPID value of the translation VLAN. The TPID value uses 0x8100 defined by the protocol.	The value range is 0 to 65534. The default value is 33024.	Optional. The parameter is valid when the translation status of the service model profile is enable.	Double-click to enter the translation VLAN TPID.

Item	Description	Value Range / Requirement	Property	Configuration Method
TVID	The post-translation VLAN ID.	The value range is 0 to 4085. The default value is null.	Optional. The parameter is valid when the translation status of the service model profile is enable.	Double-click to enter the translation VID.
TCCOS	The TPID value of the translation VLAN. The TPID value uses 0x8100 defined by the protocol.	The value range is 0 to 65534. The default value is 33024.	Optional. The parameter is valid when the translation status of the service model profile is enable.	Double-click to enter the priority value.
QinQ Profile Name	The profile name configured in the QinQ profile of the core switch card.	-	Optional. The parameter is valid when the QinQ status of the service model profile is enable.	Click the drop-down list to select the QinQ profile name.
SVLAN Name	The service VLAN name in the local VLAN.	The value should be selected in the VLAN names configured in service VLAN data of the local VLAN .	Compulsory. The parameter is unconfigurable when binding the SVLAN profile.	Click the drop-down list to select the service VLAN name.
STPID	The SVLAN TPID value. The TPID value of the inner tag uses 0x8100 defined by the protocol.	The value range is 0 to 65534. The default value is 33024.	Compulsory. The parameter is unconfigurable when binding the SVLAN profile.	Double-click to enter the SVLAN TPID.

Item	Description	Value Range / Requirement	Property	Configuration Method
SVLAN ID	The outer VLAN ID value.	The value range is 0 to 4085. The default value is null.	Compulsory. The parameter is unconfigurable when binding the SVLAN profile.	Double-click to enter SVLAN ID.
SCOS	The SVLAN priority value or SVLAN CoS priority value of a packet in the PON.	The value range is 0 to 7. The default value is null.	Compulsory. The parameter is unconfigurable when binding the SVLAN profile.	Double-click to enter the priority value.
TLS Enable	Whether the service uses the TLS protocol.	Includes Non-TLS and TLS . The default value is Non-TLS .	Compulsory	Click the drop-down list to select the TLS Enable.
Service Model Profile	This profile is used to configure service type, CVLAN mode, translation, and QinQ function.	Selects a profile name that has been configured in the Service Model Profile .	Compulsory	Click the drop-down list to select the service model profile.
SVLAN Profile	The profile is used to add the SVLAN tag for the designated service of an OUN when the QinQ is enabled.	Selects a profile name that has been configured in the SVLAN Profile .	Compulsory. The parameter is valid when the QinQ status of the service model profile is enable.	Click the drop-down list to select the SVLAN profile.
Down Flow Classification Rule	Used to classify the downlink data stream on the ONU	Selected in the rule names configured in the Flow Classification Rule tab.	Optional	Click the drop-down list to select the downlink flow classification rule.
Up Flow Classification Rule	Used to classify the uplink data stream on the ONU	Selected in the rule names configured in the Flow Classification Rule tab.	Optional	Click the drop-down list to select the uplink flow classification rule.

2.13.3 Configuring ONU Voice Basic Items

Command function

The ONU voice basic configuration command is used to configure voice services in a batch manner. The parameters to be configured include the IAD IP address, binding with the softswitch platform interconnection parameter profile, and DHCP Option60 parameters of the ONU.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config**→**Batch Configure**→**ONU Voice Basic Configure** in the shortcut menu. Then the **ONU Voice Basic Configure** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The number of the slot containing the interface card that the ONU is connected with.	The value range is 1 to 8 or 11 to 18.	Compulsory	Select the slot number in the Set Object As Condition pane.
PON NO.	The number of the PON port that is connected with the ONU.	The value range is 1 to 8.	Compulsory	Select the PON port number in the Set Object As Condition pane.
ONU No.	The authorization number of the ONU.	The value range is 1 to 128.	Compulsory	Select the ONU number in the Set Object As Condition pane.
IAD Softswitch Profile ID	The name of the softswitch platform interconnection parameter profile.	Selects a profile name that has been configured in the IAD Softswitch Profile ID .	Compulsory	Click the drop-down list to select the name of the softswitch platform interconnection parameter profile.
IP Config Mode	Selects the IP configuration mode of the IAD.	Includes static , pppoe and dhcp . The default value is static .	Compulsory	Click the drop-down list to select the IP configuration mode.

Item	Description	Value Range / Requirement	Property	Configuration Method
ONU Static Public IP	The static public network IP address of the ONU.	-	Compulsory. When IP Config Mode is set to DHCP or PPPoE, the ONU will use the dynamically configured IP address to overwrite the configured static public network IP address, but this parameter must be configured.	Double-click to enter the ONU static public network IP address.
ONU Static Public IP Mask	The static public IP mask of the ONU.	The default mask is 255.255.0.0.	Compulsory. The parameter is valid when the IP configuration mode is static.	Double-click to enter the ONU static public network IP mask.
ONU Static Public IP Gateway	The static public IP gateway of the ONU.	-	Optional. The parameter is valid when the IP configuration mode is static.	Double-click to enter the ONU static public network IP gateway.
PPPoE User Name	The name of the PPPoE subscriber.	-	Optional. The parameter is valid when the IP configuration mode is PPPoE.	Double-click to enter the PPPoE user name.
PPPoE User Password	The password of the PPPoE subscriber.	-	Optional. The parameter is valid when the IP configuration mode is PPPoE.	Double-click to enter the PPPoE password.

Item	Description	Value Range / Requirement	Property	Configuration Method
DHCP Option60 Enable	Enables / disables the DHCP Option60 function. When the DHCP Option60 function is enabled, the system will transmit DHCP packets with Option60.	Includes enable/disable . The default value is Disable .	Optional. The parameter is valid when the IP configuration mode is DHCP.	Select and clear check boxes.
DHCP Option60 Value	The identifier suffix of DHCP Option60. The DHCP server uses this parameter to assign a proper IP address for the IAD.	-	Optional. The parameter is valid when the IP configuration mode is DHCP.	Double-click to enter the identifier suffix of DHCP Option60.

2.13.4 ONU Ports Configure

Command function

The command is used to configure voice ports of a voice service ONU in a batch manner. The parameters to be configured include the telephone numbers of the ONU, VLAN IDs, end point subscribers, binding with the advanced configuration profile of the ONU voice port, and parameters related to the SIP protocol.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config**→**Batch Configure**→**ONU Ports Configure** in the shortcut menu to access the **ONU Ports Configure** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The number of the slot containing the interface card that the ONU is connected with.	The value range is 1 to 8 or 11 to 18.	Compulsory	Select the slot number in the Set Object As Condition pane.
PON NO.	The number of the PON port that is connected with the ONU.	The value range is 1 to 8.	Compulsory	Select the PON port number in the Set Object As Condition pane.
ONU No.	The authorization number of the ONU.	The value range is 1 to 128.	Compulsory	Select the ONU number in the Set Object As Condition pane.
Port No.	The subscriber port number of the ONU.	The value range is 1 to 24.	Compulsory	Select the port number in the Set Object As Condition pane.
Port Enable	The enable status of voice ports.	Includes enable/disable . The default value is null .	Compulsory	Select and clear check boxes.
User index	The internal logical number of the system. It does not refer to the actual telephone number defined by the softswitch, and is only used to configure indexes inside the system. Users can configure this parameter as the actual telephone number defined by the softswitch.	The value range is 0 to 99999999.	Compulsory	Double-click to enter the telephone number.
Signalling Service Name	Used to identify the name of the NGN voice service VLAN of a user at the OLT side.	The value should be selected in the service VLAN names configured in the local VLAN data.	Compulsory	Click the drop-down list to select the service VLAN name.
Signal VLAN ID	The voice signaling VLAN ID.	When the SVLAN Enable State is set to Disable, the value range of this parameter is 1 to 4085.	Compulsory	Double-click to enter signaling VLAN ID.

Item	Description	Value Range / Requirement	Property	Configuration Method
SVLAN State	Enables / disables to add the SVLAN.	Includes enable or disable .	Compulsory	Select and clear check boxes.
SVLAN ID	The outer VLAN ID value.	The value range is 0 to 4085. The default value is null.	Optional. The parameter is valid when the SVLAN status is set to Enable.	Double-click to enter SVLAN ID.
Voice Port Profile ID	The name of the voice port advanced configuration profile.	Selects a profile name that has been configured in the ONU Data Port Attribute Profile .	Compulsory	Click the drop-down list to select the profile name.
EndPoint Domain Name	The domain name of the gateway.	-	Optional. The parameter is unconfigurable when the protocol type is SIP.	Double-click to enter the endpoint domain name.
ONU Protocol Port NO.	The ONU protocol port.	The value range is from 1 to 65535. If the H.248 protocol is used, the default value of this parameter is 2944; if the MGCP protocol is used, the default value is 2427; if the SIP protocol is used, the default value is 5060.	Compulsory	Double-click to enter the ONU protocol port.
EndPoint User Name/SIP telephone No.	If the H.248/MGCP protocol is used, the default value of this parameter is the TID NAME. If the SIP protocol is used, the default value of this parameter is the user telephone number.	-	Compulsory	Double-click to enter the endPoint user name/SIP telephone number.

Item	Description	Value Range / Requirement	Property	Configuration Method
SIP User Name	The user name authenticated by the SIP terminal and the SIP register server.	-	Optional. The parameter is unconfigurable when the protocol type is H.248 or MGCP.	Double-click to enter the SIP user name.
SIP User Password	The password authenticated by the SIP terminal and the SIP register server.	-	Optional. The parameter is unconfigurable when the protocol type is H.248 or MGCP.	Double-click to enter the SIP protocol authenticated password.
SVLAN COS	The outer VLAN's priority. 0 is the lowest priority while 7 is the highest priority.	The value range is 0 to 7. The default value is null.	Optional. The parameter is valid when the SVLAN status is set to Enable.	Double-click to enter the outer COS.
Inner COS	The inner VLAN's priority. 0 is the lowest priority while 7 is the highest priority.	The value range is 0 to 7. The default value is null.	Compulsory	Double-click to enter the inner COS.

2.13.5 Configuring an ONU

Command function

The ONU configuration command is used to bind an ONU with the designated bandwidth profile.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config**→**Batch Configure**→**ONU Config** in the shortcut menu to access the **ONU Config** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The number of the slot containing the interface card that the ONU is connected with.	-	Compulsory	Select the slot number in the Set Object As Condition pane.
PON No.	The number of the PON port that is connected with the ONU.	-	Compulsory	Selects the PON number in the Set Object As Condition pane.
ONU No.	The authorization number of the ONU.	-	Compulsory	Select the ONU number in the Set Object As Condition pane.
Bandwidth Profile	The name of the bandwidth profile.	Selects a profile name that has been configured in the Bandwidth Profile .	Compulsory	Click the drop-down list to select the profile name.
GPON Service Bandwidth Profile	The name of the GPON service bandwidth profile.	Selects a profile name that has been configured in the GPON Service Bandwidth Profile .	Compulsory	Click the drop-down list to select the profile name.

2.13.6 Activating an ONU Voice Port

Command function

The ONU voice port activation command is used to activate a voice port of the designated ONU.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config**→**Batch Configure**→**ONU Voice Port Activation** in the shortcut menu to access the **ONU Voice Port Activation** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The number of the slot containing the PON interface card that the ONU is connected with.	The value range is 1 to 8 or 11 to 18.	Compulsory	Select the slot number in the Set Object As Condition pane.
PON No.	The number of the PON port that is connected with the ONU.	The value range is 1 to 8.	Compulsory	Select the PON port number in the Set Object As Condition pane.
ONU No.	The authorization number of the ONU.	The value range is 1 to 128.	Compulsory	Select the PON port number in the Set Object As Condition pane.
Port No.	The voice port number of the ONU.	The value range is 1 to 24.	Compulsory	Select the port number in the Set Object As Condition pane.
Port Activation	Activates or deactivates an ONU voice port. Users can provision voice services on a certain port only when this port is activated.	Includes Activate and Deactivate .	Compulsory	Click the drop-down list to select Activate or Deactivate.

2.13.7 ONU Upstream FEC Switch

Command function

The command is used to enable the ONU upstream FEC function and realize the redundancy and error correction of the ONU upstream data, so as to reach a lower error rate for the data transmission .

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config**→**Batch Configure**→**ONU Upstream FEC Switch** in the shortcut menu to access the **ONU Upstream FEC Switch** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The number of the slot containing the interface card that the ONU is connected with.	The value range is 1 to 8 or 11 to 18.	Compulsory	Select the slot number in the Set Object As Condition pane.
PON No.	The number of the PON port that is connected with the ONU.	The value range is 1 to 8.	Compulsory	Select the PON port number in the Set Object As Condition pane.
ONU No.	The authorization number of the ONU.	The value range is 1 to 128.	Compulsory	Select the PON port number in the Set Object As Condition pane.
US FEC	The ONU upstream FEC switch	Includes enable or disable .	Compulsory	Click the drop-down list to select Enable or Disable.

2.14 Defining a Profile

2.14.1 Defining an ONU Port Rate Control Profile

Command function

The ONU port rate control profile is used to perform the rate control of the uplink / downlink data stream on an ONU port, so as to avoid that this ONU port occupies too much bandwidth.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config**→**Profile Definition**→**ONU Port Speed Limit Profile** in the shortcut menu to access the **ONU Port Speed Limit Profile** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Profile Name	The name of an ONU port rate control profile.	Enters up to 20 characters in numbers, letters or underlines.	Compulsory	Double-click to enter the profile name.
US Policing Status	Whether to enable the up stream rate control function.	Includes enable or disable .	Compulsory	Click the drop-down list to select the upstream Policing status.
US Policing CIR (Kbit/s)	The lowest rate of the uplink data stream.	The value range is 0 to 1000000. The unit is kbit/s. The default value is null.	Optional. The parameter is valid when the uplink Policing status is set to Enable.	Double-click the US Policing CIR (Kbit/s)
US CBS (Byte)	The burst traffic appears in the uplink data stream and exceeds the assured rate to allocate the port's available rated traffic except that of the assured rate .	The value range is 0 to 4294967294. The unit is Byte. The default value is null.	Optional. The parameter is valid when the uplink Policing status is set to Enable.	Double-click the US CBS(Byte).
US EBS (Byte)	The burst traffic appears in the uplink data stream and exceeds the assured rate to allocate the port's available rated traffic except that of the assured rate and the committed burst.	The value range is 0 to 4294967294. The unit is Byte. The default value is null.	Optional. The parameter is valid when the uplink Policing status is set to Enable.	Double-click the US EBS (Byte).
DS Policing Status	Whether to enable the down stream rate control function.	Includes enable or disable .	Compulsory	Click the drop-down list to select the downstream Policing status.

Item	Description	Value Range / Requirement	Property	Configuration Method
DS Policing CIR (Kbit/s)	The lowest rate of the downlink data stream.	The value range is 0 to 16777215. The unit is kbit/s. The default value is null.	Optional. The parameter is valid when the downlink Policing status is set to Enable.	Double-click the DS Policing CIR (Kbit/s)
DS PIR (kbit/s)	The highest rate of the downlink data stream.	The value range is 0 to 16777215. The unit is kbit/s. The default value is null.	Optional. The parameter is valid when the downlink Policing status is set to Enable.	Double-click to enter the DS PIR (kbit/s).

2.14.2 Defining an ONU Data Port Attribute Profile

Command function

The ONU data port attribute profile is used to bind itself with an ONU data port and configure port attributes of the ONU. The port attributes of an ONU include auto-negotiation property, rate, duplex mode, and enable / disable status of flow control function.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config**→**Profile Definition**→**ONU Data Port Attribute Profile** in the shortcut menu to access the **ONU Data Port Attribute Profile** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Profile Name	The name of an ONU data port attribute profile.	Enters up to 20 characters in numbers, letters or underlines.	Compulsory	Double-click to enter the profile name.
Auto Negotiation	After enabling the auto negotiation, the ONU's data ports automatically negotiate with the far end equipment ports to reach the possible maximum transmission rate.	Includes enable and disable .	Compulsory	Click the drop-down list to select auto negotiation.
Speed	Selects the work rate of the ONU data port.	The value range is 10M, 100M and 1000M. The unit is bit/s and the default value is 100M.	Optional. The parameter is valid when the auto negotiation is set to Disable.	Click the drop-down list to select Speed.
Duplex	Configures the operating mode of the ONU data port and selects the full duplex mode of the bidirectional transmission or the half duplex mode of the unidirectional transmission.	Includes full and half .	Optional. The parameter is valid when the auto negotiation is set to Disable.	Click the drop-down list to select the full duplex.
Flow Control	Selects whether to enable the ONU data port's flow control function and execute the congestion control.	-	Optional	Select and clear check boxes.

2.14.3 Defining a Bandwidth Profile

Command function

The bandwidth profile is used to configure the bandwidth of the uplink / downlink traffic of an ONU.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config**→**Profile Definition**→**Bandwidth Profile** in the shortcut menu to access the **Bandwidth Profile** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Profile Name	The name of the bandwidth profile.	Enters up to 20 characters in numbers, letters or underlines.	Compulsory	Double-click to enter the profile name.
Up MIN Guaranteed Bandwidth (kbit/s)	Ensures that the ONU can obtain the uplink minimum bandwidth.	The value range is 0 to 1000000. The unit is kbit/s. The default value is 640.	Compulsory	Double-click the Up MIN Guaranteed Bandwidth (kbit/s).
Up MAX Allowed Bandwidth (kbit/s)	Ensures that the ONU can obtain the uplink maximum bandwidth.	The value range is 256 to 1000000. The unit is kbit/s. The default value is 1000000.	Compulsory	Double-click the Up MAX Guaranteed Bandwidth (kbit/s).
Down MIN Guaranteed Bandwidth (kbit/s)	Ensures that the ONU can obtain the minimum bandwidth.	The value range is 0 to 1000000. The unit is kbit/s. The default value is 640.	Compulsory	Double-click the Down MIN Guaranteed Bandwidth (kbit/s).
Down MAX Allowed Bandwidth (kbit/s)	Ensures that the ONU can obtain the downlink maximum bandwidth.	The value range is 256 to 1000000. The unit is kbit/s. The default value is 1000000.	Compulsory	Double-click the Down MAX Allowed Bandwidth (kbit/s).
Upstream Fixed Bandwidth (kbit/s)	The downlink fixed bandwidth allocated to the ONU.	The value range is 0 to 1000000. The unit is kbit/s. The default value is 0.	Compulsory	Double-click the Upstream Fixed Bandwidth (kbit/s).

2.14.4 Defining a Service Model Profile

Command function

The service model profile is used to configure the data service type in the batch configuration of an ONU. The configuration items include: service type, CVLAN mode, translation enabling status, and QinQ function status.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config**→**Profile Definition**→**Service Model Profile** in the shortcut menu to access the **Service Model Profile** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Profile Name	The name of the service model profile.	Enters up to 20 characters in numbers, letters or underlines.	Compulsory	Double-click to enter the profile name.
Service type (unicast / multicast)	Service Type unicast corresponds to the data service. multicast and IGMP Up Protocol corresponds to the IPTV service.	Includes unicast , multicast and IGMP Up Protocol .	Compulsory	Click the drop-down list to select the service type.
CVLAN mode	The processing mode of the CVLAN. In Tag mode, the ONU adds one VLAN tag for the data; In Transparent mode, the ONU does not process the data, and transmits them transparently.	Includes tag or transparent .	Compulsory	Click the drop-down list to select the CVLAN mode.
Translation State	Used to enable / disable the translation function; when the translation function is enabled, the CVLAN ID will be translated into the appointed VLAN ID.	Includes enable or disable .	Compulsory The parameter is unconfigurable when the CVLAN mode is set to tag.	Select and clear check boxes.
QinQ State	Used to enable / disable the QinQ VLAN function; when the QinQ VLAN function is enabled, the double-tagged VLAN will be added.	Includes enable or disable .	Compulsory	Select and clear check boxes.

2.14.5 Defining a SVLAN Profile

Command function

When the QinQ function is enabled, the SVLAN profile is used to add the SVLAN tag for the designated service on an ONU.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config**→**Profile Definition**→**SVLAN Profile** in the shortcut menu to access the **SVLAN Profile** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Profile Name	The name of the SVLAN profile.	Enters up to 20 characters in numbers, letters or underlines.	Compulsory	Double-click to enter the profile name.
SVLAN Name	The service name configured in the local VLAN tab.	The value should be selected in the VLAN names configured in VLAN Local Config .	Compulsory	Click the drop-down list to select the service VLAN name.
STPID	The TPID value. The TPID values of the inner and outer tags both use 0x8100 defined by the protocol.	The value range is 0 to 65534. The default value is 33024.	Compulsory	Double-click to enter the TPID value.
SVID	The outer VLAN ID value.	The value range is 1 to 4085. The default value is null. The value should be in the local VLAN range of the service.	Compulsory	Double-click to enter SVID value.
SCOS	The priority or CoS priority of the packets in the PON.	The value range is 0 to 7. The default value is null.	Compulsory	Double-click to enter the priority value.

2.14.6 Defining a Softswitch Parameter Profile

Command function

The command is used to configure the parameters for interconnection between the VoIP service on an ONU and the softswitch platform. The parameters to be configured include resource name, digitmap, fax parameters, and voice call parameters.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config**→**Profile Definition**→**Softswitch Parameters Profile** in the shortcut menu to access the **Softswitch Parameters Profile** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Profile Name	The name of the softswitch platform interconnection parameter profile.	Enters up to 30 characters.	Compulsory	Double-click to enter the profile name.
RTPNameFixedPart	The fixed part of the RTP resource name. This item is valid only when the H.248 protocol is used.	The default value is RTP/.	Optional. When the MGC protocol is the H.248 protocol, this parameter is valid.	Double-click to enter the fixed part of the RTP resource name.
RTPNameVar-Begin	The start value of the variable part of the RTP resource name.	The value range is 0 to 65534. The default value is 4000.	Optional. The start value of the variable part must be less than the end value of this part. When the MGC protocol is the H.248 protocol, this parameter is valid.	Double-click to enter the start value of the variable part of the RTP resource name.

Item	Description	Value Range / Requirement	Property	Configuration Method
RTPNameVar-End	The end value of the variable part of the RTP resource name.	The value range is 0 to 65534. The default value is 9000.	Optional. The end value of the variable part must be larger than the start value of this part. When the MGC protocol is the H.248 protocol, this parameter is valid.	Double-click to enter the end value of the variable part of the RTP resource name.
RTPNameVar-Step	The step of the variable part of the RTP resource name.	The value range is 1 to 65534. The default value is 1.	Optional. When the MGC protocol is the H.248 protocol, this parameter is valid.	Double-click to enter the step of the variable part of the RTP resource name.
RTPNameFixe-dlength	Used to control the length of the RTP source name,	Includes Fixed / Unfixed . The default value is Fixed .	Optional. When the MGC protocol is the H.248 protocol, this parameter is valid.	Click the drop-down list to select the value.
DigitmapBegin-Timer(s)	Means the time to wait for dialing.	The value range is 1 to 254. The unit is second. The default value is 16.	Optional. When the MGC protocol is the H.248 protocol, this parameter is valid.	Double-click to enter the Digitmap start timer value.
DigitmapShort-Timer(s)	The number string has matched a certain dialing scheme in the digitmap, but the system may receive numbers with more digits to match other dialing schemes. So the system should not report the matching conditions immediately.	The value range is 1 to 254. The unit is second. The default value is 4.	Optional. When the MGC protocol is the H.248 protocol, this parameter is valid.	Double-click to enter the Digitmap short timer value.
DigitmapLong-Timer(s)	The number string needs at least one digit to match any dialing scheme in the digitmap.	The value range is 1 to 254. The unit is second. The default value is 16.	Optional. When the MGC protocol is the H.248 protocol, this parameter is valid.	Double-click to enter the Digitmap long timer value.

Item	Description	Value Range / Requirement	Property	Configuration Method
NotifyMatch-EachMap	If the number string matches any dialing scheme in the digitmap, the system will report the matching conditions immediately.	Includes Match Report/ Report . The default value is Report .	Optional. When the MGC protocol is the H.248 protocol, this parameter is valid.	Click the drop-down list to select the matching principles.
VBDState	Used to enable / disable the Tx / Rx packet interval adjustment function.	Includes Disable/Enable . The default value is Disable .	Optional	Click the drop-down list to select Enable or Disable.
VBDTxInterval (ms)	Adjusts the Tx packet interval.	The value range is 10, 20, 30, 40, 50 and 60. The unit is millisecond. The default value is 20 milliseconds.	Optional. The parameter is valid when the VBD is set to Enable.	Double-click to enter the VBD Tx packet interval.
VBDRxInterval (ms)	Adjusts the Rx packet interval.	The value range is 10, 20, 30, 40, 50 and 60. The unit is millisecond. The default value is 10 milliseconds.	Optional. The parameter is valid when the VBD is set to Enable.	Double-click to enter the VBD Rx packet interval.
VBDVoiceCoder	In T.30 transparent mode, it means the speech encoding format used by the system.	Users can select G711U, G711A, or No Change. The default value is No Change.	Optional. The parameter is valid when the VBD is set to Enable.	Click the drop-down list to select the VBD encoding type.
OffhookWarningToneTimeout	Registers the howler tone timeout processing function. After howler tone timeout occurs, the system will stop playing the howler tone.	Includes Register / Non-register . The default value is Register .	Optional	Click the drop-down list to select Register or Non-register.
FlashThreshold (ms)	The width of the Flash lower pulse signal.	The value range is 90 to 200 and the unit is millisecond and the default value is 90 millisecond. The generic width is 90 to 120 ms.	Optional	Double-click to enter the Flash time length.

Item	Description	Value Range / Requirement	Property	Configuration Method
RFC2833Ne-goState	Whether to register the RFC2833 automatic negotiation, and uses RFC2833 to encapsulate the DTMF.	Includes auto negotiation / non auto negotiation . The default value is non auto negotiation .	Optional	Click the drop-down list to select the value.
DeRFC2833PT	The RFC2833 value in the default load mode.	The value range is 0, 96 to 127. The default value is 97.	Optional	Double-click to enter the RFC2833 default PT value.
DeRFC2198PT	The RFC2833 redundancy value in the default load mode.	The value range is 0, 96 to 127. The default value is 96.	Optional	Double-click to enter the default PT value.
T.38EventDetect-Mode	The T.38 event detection and report mode. <ul style="list-style-type: none"> ◆ Normal: Reports events to the MGC according to event types, ◆ V21: Only reports the V21 events, ◆ All: Reports all events to the MGC in V21 mode. 	Includes: Normal /V21 / All .	Optional	Click the drop-down list to select the value.
CallerIDMode	Sets the calling number display mode.	Includes FSK / DTMF . The default value is FSK .	Optional	Click the drop-down list to select FSK or DTMF.
OnHookDetect-Time(ms)	Polls about the test time length of the on-hook event.	The value range is 90 to 2500. The unit is millisecond. The default value is 600.	Optional	Double-click to enter the minimum on-hook test time.
DailToneTime-out(s)	The time to play the dial tone.	The value range is 1 to 254. The unit is second. The default value is 60.	Optional	Double-click to enter the dial tone time.

Item	Description	Value Range / Requirement	Property	Configuration Method
NoAnswerTimeout(s)	The time length of the ring duration. If the actual ring time length exceeds this value, the system will process the call on basis that no person responses to it.	The value range is 1 to 254. The unit is second. The default value is 60.	Optional	Double-click to enter the non-response-time.
BusyToneTimeout(s)	The time length of playing the busy tone under seized status.	The value range is 1 to 254. The unit is second. The default value is 60.	Optional	Double-click to enter the busy tone time.
ROHTimeout(s)	The time length of the howler tone from the telephone after the busy tone.	The value range is 1 to 254. The unit is second. The default value is 60.	Optional	Double-click to enter the howler tone time.
RetransmitTimeout(s)	This item means the time length of the MG sending the transaction request to the MGC. If the set time elapsed, the system will stop sending the transaction request.	The value range is 1 to 60. The unit is second. The default value is 25.	Optional	Double-click to enter the repeater timer.
ECMode	Performs error correction of certain errored packets.	Includes enable/disable . The default value is disable .	Optional	Click the drop-down list to select Enable or Disable.
CLI Language	The IAD CLI language. Users can select Chinese or English. Now only the AN5006-05 supports this function.	Includes Chinese and English and the Chinese is by default.	Optional	Click the drop-down list to select English or Chinese.
NGN Register Timer Threshold(s)	The time threshold of the IAD registering to the MGC.	The value range is 1 to 3600. The unit is second. The default value is 600.	Optional	Double-click to enter the NGN register time threshold.

Item	Description	Value Range / Requirement	Property	Configuration Method
NGN Register User Threshold	The threshold of subscribers that cannot register. During the time threshold of the IAD registering to the MGC, if the number of subscribers that cannot register exceeds the threshold set by this item, an alarm will occur.	The value range is 1 to 4096. The default value is 1.	Optional	Double-click to enter the NGN register subscriber number threshold.
Alive format	The format of sending the keep-alive command.	Includes Notify and Service Change .	Compulsory	Click the drop-down list to select the keep-alive format.

2.14.7 Defining an ONU Voice Port Advanced Configuration Profile

Command function

The ONU voice port advanced configuration profile is used to configure the parameters related to the voice and fax functions of an ONU voice port. The parameters to be configured include fax mode, mute mode, echo suppression, and input / output gain.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config** → **Profile Definition** → **ONU Ports Advanced Configure Profile** in the shortcut menu to access the **ONU Ports Advanced Configure Profile** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Profile Name	The name of the ONU voice port advanced configuration profile.	Enters up to 20 characters in numbers, letters or underlines.	Compulsory	Double-click to enter the profile name.
Voice Code Mode	The speech encoding rule of the IAD.	Includes G.711A , G.711U , G.723 or G.729 . The default value is G.711A .	Optional	Selects G.711A, G.711U, G.723 or G.729 from the drop-down list.
Fax Mode	The encapsulation mode of the fax service.	Includes Transparent/ T.38 . The default value is Transparent .	Optional	Click the drop-down list to select the Fax mode.
Silence Switch	The silence compression function. Reduces mute frames in the line and saves bandwidth resources.	Includes Disable/Enable . The default value is Enable .	Optional	Click the drop-down list to select Disable or Enable.
Echo Cancel	Enables or disables the echo suppression function.	Includes Disable/Enable . The default value is Enable .	Optional	Click the drop-down list to select Disable or Enable.
Input Gain (DB)	The input volume value of the microphone.	The value range is -32 to 32. The unit is dB. The default value is 0.	Optional	Double-click to enter the input gain.
Output Gain (DB)	The output volume value of the telephone receiver.	The value range is -32 to 32. The unit is dB. The default value is 0.	Optional	Double-click to enter the output gain.
DTMF Mode	Selects the transmission mode of the DTMF signal.	Includes Transparent or RFC2833 . The default value is Transparent .	Optional	Click the drop-down list to select the DTMF mode.
Fax Control Mode	Selects the fax control mode.	Includes Voice Path/ Softswitch Control/ Auto Negotiation . The default value is voice path .	Optional	Click the drop-down list to select the Fax control mode.

2.14.8 NGN Voice Port Automatic Activation Switch

Command function

The NGN voice port automatic activation switch command is used to enable / disable the automatic activation function of a voice port.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config**→**Profile Definition**→**NGN Voice Port Auto Activation Switch** in the shortcut menu. Then the **NGN Voice Port Auto Activation Switch** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Activation Switch	Enables / disables the automatic activation function of a voice port. A voice port is enabled by default. If the automatic activation function is disabled, all voice ports will be disabled, and the voice services will be interrupted.	Includes enable/disable . The default value is Enable .	Compulsory	Click the drop-down list to select Enable or Disable.

2.14.9 Defining a Threshold Configuration Profile

Command function

The profile is used to set alarm reporting conditions in a batch manner. When the object's performance parameters reach the threshold condition of the alarm reporting, the equipment reports alarms via the network management system.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config**→**Profile Definition**→**PM Threshold Profile** in the shortcut menu to access the **PM Threshold Profile** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Profile Name	The name of the performance threshold profile.	Enters up to 20 characters in numbers, letters or underlines.	Compulsory	Double-click to enter the profile name.
Object Class	The applicable object hierarchy of the designated performance threshold profile.	Includes Board , Port , ONU , ONU Port and None .	Compulsory	Click the drop-down list to select the object class.
Object Type	The applicable object type of the designated performance threshold profile.	Selects the object type according to the object class.	Compulsory The parameter is valid when the Object class is set to ONU, Port and ONU Port.	Click the drop-down list to select the object type.
Alarm Code	Sets alarm items for the alarm reporting threshold.	Selects the alarm item of the corresponding object type according to the object class.	Compulsory The parameter is valid when the Object class is set to ONU, Port and ONU Port.	Click the drop-down list to select the alarm code.
AlarmThresholdSwitch	Enables / disables the alarm threshold function.	Includes Enable and Disable . The default value is disable .	Compulsory The parameter is valid when the Object class is set to ONU, Port and ONU Port.	Click the drop-down list to select Disable or Enable.
AlarmReportThreshold	The threshold to report an alarm.	A measurement carried to two decimal places.	Compulsory The parameter is valid when the Object class is set to ONU, Port and ONU Port and when the alarm threshold switch is enabled.	Double-click to enter the threshold value.
AlarmReportThresholdRange	The threshold value range to report an alarm.	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
ClearingAlarm-Threshold	Clears the threshold value of alarms	A measurement carried to two decimal places.	Compulsory The parameter is valid when the Object class is set to ONU, Port and ONU Port and when the alarm threshold switch is enabled.	Double-click to enter the threshold value.
ClearingAlarm-ThresholdRange	Clears the threshold value range of alarms.	-	Read-only	-
Unit	Alarm encoding items.	-	Read-only	-

2.14.10 Defining the Performance Threshold Profile Binding

Command function

The command is used to bind a certain object with a performance threshold profile.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config**→**Profile Definition**→**PM Threshold Profile Bind** in the shortcut menu to access the **PM Threshold Profile Banding** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Object Name	The name of the object which the performance threshold profile binds to.	-	Read-only	Selects in the object tree in the left pane.
Object Type	The type of the object which the performance threshold profile binds to.	-	Read-only	Selects in the object tree in the left pane.
Template Name	Binds or unbinds the performance threshold profile.	Selects a profile name that has been configured in the PM Threshold Profile .	Compulsory	Click the drop-down list to select the profile name.

2.14.11 Defining an Alarm Report Manage Profile

Command function

The profile is used to set alarm reports in a batch manner and bind the object to the alarm reporting management profile then filters the alarm information and reports the needed alarms via the network management system.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config**→**Profile Definition**→**Alarm Report Manage Profile** in the shortcut menu to access the **Alarm Report Manage Profile** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Profile ID	The serial number of the alarm reporting manage profile.	-	Read-only	-
Template Name	The name of the alarm reporting manage profile.	Enters up to 20 characters.	Compulsory	Double-click to enter the profile name.
Object Type	The object type of alarms which are reported.	Includes cards, ports and ONUs connecting to the PON cards.	Compulsory	Click the drop-down list to select the object type.
Alarm Report Switch	Whether to report the corresponding alarms.	Includes Not Report or Immediately Report. The default value is Not Report.	Compulsory	Click the drop-down list to select Not Report or Immediately Report.
Alarm Code	The alarm name.	-	Read-only	-
Alarm Level	The alarm level.	-	Read-only	-
Alarm Type	The alarm type.	-	Read-only	-

2.14.12 Defining an Alarm Report Profile Binding

Command function

The command is used to bind objects with alarm report profiles.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config**→**Profile Definition**→**Alarm Report Manage Profile Bind** in the shortcut menu to access the **Alarm Report Template Binding** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot Name	The slot name of an object which binds with the profile	-	Read-only	Select in the object tree in the left pane.
Port name	The port name of an object which binds with the profile	-	Read-only	Select in the object tree in the left pane.
ONU Name	The ONU name of an object which binds with the profile	-	Read-only	Select in the object tree in the left pane.
ONU Port Name	The ONU port name of an object which binds with the profile.	-	Read-only	Select in the object tree in the left pane.
Template Name	Binds or unbinds the alarm report manage profile.	Selects a profile name that has been configured in the Alarm Report Manage Profile .	Compulsory	Click the drop-down list to select the profile name.

2.15 Layer 3 Routing Function

2.15.1 RIP

2.15.1.1 Starting the RIP

Command function

The command is used to enable or disable the RIP routing function of the AN5116-06B.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config**→**L3 Config**→**L3 Config**→**Router RIP** in the shortcut menu to access the **Router RIP** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Start/Stop	Enables or disables the RIP routing function.	Includes Start and Stop . Stop is by default.	Compulsory	Click the drop-down list to select Start or Stop.

2.15.1.2 Advertising the RIP Network

Command function

The command is used to configure the network advertisement IP address and subnet mask of the RIP protocol.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config**→**L3 Config**→**L3 Config**→**RIP Network Advertise** in the shortcut menu to access the **RIP Network Advertise** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
IP Address	The IP address of the network advertisement	-	Compulsory	Double-click to enter the IP address.
	Subnet Mask	-	Compulsory	Click the drop-down list to select the subnet mask.

2.15.1.3 Configuring the RIP Timer

Command function

The command is used to address the RIP process level timers for update, invalid and flush. Adjust the performance of routing protocols by configuring the RIP timer, so as to meet the demand for current networks.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config→L3 Config→L3 Config→RIP Timer Configure** in the shortcut menu to access the **RIP Timer Configure** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Update Timer (s)	The RIP protocol's update timer. Activates the RIP touter's routing table to update.	The value range is from 5 to 16777215. The unit is second. The default value is 30.	Compulsory	Double-click to enter the time for the update timer.
Timeout Timer(s)	The RIP protocol's invalid timer. Used for ascertaining whether the routing is available. The routing configuration is invalid if no updating information is received within the invalid timer time.	The value range is from 5 to 16777215. The unit is second. The default value is 180.	Compulsory	Double-click to enter the time for the invalid timer.
Garbage Timer(s)	The RIP protocol's flush timer. Used for ascertaining whether to delete a routing. If a router does not receive an update from another router within the flush timer or more, it marks the routes served by the nonupdating router as being unusable. After the router ascertains the routing is invalid, the router removes all routing table entries for the nonupdating router.	The value range is from 5 to 16777215. The unit is second. The default value is 120.	Compulsory	Double-click to enter the time for deleting the timer.

2.15.1.4 Configuring the RIP Interface Version

Command function

The command is used to configure the Rx and Tx protocol version of the RIP interface.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config**→**L3 Config**→**L3 Config**→**RIP Interface Version Configure** in the shortcut menu to access the **RIP Interface Version Configure** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
VLAN ID	Super VLAN's VLAN ID.	Selects the Super VLAN configured in the Vlan Attribute Config .	Compulsory	Click the drop-down list to select the VLAN ID.
IP Address	The corresponding IP address of the Sub VLAN.	Selects the IP address configured in the Configure VLAN IP .	Read-only	-
Rx version	The Rx version protocol of the RIP interface.	Includes RIP version 1 , RIP version 2 and hybrid RIP version 1 and 2 . The RIP version 2 is by default.	Compulsory	Click the drop-down list to select the Rx version.
Tx version	The Tx version protocol of the RIP interface.	Includes RIP version 1 , RIP version 2 and hybrid RIP version 1 and 2 . The RIP version 2 is by default.	Compulsory	Click the drop-down list to select the Tx version.

2.15.1.5 Configuring the RIP Authentication

Command function

The command is used to configure the authentication mode of the RIP protocol. The RIP protocol supports three authentication modes: non authentication, plain text and MD5 authentication.

- ◆ Non-authentication: Do not authenticate the RIP protocol.
- ◆ Plain text authentication: The authentication information and the message are submitted to the server in clear text without encryption, Therefore, this authentication method is only considered secure when using an encrypted connection.

- ◆ MD5 authentication: The authentication information is encrypted and transmitted, so as to ensure the authentication security.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config**→**L3 Config**→**L3 Config**→**RIP Auth Configure** in the shortcut menu to access the **RIP Auth Configure** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
VLAN ID	Super VLAN's VLAN ID.	Select the Super VLAN configured in the Vlan Attribute Config .	Compulsory	Click the drop-down list to select the VLAN ID.
IP Address	The corresponding IP address of the Sub VLAN.	Select the IP address configured in the Configure VLAN IP .	Read-only	-
Auth Mode	The authentication mode of the RIP protocol.	Includes: non-authentication, plain text and MD5 authentication . The plain text is by default.	Compulsory	Click the drop-down list to select the authentication mode.
Key/Key_chain	The name for the authentication key chain.	Includes key and key chain .	Optional. The parameter is unconfigurable when the authentication mode is Non-authentication .	Double-click to enter the key chain name.

2.15.1.6 Re-allocating the RIP Router

Command function

The command is used to induct the external router in the RIP domain.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config→L3 Config→L3 Config→RIP Router Redistribute** in the shortcut menu to access the **RIP Router Redistribute** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Route Protocol Rule Switch	Inducts the external router's protocol type.	Includes: CONNECT, STATIC, OSPF, BGP and ISIS .	Compulsory	Click the drop-down list to select the router protocol.

2.15.1.7 RIP Database Status

Command function

The command is used to query the database status of the RIP protocol.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config→L3 Config→L3 Config→RIP Database Status** in the shortcut menu to access the **RIP Database Status** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Route Protocol	The route protocol type	-	Read-only	-
Dest Network	The IP address of the destination network segment.	-	Read-only	-
Next Hop	The IP address of the next hop equipment.	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
Metric	The overhead value of the shortest path from the root node to the destination node.	The value range is 0 to 255. Select the Distance value configured in the Distance Configure .	Read-only	-
Super VLAN ID	Super VLAN's VLAN ID.	-	Read-only	-

2.15.2 OSPF

2.15.2.1 Enabling the OSPF

Command function

The command is used to enable or disable the OSPF routing function of the AN5116-06B.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config**→**L3 Config**→**OSPF**→**Router OSPF** in the shortcut menu to access the **Router OSPF** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Start/Stop	Enables or disables the OSPF routing function.	Includes: Stop and Start .	Compulsory	Click the drop-down list to select Start or Stop.

2.15.2.2 Advertising the OSPF Network

Command function

The command is used to configure the corresponding relationship between the uplink VLAN's IP address and the OSPF domain. When the OSPF is enabled, the uplink port may be added into the OSPF domain.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config→L3 Config→OSPF→OSPF Network Advertise** in the shortcut menu to access the **OSPF Network Advertise** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
IP Address	The IP address of the network advertisement	-	Compulsory	Double-click to enter the IP address.
	Subnet Mask	-	Compulsory	Click the drop-down list to select the subnet mask.
Area_ID	The IP address of the OSPF domain	-	Compulsory	Double-click to enter the IP address.

2.15.2.3 Configuring the OSPF Router ID

Command function

The command is used to configure the ID number for the OSPF router. The router ID is a 32bit integer without symbol and is only used for identifying the router.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config→L3 Config→OSPF→OSPF Router_ID Configure** in the shortcut menu to access the **OSPF Router_ID Configure** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
IP Address	The IP address of the OSPF router, i.e. the OSPF router's ID.	-	Optional	Double-click to enter the IP address.

2.15.2.4 Configuring the OSPF domain

Command function

The command is used to configure the domain ID and domain type of the OSPF domain.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config→L3 Config→OSPF→OSPF Area** in the shortcut menu to access the **OSPF Area** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Area ID	The domain ID of the OSPF domain.	The Internet IP address.	Optional	Double-click to enter the IP address.
Area Type	The type of the OSPF domain.	Includes STUB , NSSA or Null . STUB : STUB area. NSSA : NSSA area. Null : Normal area.	Optional	Click the drop-down list to select the domain type.
No-Summary	The ABR whether to transmit Summary LSA to the STUB or NSSA area.	-	Optional	Select and clear check boxes.
Translator Role	Whether to transfer the NSSA-LSA in the NSSA area into the LSA in Type 5.	Includes: Translate_Never , Translate_Always and Translate_Candidate . Translate_Never : In the NSSA area, the ABR will not transfer the NSSA-LSA into the LSA in Type5. Translate_Always : In the NSSA area, the ABR will transfer the NSSA-LSA into the LSA in Type5. Translate_Candidate : In the NSSA area, the ABR transfers the candidate LSA into the LSA in Type 5 via the NSSA-LSA.	Optional. When the domain type is NSSA or Null , the parameter is configurable.	Click the drop-down list to select the Translator Role.

2.15.2.5 Configuring OSPF Basic Parameters

Command function

The command is used to configure the OLT uplink port's OSPF basic parameters.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config→L3 Config→OSPF→OSPF Parameter Configure** in the shortcut menu to access the **OSPF Parameter Configure** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
VLAN ID	Super VLAN's VLAN ID.	Select the Super VLAN configured in the Vlan Attribute Config .	Compulsory	Click the drop-down list to select the VLAN ID.
IP Address	The corresponding IP address of the Sub VLAN.	Select the IP address configured in the Configure VLAN IP .	Read-only	-
Dead-interval(s)	OSPF neighbor failure time interval. No Hello message of the neighbor is received within the failure time interval, the neighbor is invalid.	The value range is from 1 to 65535. The unit is second. The default value is 40. The failure interface value should be 4 times than the Hello message interval.	Optional	Double-click to enter the failure interval.
Hello-interval(s)	The time interval which the OSPF transmits the Hello message.	The value range is from 1 to 65535. The unit is second. The default value is 10.	Optional	Double-click to enter the Hello message interval.

Item	Description	Value Range / Requirement	Property	Configuration Method
Retransmit-interval (s)	The time interval for interface retransmitting the LSA. If no confirmation message is received from the far end equipment within the time interval for retransmitting the LSA, the interface will retransmit the LSA.	The value range is from 1 to 65535. The unit is second. The default value is 5.	Optional	Double-click to enter the retransmitted LSA interval.
Transmit-delay(s)	The delay time for OSPF interface transmitting the LSA.	The value range is from 1 to 65535. The unit is second. The default value is 1.	Optional	Double-click to enter the update message time.
Network Type	The network type of the OSPF interface.	Includes: Point to point, broadcast, non-broadcast and point to multipoint.	Compulsory	Click the drop-down list to select the network type.
Cost	The overhead value of transmitting message via the designated interface.	The value range is 1 to 65535. The default value is 10.	Optional	Double-click to enter the Cost value.
MTU	The MTU value of the DD message transmitted by the interface	The value range is 576 to 65535. The default value is 1500.	Optional	Double-click to enter the MTU value.
Priority	The priority when the interface elects the DR.	The value range is 0 to 255. The default value is 1.	Optional	Double-click to enter the priority.

2.15.2.6 Configuring the OSPF Authentication

Command function

The command is used to configure the authentication mode of the OSPF protocol. The OSPF protocol supports three authentication modes: non authentication, plain text and MD5 authentication.

- ◆ Non-authentication: Do not authenticate the OSPF protocol.

- ◆ Plain text authentication: The authentication information and the message are submitted to the server in clear text without encryption, Therefore, this authentication method is only considered secure when using an encrypted connection.
- ◆ MD5 authentication: The authentication information is encrypted and transmitted, so as to ensure the authentication security.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config→L3 Config→OSPF→OSPF Auth Configure** in the shortcut menu to access the **OSPF Auth Configure** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
VLAN ID	Super VLAN's VLAN ID.	Select the Super VLAN configured in the Vlan Attribute Config .	Compulsory	Click the drop-down list to select the VLAN ID.
IP Address	The corresponding IP address of the Sub VLAN.	Select the IP address configured in the Configure VLAN IP .	Read-only	-
Auth Mode	The authentication mode of the OSPF protocol.	Includes: non-authentication , plain text and MD5 authentication . The plain text is by default.	Compulsory	Click the drop-down list to select the authentication mode.
Key/Key_chain	The name of authentication key chain.	-	Optional. The parameter is unconfigurable when the authentication mode is Non-authentication.	Double-click to enter the key chain name.

2.15.2.7 Re-allocating the OSPF Router

Command function

The command is used to induct the external router in the OSPF domain.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config→L3 Config→OSPF→OSPF Router Redistribute** in the shortcut menu to access the **OSPF Router Redistribute** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Route Protocol Rule Switch	Inducts the external router's protocol type.	Includes: CONNECT , STATIC , RIP , BGP and ISIS .	Compulsory	Click the drop-down list to select the router protocol.

2.15.2.8 The OSPF Neighbor Status

Command function

The command is used to query the neighbor status of the OSPF protocol.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config→L3 Config→OSPF→OSPF Neighbor Status** in the shortcut menu to access the **OSPF Neighbor Status** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Neighbor	The neighbor router ID via the virtual connection	-	Read-only	-
Priority	The priority when the interface elects the DR.	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configura-tion Method
Neighbor State	<p>The neighbor status</p> <ul style="list-style-type: none"> ◆ Down: The Down status, the initial status of the neighbor. ◆ Attempt: The Attempt status. A further contact is needed when no information is received from the neighbor. The status is only valid for neighbors in the NBMA network. ◆ Init: The Init status. The OLT has received the Hello message from the neighbor. ◆ TwoWay: TwoWay status. The OLT has received the Hello message from the neighbor and both sides can communicate. ◆ ExStart: ExStart status. The OLT and the neighbor have the master-slave relationship and DD Sequence Number negotiation. ◆ Exchange: Exchange status. Starts the LSDB synchronous operation. The interaction message are DD message, LSR message and LSU message. ◆ Loading: Loading status. The LESD is executing the synchronous operation. The interaction message are LSR message and LSU message. ◆ Full: Full status. The neighbor's LSDB is synchronously completed. Both sides establish the Full neighbor relationship. 	-	Read-only	-
Interface State	<p>Displays the status of the interface connecting with the neighbor.</p> <p>Includes: DependUpon, Down, Loopback, Waiting, Point-To-Point, DROther, Backup and DR.</p>	-	Read-only	-
Router Type	The router type	-	Read-only	-
Dead Times (s)	The OSPF neighbor failure time.	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
Address	The IP address of the interface.	-	Read-only	-
VLAN ID	The VLAN ID of the interface.	-	Read-only	-

2.15.2.9 The OSPF Link Status Database

Command function

The command is used to query the database information of the OSPF link status.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config**→**L3 Config**→**OSPF**→**LSDB of OSPF** in the shortcut menu to access the **LSDB of OSPF** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Area ID	The domain ID of the OSPF domain.	-	Read-only	-
LSDB Type	The LSDB type LS type	-	Read-only	-
Link State ID	The LS identifier in the LSA header.	-	Read-only	-
Advertising Router	Generates the LSA router identifier.	-	Read-only	-
Sequence	The LSA sequence number	-	Read-only	-
Age(s)	The LSA aging time	-	Read-only	-
Checksum	Ascertains the LSA data error.	-	Read-only	-

2.15.3 Configuring the Routing Protocol

2.15.3.1 Configuring the Distance

Command function

The command is used to configure the cost value of the shortest path from the root node to the destination node of the RIP protocol or OSPF protocol.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config→L3 Config→Router Configurer→Distance Configure** in the shortcut menu to access the **Distance Configure** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Protocol type	The route protocol type	Includes RIP and OSPF .	Compulsory	Click the drop-down list to select the protocol type.
Distance	The shortest path cost value from the root node to the destination node.	The value range is 0 to 255. The default value is 120 when the protocol type is RIP . The default value is 110 when the protocol type is OSPF .	Compulsory	Double-click to enter the Distance value.

2.15.3.2 Configuring the Key Chain

Command function

The command is used to configure the key chain in the RIP authentication or OSPF authentication.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config**→**L3 Config**→**Router Configurer**→**Key-chain Configure** in the shortcut menu to access the **Key-chain Configure** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Key chain	The name of the key chain	Enters up to 20 characters.	Compulsory	Double-click to enter the key chain.
Key ID	The ID number of the key.	The value range is 1 to 255.	Compulsory	Double-click to enter the key ID.
Key	Authentication key character	Enters up to 16 characters.	Compulsory	Double-click to enter the key.
Accept Lifetime Start	The start time to receive the key.	The value range is from 0 second 0 minute 0 hour on 1st January, 1993 to 59 seconds 59 minutes 23 hours on 31st December, 2105. The default value is 0.	Compulsory	Double-click to enter the start time of receiving.
Accept Lifetime end	The end time to receive the key.	The value range is from 0 second 0 minute 0 hour on 1st January, 1993 to 59 seconds 59 minutes 23 hours on 31st December, 2105. The default value is 0.	Compulsory	Double-click to enter the end time of receiving.
Send Lifetime Start	The start time to transmit the key.	The value range is from 0 second 0 minute 0 hour on 1st January, 1993 to 59 seconds 59 minutes 23 hours on 31st December, 2105. The default value is 0.	Compulsory	Double-click to enter the start time of transmitting.
Send Lifetime end	The end time to transmit the key.	The value range is from 0 second 0 minute 0 hour on 1st January, 1993 to 59 seconds 59 minutes 23 hours on 31st December, 2105. The default value is 0.	Compulsory	Double-click to enter the end time of transmitting.

2.15.3.3 Static Routing in the Network Layer

Command function

The command is used to configure the static routing in the network layer. After the static routing is created, intercommunication among three layers of the network equipment can be achieved.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config**→**L3 Config**→**Router Configurer**→**Network Static Route** in the shortcut menu to access the **Network Static Route** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
The destination network address	The IP address of the destination network.	-	Compulsory	Double-click to enter the IP address.
	Subnet Mask	-	Compulsory	Click the drop-down list to select the subnet mask.
Next Hop	The IP address of the next hop equipment or the interface.	-	Compulsory	Double-click to enter the IP address.
Metric	The path cost value	The value range is 0 to 255. The default value is 0.	Compulsory	Double-click to enter the weight.

2.15.3.4 Displaying the Route Table

Command function

The command is used to check the current routing protocol's route information.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config**→**L3 Config**→**Router Configurer**→**Show Route Table** in the shortcut menu to access the **Show Route Table** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Dest Network	The IP address of the destination network segment.	-	Read-only	-
	Subnet Mask	-	Read-only	-
Distance	The shortest path cost value from the root node to the destination node.	-	Read-only	-
Metric	The path cost value	-	Read-only	-
Next Hop	The IP address of the next hop equipment or the interface.	-	Read-only	-
Route Status	The route status When more routes for the same destination address exist, the route in the best path is in the Active status. The route which can be reached but is not the best route is in the Standby status. The route which is unreachable is in the Suspend status.	-	Read-only	-
Route Protocol	The protocol type of the route	-	Read-only	-
VLAN ID	Used for identifying the unique VLAN	-	Read-only	-

2.15.4 DHCP Global Function

2.15.4.1 DHCP Global Switch

Command function

The command is used to configure the global enable switch of the DHCP protocol.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config**→**L3 Config**→**DHCP Global**→**DHCP Global Switch** in the shortcut menu to access the **DHCP Global Switch** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
DHCP Global Switch	The DHCP global switch	Includes Enable or disable .	Compulsory	Click the drop-down list to select Enable or Disable.
Ping Function (Times)	The DHCP serve applies Ping function to check the Ping times that the DHCP client network connects.	The value range is from 0 to 3. The unit is times. The default value is 2.	Compulsory	Double-click to enter the times of Ping function.
Ping Interval (ms)	The time interval for using the Ping command.	The value range is 500 to 5000. The unit is millisecond. The default value is 500.	Compulsory	Double-click to enter the time interval of Ping function.

2.15.4.2 Configuring the DHCP Interface Mode

Command function

The command is used to configure the DHCP operating mode for users in the Super VLAN.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config**→**L3 Config**→**DHCP Global**→**Set DHCP Interface Mode** in the shortcut menu to access the **Set DHCP Interface Mode** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Super VLAN ID	Super VLAN's VLAN ID.	Select the Super VLAN configured in the Vlan Attribute Config .	Compulsory	Click the drop-down list to select the Super VLAN ID.
DHCP Interface Mode	The operating mode of the DHCP interface Server mode: The DHCP server allocates the legal IP address for the DHCP client side. Relay mode: The DHCP Relay equipment executes the layer 2/3 forwarding for the DHCP request.	Includes the Server mode and Relay mode . Server mode : The operating mode for the DHCP server. Relay mode : The operating mode for the DHCP repeater. The Server mode is by default.	Compulsory	Click the drop-down list to select the DHCP interface mode.

2.15.5 DHCP RELAY

2.15.5.1 Configuring the Server Address of the Interface

Command function

The command is used to configure the IP address for the DHCP server and provide the DHCP services for users in the Super VLAN.



Note:

The command is valid when the DHCP interface mode is in the Relay mode.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config**→**L3 Config**→**DHCP RELAY**→**Set Port's Dhcp Server** in the shortcut menu to access the **Set Port's Dhcp Server** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Super VLAN ID	Super VLAN's VLAN ID.	Select the Super VLAN configured in the Vlan Attribute Config.	Compulsory	Click the drop-down list to select the Super VLAN ID.
Server IP Address	The IP address of the DHCP server	-	Compulsory	Double-click to enter the IP address.

2.15.6 DHCP SERVER

2.15.6.1 Configuring the IP Address Pool

Command function

The command is used to configure the address pool for the DHCP server and allocate the IP address source in the address pool for the DHCP client side.



Note:

The command is valid when the DHCP interface mode is in the Server mode.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config**→**L3 Config**→**DHCP SERVER**→**Set IP Pool** in the shortcut menu to access the **Set IP Pool** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Pool ID	The ID of the address pool	The value range is 0 to 16. The default value is 1.	Compulsory	Double-click to enter the address pool ID.
Begin IP	The start value of the IP address which can be allocated to the DHCP client side in the address pool.	The common Internet IP address	Compulsory	Double-click to enter the start IP address.
	Subnet Mask	Consistent with the mask configured in the end IP address.	Compulsory	Click the drop-down list to select the subnet mask.
End IP	The end value of the IP address which can be allocated to the DHCP client side in the address pool.	The common Internet IP address	Compulsory	Double-click to enter the end IP address.
	Subnet Mask	Consistent with the mask configured in the start IP address.	Compulsory	Click the drop-down list to select the subnet mask.
Gateway	The default gateway address of the DHCP server.	-	Compulsory	Double Click to enter the IP address of the default gateway.
Lease(s)	The time span which the DHCP server allocates to the IP address at the DHCP client end.	Enters the time span format: 001 01:01:01. Range: 000 00:00:00 to 365 23:59:59.	Compulsory	Double-click to enter the lease.

2.15.6.2 Configuring the DNS Server Address List

Command function

The command is used to configure related parameters for the DNS domain name server and provide address and domain name resolution for the DHCP client side.



Note:

The command is valid when the DHCP interface mode is in the Server mode.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config**→**L3 Config**→**DHCP SERVER**→**Set DNS Server Address List** in the shortcut menu to access the **Set DNS Server Address List** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Pool ID	The ID of the address pool	Selects the configured address pool ID from the Pool ID .	Compulsory	Click the drop-down list to select the address pool ID.
DNS Server Address	The IP address of the DNS domain name server	The common Internet IP address	Compulsory	Double-click to enter the DNS server address.
Operation Type	Adds or deletes a DNS server address. ◆ Set: Add ◆ Delet: Delete	Includes Set or Delet , and the default is Set .	Compulsory	Click the drop-down list to select Set or Delet .

2.15.6.3 Configuring the Forbidden IP Address List

Command function

The command is used to configure the forbidden IP address list for the DHCP client side.



Note:

The command is valid when the DHCP interface mode is in the Server mode.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config**→**L3 Config**→**DHCP SERVER**→**Set Forbidden IP Address List** in the shortcut menu to access the **Set Forbidden IP Address List** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Pool ID	The ID of the address pool	Selects the configured address pool ID from the Pool ID .	Compulsory	Click the drop-down list to select the address pool ID.
Forbidden IP Address	The forbidden IP address for the DHCP client side.	The common Internet IP address	Compulsory	Double-click to enter the forbidden IP address.
Operation Type	Adds or deletes a forbidden IP address. ◆ Set: Add ◆ Delet: Delete	Includes Set or Delete , and the default is Set .	Compulsory	Click the drop-down list to select Set or Delete .

2.15.6.4 Configuring the Client Binding List

Command function

The command is used to allocate the fixed IP address for the DHCP client side.



Note:

The command is valid when the DHCP interface mode is in the Server mode.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config**→**L3 Config**→**DHCP SERVER**→**Config Client Binding List** in the shortcut menu to access the **Config Client Binding List** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
IP Address	The IP address for the DHCP client side	-	Compulsory	Double-click to enter the IP address.
Mac Address	The DHCP's MAC address	-	Compulsory	Double-click to enter the MAC address.

2.15.6.5 The DHCP Client Table Status

Command function

The command is used to check the status information for the DHCP client side.



Note:

The command is valid when the DHCP interface mode is in the Server mode.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config**→**L3 Config**→**DHCP SERVER**→**DHCP Client Table Status** in the shortcut menu to access the **DHCP Client Table Status** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
IP Address	The IP address for the DHCP client side	-	Read-only	-
Mac Address	The DHCP's MAC address	-	Read-only	-
Hired Time(s)	The time limit for the DHCP client side hiring the IP address	The value range is 1 to 4294967294. The unit is second.	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
Residual Time(s)	The lease time that remains on the DHCP Client side	The value range is 1 to 4294967294. The unit is second.	Read-only	-
Type	Whether the IP address is the static address or dynamic address.	Includes: Dynamic or static . Dynamic: The dynamic IP address type. static: The static IP address type.	Read-only	-

2.15.7 The Layer 3 ACL Configuration

2.15.7.1 Creating the Layer 3 ACL

Command function

The command is used to create a layer 3 ACL rule and designate matching rules.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config**→**L3 Config**→**Three-layer ACL Configure**→**Create L3 ACL** in the shortcut menu to access the **Create L3 ACL** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
ACL Name	The ACL Name	The maximum length should not exceed 20 characters.	Compulsory	Double-click to enter the ACL name.
Match-order	The sequence order for the IP configuring rules in the ACL.	Includes Auto and Config . <ul style="list-style-type: none"> ◆ Auto: The automatic sequencing for the IP matching rules. ◆ Config: The manual sequencing for the IP matching rules. 	Compulsory	Click the drop-down list to select Auto or Config .

2.15.7.2 Configuring the Layer 3 ACL

Command function

The command is used to configure the Layer 3 ACL rules. Analyze and process the data message according to the Layer 3 ACL rules.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config**→**L3 Config**→**Three-layer ACL Configure**→**Configure L3 ACL** in the shortcut menu to access the **Configure L3 ACL** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
ACL Name	The ACL Name	Selects from the configured control list in the Create L3 ACL .	Compulsory	Double-click the drop-down list to select the ACL name.
Index	The automatic generation sequence number.	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
Operation Type	<ul style="list-style-type: none"> ◆ Adds or deletes an IP matching rule when the IP matching rules is not null. ◆ Adds or deletes the ACL when the IP matching rules is null. 	<p>Includes: Set and delete.</p> <ul style="list-style-type: none"> ◆ Set: Add ◆ delete: Delete 	Compulsory	Click the drop-down list to select Set or delete .
IP/Subnet Address	The IP address of the data message in the ACL rules.	-	Compulsory	Double-click to enter the IP address.
	Subnet Mask	-	Compulsory	Click the drop-down list to select the subnet mask.
Permit/Deny	The handling way used by the ACL rules for the data message.	<p>Includes Permit and Deny.</p> <ul style="list-style-type: none"> ◆ Permit: Allows the data packet according with requirements to pass through ◆ Deny: Discard the data packet which accords with requirements. 	Compulsory	Click the drop-down list to select Permit or Deny .
Type	The matching accuracy used in the ACL rules for the data message.	<p>Includes Normal and Exact-match.</p> <ul style="list-style-type: none"> ◆ Normal: The data message accords with the rule when the subnet mask of the data message and that of the IP matching rules are in the same network segment ◆ Exact-match: The data message accords with the rule when the subnet mask of the data message and that of the IP matching rules are identical. 	Compulsory	Double-click the drop-down list to select Normal or Exact-match .

2.15.7.3 The ACL Information

Command function

The command is used to query the lay 3 ACL's rule information.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config→L3 Config→Three-layer ACL Configure→ACL Information** in the shortcut menu to access the **ACL Information** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
ACL Name	The ACL Name	Selects from the configured control list in the Creat L3 ACL .	Compulsory	Double-click the drop-down list to select the ACL name.
IP/Subnet Address	The IP address of the data message in the ACL rules.	-	Read-only	-
	Subnet Mask	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
Permit/Deny	The handling way used by the ACL rules for the data message.	Includes Permit and Deny . <ul style="list-style-type: none"> ◆ Permit: Allows the data packet according with requirements to pass through ◆ Deny: Discard the data packet which accords with requirements. 	Read-only	-
Type	The matching accuracy used in the ACL rules for the data message.	Includes Normal and Exact-match . <ul style="list-style-type: none"> ◆ Normal: The data message accords with the rule when the subnet mask of the data message and that of the IPmatching rules are in the same network segment ◆ Exact-match: The data message accords with the rule when the subnet mask of the data message and that of the IP matching rules are identical. 	Read-only	-

2.15.8 Configuring the Multicast Routing

2.15.8.1 Enabling the Multicast Routing

Command function

The command is used to enable the multicast routing function.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config**→**L3 Config**→**Multicast Route Configure**→**Multicast Route Enable** in the shortcut menu to access the **Multicast Route Enable** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Start/Stop	The switch of the multicast routing.	Includes: Stop and Start .	Compulsory	Click the drop-down list to select Start or Stop.

2.15.8.2 The Static Multicast Routing

Command function

The command is used to configure the static routing for the current multicast service and includes source IP address and the RPF address and the Super VLAN interface number.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config**→**L3 Config**→**Multicast Route Configure**→**Static Multicast Route** in the shortcut menu to access the **Static Multicast Route** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Index	The index number of the static multicast routing.	-	Read-only	-
Source IP Address	The multicast source IP address.	-	Compulsory	Double-click to enter the source IP address.
RPF Address	The multicast source's corresponding RPF routing IP address.	-	Compulsory	Double-click to enter the RPF address.
SuperVLAN ID	The Super VLAN's VLAN ID.	Selects the Super VLAN configured in the Vlan Attribute Config .	Compulsory	Click the drop-down list to select the Super VLAN interface number.

2.15.8.3 The Multicast Routing Table

Command function

The command is used to query the multicast routing table for the current multicast service.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config→L3 Config→Multicast Route Configure→Multicast Route Table** in the shortcut menu to access the **Multicast Route Table** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Group Address	The multicast group's IP address.	The common Internet IP address	Compulsory	Double-click to enter the group address.
Source IP Address	The multicast source IP address.	-	Read-only	-
RPF Address	The multicast source's corresponding RPF routing IP address.	-	Read-only	-
In Interface ID	The In interface ID of the multicast routing.	-	Read-only	-
In Interface Slot	The In interface's slot number	-	Read-only	-
Super VLAN ID	The In interface's Super VLAN ID.	-	Read-only	-
Flag	Whether the routing table takes effect.	-	Read-only	-
Update Time	The updated time length of the routing table.	-	Read-only	-
Protocol	The multicast routing protocol type	-	Read-only	-
Out Interface ID	The out interface ID of the multicast routing.	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
Out Interface Slot	The out interface's slot number	-	Read-only	-
Super VLAN ID	The out interface's Super VLAN ID.	-	Read-only	-

2.16 Alarm Reverse

Command function

The command is used to filter the unreasonable alarms and filter them in the ANM2000.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Config**→**Alarm Reverse** in the shortcut menu to access the **Alarm Reverse** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Object Name	The logical domain, system and module where the alarm reserve object is located in.	-	Read-only	-
Alarm Name	The name of the alarm to be filtered.	-	Read-only	-
Status	The alarm reverse status <ul style="list-style-type: none"> ◆ Reverse: The object's current alarm status is not reporting. ◆ Not Reverse: The object's current alarm status is reporting. 	Includes reverse and not reverse .	Read-only	-

3 **Shortcut Menu Commands of the HSWA Card**

- The Real-time Performance
- The ONU Authentication
- Configuring VLAN
- Configuring Voice Service
- Time Management
- Configuring Multicast Service
- Reliability Configuration
- Relevant Service Configuration
- Configuring QoS
- Basic Ethernet Configuration
- Security Configuration
- Alarm Management
- System Maintenance
- System Control
- Status Review

3.1 The Real-time Performance

3.1.1 The CUP / Memory Utilization Ratio

Command function

The command is used to query the CPU/memory utilization ratio of a card, so as to know about the equipment operating status.



Note:

Before querying the CPU / memory utilization ratio of a card or ONU, users need to enable the CPU / memory utilization ratio collection function in the **Performance Group** tab of this card or ONU.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Realtime Performance**→**CUP/Memory Proportion** from the shortcut menu to access the **RealTime Performance Collection** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Realtime Curve	The real time sampling curve of the CPU / memory utilization ratio of the card.	-	Read-only	Click the Start Collect button in the toolbar.
Performance Data	The real time sampling value of the CPU / memory utilization ratio of the card.	It includes the following items: object, time, performance type, performance value, and unit.	Read-only	Click the Start Collect button in the toolbar, and click Performance Data in the tab that appears.

3.2 The ONU Authentication

3.2.1 The Authentication Mode of a PON Port

Command function

The command is used to configure the authentication mode of each PON port. Nine authentication modes exist.

- ◆ The EPON authentication mode: physical identifier authentication, logical identifier authentication (with the password), physical identifier / logical identifier mixed authentication (with the password), logical identifier authentication (without the password), and physical identifier / logical identifier mixed authentication (without the password) and the non-authentication.
- ◆ The GPON authentication mode: physical identifier + password authentication, password authentication, physical identifier / physical password mixed authentication, logical identifier authentication (with password), physical identifier/logical identifier mixed authentication (with password), logical identifier authentication (without password), physical identifier/logical identifier mixed authentication (without password) and non-authentication.

Access method

Right-click the HSWA card in the **Object Tree** pane. Select **ONU Authentication** → **PON Authentication Mode** from the shortcut menu to access the **PON Authentication Mode** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The number of the slot that installs the card.	The value range is 1 to 8 or 11 to 18.	Read-only	-
PON NO.	The PON number where the ONU is located.	The value range is 1 to 8.	Read-only	-
Auth Mode	The ONU authentication mode in the PON port.	Includes: physical identifier authentication, logical identifier authentication (with the password), physical identifier / logical identifier mixed authentication (with the password), logical identifier authentication (without the password), physical identifier / logical identifier mixed authentication (without the password), physical identifier + password authentication, password authentication, physical identifier/physical password mixed authentication and non-authentication.	Compulsory	Click the drop-down list to select the authentication mode.

3.2.2 ONU Authentication Mode

Command function

The command is used to configure the authentication mode for a single ONU and authenticate according to the ONU's physical address, logical SN or GPON password. The ONU which is authenticated can be authorized.

Access method

Right-click the HSWA card in the **Object Tree** pane. Select **ONU Authentication** → **ONU Authentication Mode** from the shortcut menu to access the **ONU Authentication Mode** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The number of the slot containing the interface card that the ONU is connected with.	The value range is 1 to 8 or 11 to 18.	Compulsory	Click the drop-down list to select the slot number.
PON NO.	The PON number where the ONU is located.	The value range is 1 to 8.	Compulsory	Click the drop-down list to select the PON port number.
ONU No.	The authorization number of the ONU.	For the EC4B card and GC4B card, the value range is from 1 to 64. For the EC8B, GC8B and XG2B card, the value range is from 1 to 128.	Compulsory	Double-click to enter the ONU authentication number.
Authentication mode	<p>The authentication modes include:</p> <ul style="list-style-type: none"> ◆ The physical address authentication mode. ◆ The logical SN authentication mode: Open the ONU MAC automatic replacement function in the logical SN authentication mode. ◆ The logical SN authentication mode: Close the ONU MAC automatic replacement function in the logical SN authentication mode. ◆ The GPON password authentication mode: Open the ONU MAC automatic replacement function in the GPON password authentication mode. ◆ The GPON password authentication mode: Close the ONU MAC automatic replacement function in the GPON password authentication mode. 	-	Compulsory	Click the drop-down list to select the authentication mode.

3.2.3 Replacing the ONU Logical Identifier

Command function

The command is used when the ONU has faults and is ONU logical identifier authentication mode. The logical identifier to be replaced the ONU meets the requirement.

Access method

Right-click the HSWA card in the **Object Tree** pane. Select **ONU Authentication** → **ONU LOID Replace** from the shortcut menu to access the **ONU LOID Replace** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The number of the slot containing the interface card that the ONU is connected with.	The value range is 1 to 8 or 11 to 18.	Compulsory	Click the drop-down list to select the slot number.
PON NO.	The PON number where the ONU is located.	The value range is 1 to 8.	Compulsory	Click the drop-down list to select the PON port number.
ONU No.	The authorization number of the ONU.	The value range is 1 to 128.	Compulsory	Double-click to enter the ONU number.
Old SN: LOID	The ONU primary logical identifier.	Enters up to 24 characters.	Compulsory	Double-click the Old SN: LOID.
Old SN: LOGIC-PASS-WORD	The ONU primary logical password.	Enters up to 12 characters.	Compulsory	Double-click the Old SN: LOGICPASS-WORD.
New SN: LOID	The ONU new logical identifier.	Enters up to 24 characters.	Compulsory	Double-click the New SN: LOID.
New SN: LOGIC-PASS-WORD	The ONU new logical password.	Enters up to 12 characters.	Compulsory	Double-click the New SN: LOGICPASS-WORD.

3.2.4 Setting Physical Identifier Whitelist of an ONU

Command function

The ONU logical identifier whitelist setting command is used to set the physical identifier authentication whitelist of an ONU. The ONUs in the whitelist will be authorized. The ONU logical identifier whitelist supports the following authentication modes.

- ◆ The EPON ONU authentication mode: Physical identifier authentication, physical identifier/logical identifier (with password) mixed authentication, physical identifier/logical identifier (without password) mixed authentication.
- ◆ The GPON ONU authentication mode: Physical identifier + physical password authentication, physical identifier/logical password mixed authentication, physical identifier/logical identifier (without password) mixed authentication.

Access method

Right-click the HSWA card in the **Object Tree** pane. Select **ONU Authentication** → **ONU Physic_IDaddress whitelist** from the shortcut menu to access the **Physical Address White List Setting** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Physical Address	The ONU's physical address identifier. The physical identifier can be configured as the ONU's MAC address or physical SN identifier.	Configures the MAC address: The value range is from 0 to 9, a to f. Configures as physical SN: The first four address are the character string by default. The value range is from a to f. The value range of the last eight address is 0 to 9 and a to f.	Compulsory	Double-click to enter the physical identifier.
Password	ONU's authentication password.	-	Optional. The parameter is valid when the EPON ONU authentication mode is the physical address/logical identifier mixed authentication and the GPON ONU authentication mode is physical identifier + password authentication or the physical identifier/physical password mixed authentication.	Double-click to enter the key.
Slot No.	The number of the slot containing the interface card that the ONU is connected with.	The value range is 1 to 8 or 11 to 18.	Compulsory	Click the drop-down list to select the slot number.
PON NO.	The PON number where the ONU is located.	The value range is 1 to 8.	Compulsory	Click the drop-down list to select the PON port number.

Item	Description	Value Range / Requirement	Property	Configuration Method
ONU Type	The ONU type.	-	Compulsory	Click the drop-down list to select the ONU type.
ONU No.	The authorization number of the ONU.	The value range is 1 to 128.	Compulsory	Double-click to enter the ONU number.
Implemented Status	The ONU authentication status.	-	Read-only	-

3.2.5 Setting Password Whitelist of an ONU

Command function

The ONU password whitelist setting command is used to set the password authentication whitelist of an ONU. When the authentication mode of an ONU is logical password authentication, the ONUs in the password whitelist will be authorized.

Access method

Right-click the HSWA card in the **Object Tree** pane. Select **ONU Authentication** → **ONU Password Whitelist** from the shortcut menu to access the **Password White List Setting** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Password	The logical password.	-	Optional. The parameter is valid when the authentication mode is logical password authentication.	Double-click to enter the key.
Slot No.	The number of the slot containing the interface card that the ONU is connected with.	The value range is 1 to 8 or 11 to 18.	Compulsory	Click the drop-down list to select the slot number.

Item	Description	Value Range / Requirement	Property	Configuration Method
PON NO.	The PON port number where the ONU is located.	The value range is 1 to 8.	Compulsory	Click the drop-down list to select the PON port number.
ONU Type	The ONU type.	-	Compulsory	Click the drop-down list to select the ONU type.
ONU No.	The authorization number of the ONU.	The value range is 1 to 128.	Compulsory	Double-click to enter the ONU authentication number.
Implemented Status	The ONU authentication status.	-	Read-only	-

3.2.6 Setting Logical Identifier Whitelist of an ONU

Command function

The ONU logical identifier whitelist setting command is used to set the logical identifier authentication whitelist of an ONU. When the authentication mode of an ONU is logical identifier authentication or mixed authentication, the ONUs in the logical identifier whitelist will be authorized.

Access method

Right-click the HSWA card in the **Object Tree** pane. Select **ONU Authentication** → **ONU SN:LOIDLogic SN Whitelist** from the shortcut menu to access the **Logical SN White List Setting** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Logical SN	The ONU logical identifier.	-	Compulsory	Double-click to enter the physical identifier.
Password	The ONU logical password.	-	Optional. The parameter is valid when the authentication mode is logical identifier authentication.	Double-click to enter the key.
Slot No.	The number of the slot containing the interface card that the ONU is connected with.	The value range is 1 to 8 or 11 to 18.	Compulsory	Click the drop-down list to select the slot number.
PON NO.	The PON number where the ONU is located.	The value range is 1 to 8.	Compulsory	Click the drop-down list to select the PON port number.
ONU Type	The ONU type.	-	Compulsory	Click the drop-down list to select the ONU type.
ONU No.	The authorization number of the ONU.	The value range is 1 to 128.	Compulsory	Double-click to enter the ONU authentication number.
Implemented Status	The ONU authentication status.	-	Read-only	-

3.3 Configuring VLAN

3.3.1 VLAN at the Central Office End

3.3.1.1 The Service VLAN's Central Office End Data

Command function

The command is used to configure the uplink port service VLAN ID range and set limit on the service VLAN via the uplink port.

Access method

Right-click the HSWA card in the **Object Tree** pane and select **VLAN Config**→**Local VLAN**→**Local End Service VLAN** from the shortcut menu to access the **Local End Service VLAN** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Service Name	The uplink port service VLAN name.	Enters up to 30 characters in numbers, letters or underlines.	Compulsory	Double-click to enter the service name.
Starting VLAN ID	The starting ID number of the uplink port service VLAN name.	The value range is from 1 to 4085. The starting VLAN ID should not be larger than the end VLAN ID.	Compulsory	Double-click to enter the starting VLAN ID.
VLAN ID End	The end ID number of the uplink port service VLAN name.	The value range is from 1 to 4085. The starting VLAN ID should not be larger than the end VLAN ID.	Compulsory	Double-click to enter the end VLAN ID.
Interface No.	Sets the uplink port or the TRUNK group of the uplink service VLAN.	Includes: The uplink interface number or the TRUNK group number .	Compulsory	Click the drop-down list to select the uplink interface number or the TRUNK group number.

Item	Description	Value Range / Requirement	Property	Configuration Method
TAG/UNTAG	<p>Sets the TAG processing mode of the uplink service VLAN.</p> <ul style="list-style-type: none"> ◆ TAG refers to add the VLAN tag. When the TAG mode is selected, the uplink data packet will not be processed and will be uploaded in the primary mode. ◆ Untag refers to UNTAG (Do not add the VLAN tag). When the Untag mode is selected, the uplink data packet will be automatically stripped when passing through the port and uploaded in the UNTAG mode. 	<p>Includes: TAG and Untag. In the same uplink port, only one service VLAN should be set as UNTAG mode and the value of the starting VLAN ID must be the same with the value of the end VLAN ID, otherwise, the TAG mode should be selected.</p>	Compulsory	Click the drop-down list to select TAG or Untag .
Service Type	The uplink port service VLAN type.	Includes: Data, IPTV, NGN, VoIP, VOD, CNCview or System .	Compulsory	Click the drop-down list to select the service type.
Slot Bind Type	The mode for the slot adding the service VLAN.	Includes Auto Bind and Manually Bind .	Compulsory	Click the drop-down list to select the slot adding mode.

3.3.1.2 Configuring the Inner VLAN at the Central Office End

Command function

Configure the inner VLAN parameters at the central office end when stacked VLANs at the central office end are used, so as to set limit to and manage the uplink port services.

Access method

Right-click the HSWA card in the **Object Tree** pane and select **VLAN Config** → **Local VLAN** → **Local End Service Inner VLAN** from the shortcut menu to access the **Local End Service Inner VLAN** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Service Name	The name for the AN5116-06B uplink port service VLAN.	The service name configured in the local VLAN tab.	Compulsory	Click the drop-down list to select the service name.
Starting inner VLAN ID	The starting ID for the AN5116-06B uplink port service inner VLAN.	The value range is from 1 to 4085 and the starting VLAN ID should not be larger than the end VLAN ID.	Compulsory	Double-click to enter the starting VLAN ID.
VLAN ID End	The end ID for the AN5116-06B uplink port service inner VLAN.	The value range is from 1 to 4085 and the starting VLAN ID should not be less than the end VLAN ID.	Compulsory	Double-click to enter the end VLAN ID.

3.3.1.3 Configuring VLAN Properties

Command function

The command is used to configure different VLAN ID properties.



Note:

If the local VLAN has been configured, the configured VLAN ID and service type will be displayed in the **VLAN Attribute Config** GUI directly.

Access method

Right-click the HSWA card in the Object Tree pane and select **VLAN Config** → **Local VLAN** → **VLAN Attribute Config** from the shortcut menu to access the VLAN Attribute Config window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
VLAN ID	The VLAN ID	The value range is 1 to 4085.	Compulsory	Double-click to enter the VLAN ID.
Vlan Type	The VLAN type is divided into two types according to the quantity of service virtual interfaces. ◆ The SIN VLAN only has one service virtual interface. ◆ The NUL VLAN has multiple service virtual interfaces.	Includes: SIN or MUL .	Compulsory	Click the drop-down list to select the VLAN type.
Service Type	The service type.	Includes: Data , IPTV , NGN , VoIP , VOD , CNCview or System .	Compulsory	Click the drop-down list to select the service type.
VLAN Role	The VLAN role is divided into General VLAN and Super VLAN.	Includes General VLAN or Super VLAN .	Compulsory	Click the drop-down list to select the VLAN role.
MVLAN FLAG	The multicast attribute of the identifying VLAN.	Includes MVLAN and Non MVLAN .	Compulsory	Click the drop-down list to select the VLAN flag.
MVLAN PRI	The priority of multicast message.	-	Read-only	-

3.3.1.4 Adding a Slot Port to a VLAN

Command function

The command is used to add the slot port to the Uplink Sub VLAN.



Note:

When **Slot Bind Mode** in the **Local VLAN config** GUI is set to **Manual**, the configuration of adding the slot port to the VLAN is valid.

Access method

Right-click the HSWA card in the **Object Tree** pane and select **VLAN Config**→**Local VLAN**→**Add Slot Port to VLAN** from the shortcut menu to access the **Add Slot Port to VLAN** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number where the PON interface card at the central office end is located.	The value range is 1 to 8 or 11 to 18.	Compulsory	Click the drop-down list to select the slot number.
Port No.	The port number where the PON interface card at the central office end is located.	-	Compulsory	Click the drop-down list to select the port number.
Starting VLAN ID	The VLAN ID at the central office end of the PON interface card.	The configured VLAN ID at the central office end is equal to the end VLAN ID.	Compulsory	Double-click to enter the starting VLAN ID.
VLAN ID End	The VLAN ID at the central office end of the PON interface card.	The configured VLAN ID at the central office end is equal to the end VLAN ID.	Compulsory	Double-click to enter the end VLAN ID.
TAG/UNTAG	The TAG processing mode is TAG of the slot port VLAN.	TAG	Compulsory	Click the drop-down list to select TAG or UNTAG.

3.3.1.5 Configuring the VLAN IP

Command function

The command is used to configure the IP address of the Super VLAN.



Note:

Before configuring the IP address of the Super VLAN, bind the Super VLAN with the Sub VLAN in the **Bind Service VLAN to Super VLAN** tab.

Access method

Right-click the HSWA card in the **Object Tree** pane and select **VLAN Config**→**Local VLAN**→**Configure VLAN IP** from the shortcut menu.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
VLAN ID	Super VLAN's VLAN ID.	Bind the Sub VLAN with the Super VLAN in the Bind Service VLAN to Super VLAN .	Compulsory	Double-click to enter the VLAN ID.
Primary IP Address	The primary IP address of the Super VLAN.	-	Compulsory	Double-click to enter the IP address, and click the drop-down list to select the subnet mask.
Secondary IP Address	The standby IP address should be configured when one Super VLAN supports multiple IP network segments.	-	Optional	Double-click to enter the IP address, and click the drop-down list to select the subnet mask.

3.3.1.6 Binding the Service VLAN to the Super VLAN

Command function

The command is used to configure the binding relationship between the Super VLAN and the Sub VLAN. One Super VLAN can be bound with one or more Sub VLANs.



Note:

After configuring the IP address of the Super VLAN, delete the IP configuration of the Super VLAN in the **Configure VLAN IP** tab and the Sub VLAN which is bound with Super VLAN can be changed.

Access method

Right-click the HSWA card in the **Object Tree** pane and select **VLAN Config**→**Local VLAN**→**Bind Service VLAN to Super VLAN** from the shortcut menu to access the **Bind Service VLAN to Super VLAN** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
SuperVLAN ID	Super VLAN's VLAN ID.	Selects the Super VLAN configured in the Vlan Attribute Config .	Compulsory	Click the drop-down list to select the SuperVLAN ID.
Bind Service VLAN ID	The Super VLAN's VLAN ID.	The value should be selected in the Sub VLAN configured in Local End Service VLAN tab.	Compulsory	Click the drop-down list to select the VLAN ID.

3.3.2 Configuring the CVLAN before the HG Translation

Command function

The command is used to configure multiple service VLAN ID values for the home gateway. When the data message uploads to the ONU, the ONU translates the service VLAN ID.



Note:

The command is only used for the Beijing resource management system.

Access method

Right-click the HSWA card in the **Object Tree** pane and select **VLAN Config**→**HG CVLAN before Translation** from the shortcut menu to access the **HG CVLAN before Translation** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Service Type	The service type of the home gateway.	-	Read-only	-
HG Service VLAN ID	Configures multiple service VLAN ID for the home gateway.	The value range is 1 to 4085.	Compulsory	Double-click to enter the VLAN ID value.

3.3.3 The GPON OLT VLAN Operation Table

Command function

The command is used to convert users' VLAN ID of the OLT uplink data message and add the outer VLAN ID, so as to realize the data service's QinQ function.



Note:

The command is only valid for the AN5116–06B GPON equipment.

Access method

Right-click the HSWA card in the **Object Tree** pane and select **VLAN Config** → **GPON OLT VLAN Operation Table** from the shortcut menu to access the **GPON OLT VLAN Operation Table** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Domain ID	The sequence number of the GPON OLT VLAN operation table.	-	Read-only	-
Domain Name	The name of the GPON OLT VLAN operation table	The value range is from 1 to 16 characters with letters, numbers and underline. Creates up to 4096 operation tables.	Compulsory	Double-click to enter the table name.

Item	Description	Value Range / Requirement	Property	Configuration Method
VLAN ID	The ID value of inner VLAN before translation.	The value range is 1 to 4085.	Compulsory The VLAN identifier is consistent with outer VLAN configured in the ONU port service configuration window.	Double-click to enter the VLAN ID value.
Priority	The priority value of inner VLAN before translation.	The value range is 0 to 7.	Optional. The value is null when the inner VLAN is not translated.	Double-click to enter the priority value.
Outer VLAN Cos	The priority of the SVLAN.	The value range is 0 to 7.	Optional. The value is null when the outer VLAN is not added.	Double-click to enter the priority value.
Outer VLAN Vid	Adds the SVLAN ID value.	The value range is 1 to 4085.	Optional. The value is null when the outer VLAN is not added.	Double-click to enter the VLAN ID value.
inner VLAN Cos	The priority value of inner VLAN after translation.	The value range is 0 to 7.	Optional. The value is null when the inner VLAN is not translated.	Double-click to enter the priority value.
inner VLAN Vid	The ID value of inner VLAN after translation.	The value range is 1 to 4085.	Optional. The value should be consistent with the VLAN identifier value or null when the inner VLAN is not translated.	Double-click to enter the VLAN ID value.

3.3.4 Configuring a QinQ Profile

Command function

For a FTTB ONU, the command is used to configure the QinQ profile. The QinQ profile is used to provide filtering conditions for the uplink service flow that needs configuration of outer data service VLAN on the ONU.

The QinQ profile configuration is used to filter the uplink service flow on the ONU port of a FTTB ONU, but it is invalid for a FTTH ONU.

In a QinQ profile, users can configure up to eight rule domain types at the same time.

Access method

Right-click the HSWA card in the **Object Tree** pane and select **VLAN Config** → **QinQ Profile** from the shortcut menu to access the **QinQ Profile** window.

Parameter

Item		Description	Value Range / Requirement	Property	Configuration Method
Serial No.		The sequence number of the QinQ profile	-	Read-only	-
Profile Name		QinQ Profile Name Creates up to 1024 profiles.	The value range is from 1 to 16 characters with letters, numbers and underline.	Compulsory	Double-click to enter the profile name.
Rule Type	The rule type	The rule type of the QinQ profile.	Includes: <ul style="list-style-type: none"> ◆ Base on SMAC. ◆ Based On DMAC. ◆ Based On SIP. ◆ Based On DIP. ◆ Based On VLAN ID. ◆ Based On Ethernet. ◆ Based On IP Protocol Type. ◆ Based On Ethernet Priority. ◆ Based On IP TOS/DSCP (IPv4). ◆ Based On L4 SPORT. ◆ Based On L4 DPORT. 	Compulsory	Click the drop-down list to select the rule type.
	Operator	According to the appointed value of Rule Type , users can select one of the following seven operators:	=, !=, <=, >=, Exist Match, Not Exist Match and Always Match.		Click the drop-down list to select the value.

Item	Description	Value Range / Requirement	Property	Configuration Method
Rule Value	According to the appointed value of Rule Type , users can set the corresponding rule domain value.	-		Double-click to enter the value of the rule domain.

3.3.5 Configuring an OLT QinQ Domain

Command function

The command is used to process the layer 1 to layer 4 VLAN tags of the uplink service flow to the OLT. The processing operations include transparent transmission, tagging, translation, etc.

In an OLT QinQ domain, users can configure up to eight (EPON) / four (GPON) uplink / downlink rule clauses at the same time.

Access method

Right-click the HSWA card in the **Object Tree** pane and select VLAN ConfigQinQOLT QinQ Domain from the shortcut menu to access the **OLT QinQ Domain** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Serial No.	The automatic generation sequence number.	-	Read-only	-
Domain Name	The OLT QinQ domain name. Creates up to 1024 OLT QinQ domains.	The value range is from 1 to 16 characters with letters, numbers and underline.	Compulsory	Double-click to enter the domain name.

Item	Description	Value Range / Requirement	Property	Configuration Method
Service Type	The type of the uplink service to the OLT.	Includes Single and Share . The default value is single .	Compulsory It is recommended to use the default value.	Click the drop-down list to select the service type.
Up Clause	Bind Type	Binds the uplink data with the port according to the data type.	Compulsory	Click the drop-down list to select the bind type.
	Operator	According to the appointed value of Bind Type, users can select one of the following eight operators:		Click the drop-down list to select the value.
	Bind Data	According to the appointed value of bind type, users can set the corresponding bind value.		Double-click to enter the bind value.
Down Clause	Bind Type	Binds the downlink data with the port according to the data type.	Compulsory	Click the drop-down list to select the bind type.
	Operator	According to the appointed value of Bind Type, users can select one of the following eight operators:		Click the drop-down list to select the value.
	Bind Data	According to the appointed value of Bind Type , users can set the corresponding bind value.		Double-click to enter the bind value.

Item	Description	Value Range / Requirement	Property	Configuration Method
Old_CVLAN Low	The VLAN ID value that has been transmitted transparently in uplink direction.	<p>The value range is 0 to 4085.</p> <p>When Action is set to Translation, this parameter refers to the pre-translation VLAN ID value.</p> <p>When Action is set to Transparent, this parameter has the following meanings:</p> <ul style="list-style-type: none"> ◆ 0 indicates that the VLAN of this layer does not exist (for layer 1 of a subscriber, its VLAN ID cannot be set to 0). ◆ A certain value between 1 and 4085 indicates that the corresponding VLAN ID is transmitted transparently. ◆ Null indicates that the VLAN ID is transmitted transparently fully, without any processing. 	Optional. When Action is set to Add , this parameter is unconfigurable.	Double-click to enter the VLAN value.
Old_CVLANCosLow	The VLAN priority value that has been transmitted transparently in uplink direction.	<p>The value range is 0 to 7. 7 is the highest priority while 0 is the lowest priority.</p> <p>When Action is set to Translation, this parameter refers to the pre-translation VLAN priority value.</p> <p>When Action is set to Transparent, this parameter refers to the priority value of the original customer VLAN that has been transmitted transparently in uplink direction.</p>	Optional. When Action is set to Add , this parameter is unconfigurable.	Double-click to enter the priority value.

Item	Description	Value Range / Requirement	Property	Configuration Method
Action	Corresponds to the value of layer N of the customer VLAN. If layer N of the customer VLAN has parameters, Action should be set to Transparent or Translate . If layer N of the customer VLAN has no parameters, Action should be set to Transparent or Add .	Includes Transparent , Translation and Add .	Compulsory	Click the drop-down list to select the action.
TPID	The TPID of the VLAN tag.	The value range is 1 to 65534. The default value is 33024.	Compulsory It is recommended to use the default value.	Double-click to enter the TPID of the VLAN.
COS	The priority of the newly-added VLAN.	The value range is 0 to 7. 7 is the highest priority while 0 is the lowest priority. When Action is set to Translation , this parameter refers to the post-translation VLAN priority value. When Action is set to Add , this parameter refers to the priority value of the newly-added VLAN.	Optional. When Action is set to Transparent , this parameter is unconfigurable.	Double-click to enter the priority value.
New VID	The ID value of the newly-added VLAN.	The value range is 1 to 4085. When Action is set to Translation , this parameter refers to the post-translation VLAN ID value. When Action is set to Add , this parameter refers to the ID value of the newly-added VLAN.	Optional. When Action is set to Transparent , this parameter is unconfigurable.	Double-click to enter the VLAN value.

3.3.6 Binding an EPON QinQ Profile

Command function

The command is used to check the binding relationship between the ONU and the OLT QinQ domain.

Access method

Right-click the HSWA card in the **Object Tree** pane and select **VLAN Config**→**OLT QinQ Domain** from the shortcut menu to access the **EPON QinQ Domain Attach** tab.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Domain Name	The OLT QinQ domain name.	-	Compulsory	Double-click to enter the domain name.
Action	Binds or unbinds the OLT QinQ domain.	Includes: attach or detach .	Compulsory	Click the drop-down list to select attach or detach.
Slot No.	The number of the slot that installs the PON interface card.	The value range is 1 to 8 or 11 to 18.	Compulsory	Click the drop-down list to select the slot number.
PON NO.	The PON port number where the ONU is located.	The value range is 1 to 8.	Compulsory	Double-click to enter the PON port number.
ONU No.	The authorization number of the ONU which binds with the OLT QinQ domain.	The value range is 1 to 128.	Compulsory	Double-click to enter the ONU number.

3.3.7 Managing the VLAN

Command function

The command is used to check or modify related configurations, such as management VLAN and IP management of the equipment uplink port.



Note:

Configure the management VLAN first when in the in-band mode.

Access method

Right-click the HSWA card in the **Object Tree** pane and select **VLAN Config** → **Manage VLAN** from the shortcut menu.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Name	The VLAN Name	-	Read-only	-
VLAN ID	The uplink port VLAN ID management.	-	Read-only	-
IP Address	The IP address of the in-band network management interface. Sets via the command line or modifies in the network management system.	-	Optional	Double-click to enter the IP address.
Mask	The subnet mask of the in-band network management interface. Sets via the command line or modifies in the network management system.	-	Optional	Click the drop-down list to select the mask.
Gateway	The gateway address of the in-band network management interface. Sets via the command line or modifies in the network management system.	-	Optional	Double-click to enter the gateway address.
Mac Address	The corresponding MAC address of the in-band network management interface.	-	Read-only	-
Portlist	The corresponding uplink port number of the VLAN management.	-	Read-only	-
Tag	The TAG attribute of VLAN management	-	Read-only	-
VLAN type	The type of VLAN management is single-tagged VLAN management and double-tagged VLAN management.	-	Read-only	-
Inner VLAN ID	This item displays inner VLAN ID management if the VLAN type is double-tagged VLAN management. This item displays null if the VLAN type is single-tagged VLAN management.	-	Read-only	-

3.4 Configuring Voice Service

3.4.1 Configuring the NGN Uplink Interface

Command function

The command is used to configure the ONU voice service and related parameters in the SoftSwitch communication.

Access method

Right-click the HSWA card in the **Object Tree** pane. Select **Voice Config**→**NGN Interface** from the shortcut menu to access the **NGN Interface** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Signalling Service Name	Used to identify the name of the NGN voice service VLAN of a user at the OLT side.	The value should be selected in the VLAN names configured in service VLAN data of the local VLAN .	Compulsory	Click the drop-down list to select the signalling service name.
Protocol Type	The protocol type of the softswitch platform.	Includes MGCP, H.248 and SIP .	Compulsory	Click the drop-down list to select the protocol type.
MGC1 IP Address/Standby SIP Register Server Address	The IP address or domain name address of the soft switch platform 1. When the protocol type is SIP, the IP address is the standby SIP register server address.	The value range is the IP address or the domain name.	Compulsory	Double-click to enter the MGC1 IP Address/Standby SIP Register Server Address.

Item	Description	Value Range / Requirement	Property	Configuration Method
MGC1 Port/Standby SIP Register Server Port	The protocol port number of the softswitch platform 1. When the protocol type is SIP, the port number is the standby SIP register server port number.	The value range is 1024 to 65535. ◆ When the protocol type is H.248, the default port is 2944. ◆ When the protocol type is MGCP, the default port is 2727. ◆ When the protocol type is SIP, the default port is 5060.	Compulsory	Double-click to enter the MGC1 port/standby SIP register server port.
MGC2 IP Address/Standby SIP Proxy Server Address	The IP address or domain name address of the soft switch platform 2. When the protocol type is SIP, the port number is the standby SIP proxy server port number.	The value range is the IP address or the domain name.	Compulsory	Double-click to enter the MGC2 IP address/standby SIP proxy server address.
MGC2 Port/Standby SIP Proxy Server Port	The protocol port number of the softswitch platform 2. When the protocol type is SIP, the port number is the standby SIP proxy server port number.	The value range is 1024 to 65535. ◆ When the protocol type is H.248, the default port is 2944. ◆ When the protocol type is MGCP, the default port is 2727. ◆ When the protocol type is SIP, the default port is 5060.	Compulsory	Double-click to enter the MGC2 port/standby SIP proxy server port.
MGC3 Address	The IP address or domain name address of the soft switch platform 3.	The value range is the IP address or the domain name.	Compulsory The parameter is unconfigurable when the protocol type is SIP.	Double-click to enter the MGC3 address.

Item	Description	Value Range / Requirement	Property	Configuration Method
MGC3 Port	The protocol port number of the softswitch platform 3.	The value range is 1024 to 65535. <ul style="list-style-type: none"> ◆ When the protocol type is H.248, the default port is 2944. ◆ When the protocol type is MGCP, the default port is 2727. 	Compulsory The parameter is unconfigurable when the protocol type is SIP.	Double-click to enter the MGC3 port.
Keep-alive	The Keep-alive function is to detect whether the communication between the MG and the MGC is normal. After enabling the function, the corresponding alarm information display in the network management system when the communication between the MG and the MGC interrupts.	Includes: Disable , Enable Initiative and Enable Passive . The default setting is Disable . <ul style="list-style-type: none"> ◆ Disable: Closes the keep-alive function. ◆ Enable Initiative: The MG transmits the keep-alive command automatically to the MGC. ◆ Enable Passive: The MGC transmits the keep-alive command to the MG. The MG detects whether to receive the command. 	Compulsory	Click the drop-down list to select the keep-alive mode.
Master DNS Server	The IP address of the master DNS server should be configured if the MGC address is in the domain name mode.	The common Internet IP address	Optional	Double-click to enter the IP address of the master DNS server.
Slave DNS Server	The IP address of the slave DNS server should be configured if the MGC address is in the domain name mode.	The common Internet IP address	Optional	Double-click to enter the IP address of the slave DNS server.

Item	Description	Value Range / Requirement	Property	Configuration Method
DHCP	The DHCP switch When the DHCP is enabled, all ONUs which use the uplink port obtain the public network IP address in the DHCP mode. The configured static IP address is invalid.	Includes enable/disable . The default value is Disable .	Compulsory	Click the drop-down list to select Enable or Disable.
SIP Registrar Server Address	The address of the SIP register server.	The value range is the IP address or the domain name.	Optional. The parameter is unconfigurable when the protocol type is H.248 or MGCP.	Double-click to enter the IP address or domain name address of the SIP register server.
SIP Register Server Port	The port number of the SIP register server.	The value range is 1024 to 65535. The default value is 5060.	Optional. The parameter is unconfigurable when the protocol type is H.248 or MGCP.	Double-click to enter the SIP register server port number.
SIP Proxy Server Address	The address of the SIP proxy server.	The value range is the IP address or the domain name.	Optional. The parameter is unconfigurable when the protocol type is H.248 or MGCP.	Double-click to enter the SIP proxy server address.

Item	Description	Value Range / Requirement	Property	Configuration Method
SIP Proxy Server Port	The port number of the SIP proxy server.	The value range is 1024 to 65535. The default value is 5060.	Optional. The parameter is unconfigurable when the protocol type is H.248 or MGCP.	Double-click to enter the SIP proxy server port number.
SIP Expires(S)	The refresh time of the SIP protocol registering	The value range is 120 to 86400. The unit is second. The default value is 3600.	Optional. The parameter is unconfigurable when the protocol type is H.248 or MGCP.	Double-click to enter the SIP protocol time-out duration.

3.4.2 Configuring the NGN Uplink PPPoE

Command function

The command is used to configure the ONU to dynamically obtain the IAD IP in the PPPoE mode. This item need not to be configured when the static IP is used or when users obtain dynamically the IP in the DHCP mode.

Access method

Right-click the HSWA card in the **Object Tree** pane. Select **Voice Config**→**PPPoE With NGN Uplinked** from the shortcut menu to access the **PPPoE With NGN Uplinked** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The number of the slot containing the interface card that the ONU is connected with.	The value range is 1 to 8 or 11 to 18.	Compulsory	Double-click to enter the slot number.
PON NO.	The PON number where the ONU is located.	The value range is 1 to 8.	Compulsory	Double-click to enter the PON port number.
ONU No.	The authorization number of the ONU.	The value range is 1 to 128.	Compulsory	Double-click to enter the ONU number.
PPPoE Enable	The PPPoE enable switch. Open the ONU (IAD)'s PPPoE dialing function to obtain the IAD IP address, so as to communicate with the MGC.	Includes enable/disable . The default value is Disable .	Compulsory	Click the drop-down list to select Enable or Disable.
PPPoE User Name	The name of the PPPoE subscriber.	Enters up to 16 characters.	Optional. The parameter is unconfigurable when disabling the PPPoE.	Double-click to enter the PPPoE user name.
PPPoE User Password	The PPPoE user password.	Enters up to 16 characters.	Optional. The parameter is unconfigurable when disabling the PPPoE.	Double-click to enter the PPPoE password.

3.4.3 Configuring the NGN Uplink User Data

Command function

The command is used to configure the local media's gateway parameters of the ONU voice services.

Access method

Right-click the HSWA card in the **Object Tree** pane. Select **Voice Config**→**User Data With NGN Uplinked** from the shortcut menu to access the **User Data With NGN Uplinked** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Signalling Service Name	Used to identify the name of the NGN voice service VLAN of a user at the OLT side.	The value should be selected in the VLAN names configured in Local End Service VLAN .	Compulsory	Click the drop-down list to select the signalling service name.
User index	The system inner logical number. This item is used in the system inner configuration index and is not the telephone number defined by the real softswitch.	The value range is from 0 to 99999999. It is recommended to configure this parameter into the telephone number defined by the softswitch.	Compulsory	Double-click to enter the telephone number.
The public network IP address of the ONU.	The static public network IP address of the ONU. When the DHCP or PPPoE is enabled, the ONU will use the dynamically configured IP address to overwrite the configured the public network IP address, but this parameter must be configured.	-	Compulsory	Double-click to enter the ONU public network IP address.
The public network IP mask of the ONU.	The public network IP mask of the ONU. The default mask is 255.255.0.0.	-	Compulsory	Click the drop-down list to select the public network IP mask of the ONU.
The public IP gateway of the ONU.	The public IP gateway of the ONU.	-	Compulsory	Double-click to enter the ONU public network IP gateway.

Item	Description	Value Range / Requirement	Property	Configuration Method
End Point Domain Name/SIP User Name Suffix	The domain name of the gateway. If the SIP authentication user name exceeds 16 characters and the MGC protocol type is SIP, users should fill the suffix of the user name.	-	Optional	Double-click to enter the endPoint domain name/SIP user name suffix.
ONU Protocol Port NO.	The ONU protocol port number.	<ul style="list-style-type: none"> ◆ When the protocol type is H.248, the default port is 2944. ◆ If the protocol type is MGCP, the default value is 2427. ◆ If the protocol type is MGCP, the default value is 5060. 	Compulsory	Double-click to enter the ONU protocol port.
EndPoint User Name/SIP telephone No.	If the H.248/MGCP protocol is used, the default value of this parameter is the TID NAME. If the SIP protocol is used, the default value of this parameter is the user telephone number.	-	Compulsory	Double-click to enter the endPoint user name/SIP telephone number.
SIP User Name	The user name authenticated by the SIP terminal and the SIP register server.	-	Optional. The parameter is unconfigurable when the protocol type is H.248 or MGCP.	Double-click to enter the SIP user name.
SIP User Password	The password authenticated by the SIP terminal and the SIP register server.	-	Optional. The parameter is unconfigurable when the protocol type is H.248 or MGCP.	Double-click to enter the SIP protocol authenticated password.

3.4.4 Configuring the NGN Uplink DHCP

Command function

The command is used to configure the ONU to obtain the voice service IP via the DHCP mode with the Option 60 identifier.

Access method

Right-click the HSWA card in the **Object Tree** pane. Select **Voice Config**→**DHCP With NGN Uplinked** from the shortcut menu to access the **DHCP With NGN Uplinked** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Serial No.	The automatic generation sequence number.	-	Read-only	-
Slot No.	The number of the slot containing the interface card that the ONU is connected with.	The value range is 1 to 8 or 11 to 18.	Compulsory	Double-click to enter the slot number.
PON NO.	The PON number where the ONU is located.	The value range is 1 to 8.	Compulsory	Double-click to enter the PON port number.
ONU No.	The authorization number of the ONU.	The value range is 1 to 128.	Compulsory	Double-click to enter the ONU number.
DHCP Enable	The DHCP global switch When the DHCP is enabled, the IP obtained dynamically overwrites the ONU public network IP.	Includes enable/disable . The default value is Disable .	Compulsory	Click the drop-down list to select Enable or Disable.
DHCP Option60 Enable	Enables / disables the DHCP Option60 function. When the DHCP Option60 function is enabled, the system will transmit DHCP packets with Option60.	Includes enable/disable . The default value is Disable .	Optional	Click the drop-down list to select Enable or Disable.
DHCP Option60 Value	The suffix of the DHCP Option60 identifier.	Enters up to 32 character strings.	Optional	Double-click to enter a string.

3.4.5 Configuring the NGN Heartbeat Parameters

Command function

The command is used to configure the heartbeat interval and heartbeat time-out controlled by the media gateway of the ONU voice service.

Access method

Right-click the HSWA card in the **Object Tree** pane. Select **Voice Config**→**Keep Alive** from the shortcut menu to access the **Keep Alive** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Signalling Service Name	Used to identify the name of the NGN voice service VLAN of a user at the OLT side.	The value should be selected in the VLAN names configured in Local End Service VLAN .	Compulsory	Click the drop-down list to select the signalling service name.
Alive Interval (s)	The period of transmitting the heartbeat message.	The value range is 1 to 43200. The unit is second. The default value is 30.	Compulsory	Double-click to enter the heartbeat interval.
Alive Times	The maximum time-out that the IAD transmits the heartbeat to the MGC. If the value exceeds the Alive Times, the IAD loses communication with the MGC and transmits the registration to the standby MGC.	The value range is from 1 to 120. The unit is times. The default value is 3.	Compulsory	Double-click to enter the heartbeat times.

3.4.6 Configuring the NGN Registration Parameters

Command function

The command is used to configure the related parameters transmitting the registration packet to the NGN platform.

Access method

Right-click the HSWA card in the **Object Tree** pane. Select **Voice Config**→**NGN Register Configuration** from the shortcut menu to access the **NGN Register Configuration** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Service Name	The name of created NGN voice service.	-	Compulsory	Click the drop-down list to select the service name.
NGN Register Timeout	The time when the equipment registers to the NGN platform.	The value range is 1 to 7200. The unit is second. The default value is 30.	Compulsory	Double-click to enter the NGN registration time.
NGN Register Packets	The number that the equipment transmits registration packets to the NGN platform.	The value range is 0 to 120. The unit is second. The default value is 0.	Compulsory	Double-click to enter the NGN registration packets.
NGN Register Interval(s)	The interval that the equipment transmits registration packets to the NGN platform.	The value range is 1 to 3600. The unit is second. The default value is 30.	Compulsory	Double-click to enter the NGN registration interval.

3.4.7 Binding the IAD Softswitch Intercommunication Profile

Command function

The command is used to deliver the parameter profiles configured by the softswitch intercommunication profile command to the ONU

Access method

Right-click the HSWA card in the **Object Tree** pane. Select **Voice Config**→**IAD Softswitch Profile Binding** from the shortcut menu to access the **IAD Softswitch Profile Binding** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configura- tion Method
Slot No.	The number of the slot containing the interface card that the ONU is connected with.	The value range is 1 to 8 or 11 to 18.	Compulsory	Double-click to enter the slot number.
PON NO.	The PON number where the ONU is located.	The value range is 1 to 8.	Compulsory	Double-click to enter the PON port number.
ONU No.	The authorization number of the ONU.	The value range is 1 to 128.	Compulsory	Double-click to enter the ONU number.
Profile Name	The name of the softswitch platform interconnection parameter profile.	Selects a profile name that has been configured in the IAD Softswitch Profile ID .	Compulsory	Click the drop-down list to select the profile name.

3.4.8 Configuring the IAD MD5

Command function

When the gateway control protocol is the H.248 protocol, the IAD MD5 configuration command is used to configure the parameters related to the MD5 authentication.

Access method

Right-click the HSWA card in the **Object Tree** pane. Select **Voice Config**→**IAD MD5 Configuration** from the shortcut menu to access the **IAD MD5 Configuration** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Serial No.	The automatic generation sequence number.	-	Read-only	-
EndPoint Domain Name	The domain name address of the gateway, used in communication between the IAD and the gateway.	Select its value from the endpoint domain names configured in the User Data With NGN Uplinked window.	Compulsory	Double-click to enter the endpoint domain name.
MD5 State	Enables or disables the MD5 authentication function of the IAD.	Includes enable/disable . The default value is Disable .	Compulsory	Click the drop-down list to select the MD5 status.
MGID	The number identifier of the MG, including the vendor and equipment information.	The maximum length of its value is 32 characters.	Compulsory	Double-click to enter the MGID value.
KEY	The MD5 public key.	The maximum length of its value is 32 characters.	Compulsory	Double-click to enter the key.
Base g	The base number g of logarithm exchange.	The maximum length of its value is 16 characters. The characters that can be used include 0 to 9, a to f, A to F .	Compulsory	Double-click to enter the base number g of logarithm exchange.
Prime p	The prime number p of logarithm exchange.	The maximum length of its value is 256 characters. The characters that can be used include 0 to 9, a to f, A to F .	Compulsory	Double-click to enter the prime number p of logarithm exchange.

3.4.9 Configuring Digitmap

Command function

When the SIP protocol is used, the digitmap configuration command is used to configure the digitmap. When a subscriber dials, the gateway matches the dialed digits against the numbering scheme in the digitmap and reports to the MGC when a match is found.

Access method

Right-click the HSWA card in the **Object Tree** pane. Select **Voice Config**→
DigitMap from the shortcut menu to access the **DigitMap** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
DigitMap	The SIP protocol digitmap, used to match the numbering scheme when dialing is performed by a subscriber.	The maximum length of its value is 1024 characters. The characters that can be used include 0 to 9, A to F, X; S, L, ., , -, bracket/ parenthesis.	Compulsory	Double-click to enter the SIP protocol digitmap.

3.4.10 Configuring the PPPoE Authentication Mode

Command function

The command is used to configure the ONU to dynamically obtain the IAD IP in the PPPoE mode. This item need not to be configured when the static IP is used or when users obtain dynamically the IP in the DHCP mode.

Access method

Right-click the HSWA card in the **Object Tree** pane. Select **Voice Config**→**PPPoE Authentication Mode** from the shortcut menu to access the **PPPoE Authentication Mode** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The number of the slot containing the interface card that the ONU is connected with.	The value range is 1 to 8 or 11 to 18.	Compulsory	Double-click to enter the slot number.
PON No.	The PON number where the ONU is located.	The value range is 1 to 8.	Compulsory	Double-click to enter the PON port number.

Item	Description	Value Range / Requirement	Property	Configuration Method
ONU No.	The authorization number of the ONU.	The value range is 1 to 128.	Compulsory	Double-click to enter the ONU number.
PPPoE Mode	<p>The authentication mode for the PPPoE subscribers.</p> <ul style="list-style-type: none"> ◆ AUTO: Automatically selects the authentication mode. ◆ CHAP: Checks the subscriber's identity periodically via the Three-way Handshake. ◆ PAP: Password Authentication Protocol. Authenticates the user name and password. 	Includes AUTO , CHAP and PAP . The default mode is AUTO .	Compulsory	Click the drop-down list to select the PPPoE authentication mode.

3.4.11 Activating a NGN Voice Port Automatically

Command function

The NGN voice port automatic activation switch command is used to enable / disable the automatic activation function of a voice port.

Access method

Right-click the designated system in the **Object Tree** pane, and select **Voice Config**→**NGN Voice Port Auto Activation Switch** in the shortcut menu. Then the **NGN Voice Port Auto Activation Switch** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Activation Switch	<p>Enables / disables the automatic activation function of a voice port. A voice port is enabled by default. If the automatic activation function is disabled, all voice ports will be disabled, and the voice services will be interrupted.</p>	Includes enable/disable . The default value is Enable .	Compulsory	Click the drop-down list to select Enable or Disable.

3.4.12 Configuring a Private Network Segment

Command function

When the private network addresses used for internal voice communication of an ONU or the PUBA card conflict with the addresses in the planned data, users can execute the private network segment configuration command to modify the IP addresses of the private network used for internal voice communication.

Access method

Right-click the HSWA card in the **Object Tree** pane. Select **Voice Config**→**Private Subnet Configuration** from the shortcut menu to access the **Private Subnet Configuration** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Voice Private IP	The ONU and the PUBA card voice private network IP address to be modified.	The default IP address is 10.27.255.255.	Optional	Double-click to enter the voice private network IP address.
Voice Private Mask	The ONU and the PUBA card voice private network mask to be modified.	The default mask is 255.255.0.0.	Optional	Click the drop-down list to select the voice private mask.

3.4.13 Configuring the OLT Voice Management Mode

Command function

The command is used to configure the OLT management mode of the voice service.

Access method

Right-click the HSWA card in the **Object Tree** pane. Select **Voice Config**→**OLT VoIP Manage Mode** from the shortcut menu to access the **OLT VoIP Manage Mode** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Voice Private IP	<p>The OLT's management mode of the voice service.</p> <ul style="list-style-type: none"> ◆ PUBA: The OLT has the inner communication with the ONU via the PUBA card and configures the voice service of the ONU. ◆ OLT CARD: The OLT has the inner communication with the ONU via the wire card and configures the voice service of the ONU. 	Includes PUBA and OLT CARD .	Compulsory	Click the drop-down list to select the voice management mode.

3.5 Time Management

3.5.1 Selecting the Synchronization Reference Source

Command function

The command is used to configure the synchronization reference source of the AN5116-06B.

Access method

Right-click the HSWA card in the **Object Tree** pane and select **Time Config** → **System Clock Source** from the shortcut menu to access the **System Clock Source** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The corresponding slot of the TDM card or the clock card of the equipment synchronization reference source.	The value range is 1 to 8 or 11 to 18.	Compulsory	Click the drop-down list to select the slot number.

3.5.2 Configuring Clock Modes

Command function

The command is used to configure the mode of the interface card to obtain the clock.

Access method

Right-click the HSWA card in the **Object Tree** pane and select **Time Config** → **Clock Mode** from the shortcut menu to access the **Clock Mode** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The corresponding slot of the interface card.	The value range is 1 to 8 or 11 to 18.	Compulsory	Click the drop-down list to select the slot number.
Clock Mode	The mode of the interface card to obtain clock.	Includes: Internal and system clock . ◆ Internal : The clock provided by the interface card's internal oscillator. ◆ system clock : The clock provided by the system synchronization reference source.	Compulsory	Click the drop-down list to select the clock mode.

3.5.3 Configuring Time Management

3.5.3.1 Configuring Timing Mode

Command function

The command is used to configure the timing mode of the AN5116-06B.

Access method

Right-click the HSWA card in the **Object Tree** pane and select **Time Config** → **Time Management** from the shortcut menu to access the **Time Method** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Time Method	The timing method used by the equipment. The SNMP timing mode uses the SNMP server time and is the EMS time. The NTP timing mode uses the NTP server time.	-	Read-only	-
Time zone hour	The migration hours value of the system time zone value and the GMT (Greenwich Mean Time).	GMT+8 Beijing Chongqing HongKong by default	Compulsory	Click the drop-down list to select the system time zone hour.
Time zone min	The migration minute value of the system time zone value and the GMT (Greenwich Mean Time).	The value range is 0 to 59. The default value is 0.	Compulsory	Double-click to enter the system zone minute value.

3.5.3.2 Configuring the SNMP Time System

Command function

The command is used to configure the IP address of the SNMP timing server and automatic timing interval of the system.

Access method

Right-click the HSWA card in the **Object Tree** pane and select **Time Config**→**Time Management** from the shortcut menu to access the **Time Method** window and click the **Sntp System Time Config** tab.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
EMS Syn. Interval (S)	The time interval for the system to synchronize itself with the network management server automatically.	The value range is 300 to 86400. The unit is second.	Compulsory	Double-click to enter the EMS Syn Interval.
AEMS Server Addr.	The IP address of the SNMP timing server.	-	Compulsory	Double-click to enter the network management server address.

3.6 Configuring Multicast Service

3.6.1 Selecting Multicast Version

Command function

The multicast version selection command is used to configure the version of the IGMP protocol used by the equipment. The IGMP protocol has three versions: IGMPv1 / v2 / v3; the IGMPv1 is defined by RFC1112, the IGMPv2 is defined by RFC2236, and the IGMPv3 is defined by RFC3376.

Access method

Right-click the HSWA card in the **Object Tree** pane and select **IGMP Config** → **IGMP Task** from the shortcut menu to access the **IGMP Task** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Igmp version	The version of the IGMP protocol used by the equipment.	Its value includes IGMP version 1/version 2 and IGMP version 3 .	Compulsory	Click the drop-down list to select the multicast protocol version.

3.6.2 The Multicast Profile and Port

3.6.2.1 Configuring a Multicast Profile

Command function

The multicast profile command is used to create a multicast profile and add multicast programs in the created profile. A multicast profile is used to configure the related parameters of a group of multicast programs. One multicast profile can be applied on multiple ONU ports at the same time.

Main purposes of a multicast profile are described as follows:

- ◆ In controllable mode, when setting the authorization of a subscriber watching multicast programs, users need to bind the multicast profile.
- ◆ In uncontrollable mode, when setting the group parameters of a certain multicast group is needed, users should operate as follows: First create a multicast profile, then add the designated multicast group in this multicast profile, and finally configure the group parameters.

Access method

Right-click the HSWA card in the **Object Tree** pane and select **IGMP Config** → **IGMP Profile and Port** from the shortcut menu to access the **IGMP Profile and Port** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Serial No.	The automatic generation sequence number.	-	Read-only	-
Profile Name	The name of the multicast profile.	Composed of letters, numbers, or underlines, and its maximum length is 20 characters.	Compulsory	Double-click to enter the profile name.

Item	Description	Value Range / Requirement	Property	Configuration Method
Auth group	The IP address of the multicast programs.	-	Compulsory	Double-click to enter the IP address of the multicast programs.
Authority	The authorization of a subscriber watching the designated multicast program. <ul style="list-style-type: none"> ◆ Normal: The subscriber can watch this multicast program with no restriction. ◆ Preview: The subscriber only can watch this multicast program in the appointed intervals. 	Includes Normal and Preview .	Compulsory	Click the drop-down list to select the authority.

3.6.2.2 Configuring Group Parameters

Command function

The command is used to configure the parameters of a multicast group. The parameters to be configured include: VLAN ID of downlink multicast program stream, VLAN ID of uplink multicast protocol message, multicast program stream bandwidth, preview parameters, etc.

Access method

Right-click the HSWA card in the **Object Tree** pane and select **IGMP Config** → **IGMP Profile and Port** from the shortcut menu to access the **Group Parameters** window and click the **Group Parameters** tab.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Auth group	The destination IP address of the multicast program stream.	-	Read-only Users need to configure this parameter in the Igmp Profile window.	-
Preview Counts (Times)	The times for a subscriber to preview the multicast program.	The value range is 0 to 16 and the unit is time. Its default value is the value configured in the Default Preview Parameter window.	Optional. When the authorization of the multicast program is Preview, this parameter is valid.	Double-click to enter the preview times.
Preview Time (Min)	The duration for a subscriber to preview the multicast program.	The value range is 0 to 254 and the unit is minute. Its default value is the value configured in the Default Preview Parameter window.	Optional. When the authorization of the multicast program is Preview, this parameter is valid.	Double-click to enter the preview duration.
Preview Interval (Min)	The interval for a subscriber to preview the multicast program twice.	The value range is 0 to 254 and the unit is minute. Its default value is the value configured in the Default Preview Parameter window.	Optional. When the authorization of the multicast program is Preview, this parameter is valid.	Double-click to enter the preview interval.
Preview Reset Interval (h)	The reset period of subscriber preview authority.	The value range is 0 to 254 and the unit is minute. Its default value is the value configured in the Default Preview Parameter window.	Optional. When the authorization of the multicast program is Preview, this parameter is valid.	Double-click to enter the preview reset time.
Preview Total Time (min)	The total duration for a subscriber to preview the multicast program.	The value range is 0 to 254 and the unit is minute. Its default value is the value configured in the Default Preview Parameter window.	Optional. When the authorization of the multicast program is Preview, this parameter is valid.	Double-click to enter the preview total duration.
Group Bandwidth (Kbit/s)	The bandwidth of the multicast program stream.	The value range is 0 to 30000. The unit is kbit/s.	Reserved	It is not recommended that users configure this parameter.

Item	Description	Value Range / Requirement	Property	Configuration Method
Group VLAN	The VLAN ID of the downlink multicast program stream.	The value range is 0 to 4085, and 4088. Its default value is the value configured in the Multicast VLAN window.	Compulsory	Double-click to enter the group VLAN ID.
Leave Delay (s)	The wait time from the moment a subscriber gives the multicast router a leaving protocol message to the moment when the leaving command becomes valid.	The value range is 0 to 300. The unit is second.	Optional. When the uncontrollable multicast mode is used, this parameter is valid.	Double-click to enter the Leave Delay.
Signalling VLAN	The VLAN ID of the uplink multicast protocol message.	The value range is 0 to 4095. The default value is 0.	Compulsory	Double-click to enter signaling VLAN.

3.6.2.3 Configuring Port Parameters

Command function

The command is used to configure the multicast-related parameters of an ONU port. The parameters to be configured include: controllability of the port, name of the profile bound to the port, maximum online group number on the port, etc.

Access method

Right-click the HSWA card in the **Object Tree** pane and select **IGMP Config** → **IGMP Profile and Port** from the shortcut menu to access the **Group Parameters** window and click the **Port Parameters** tab.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Serial No.	The automatic generation sequence number.	-	Read-only	-
Slot No.	The number of the slot containing the interface card that the ONU is connected with.	The value range is 1 to 8 or 11 to 18.	Compulsory	Click the drop-down list to select the value.
PON No.	The PON number where the ONU is located.	The value range is 1 to 8.	Compulsory	Double-click to enter the PON port number.
ONU No.	The authorization number of the ONU.	The value range is 1 to 64.	Compulsory	Double-click to enter the ONU number.
ONU Port No.	The FE port number of the ONU.	The value range is 1 to 24.	Compulsory	Double-click to enter the ONU number.
Control Switch	Sets controllability of the ONU port (controllable or uncontrollable). This parameter should be set to Controlled only when the controllable multicast mode is used.	Includes Controlled and UnControlled . The UnControlled by default.	Compulsory	Click the drop-down list to select controlled or uncontrolled.
Profile Name	The name of the multicast profile to be bound with the ONU port.	Selects a profile name that has been configured in the Igmp Profile .	Optional. When the uncontrollable multicast mode is used, this parameter is valid.	Click the drop-down list to select the profile name.

Item	Description	Value Range / Requirement	Property	Configuration Method
Leave Mode	<p>The mode of a subscriber under an ONU port leaving a multicast group.</p> <ul style="list-style-type: none"> ◆ FAST-LEAVE: In this mode, after a certain subscriber sends the leave message, the system will stop forwarding the multicast data stream to this subscriber terminal immediately. ◆ NON FAST-LEAVE: In this mode, after a certain subscriber sends the leave message, the ONU will transmit the specific group query message to the port receiving this leave message; if the join message of this subscriber terminal is not received in the query response time, the system will stop forwarding the multicast data stream to this subscriber terminal 	Includes NON FAST-LEAVE and FAST-LEAVE . FAST-LEAVE is set by default.	Compulsory	Click the drop-down list to select the mode.
Max Online Groups (Group)	The maximum number of multicast programs that can be online on the ONU port at the same time.	The value range is 0 to 254. The unit is counted by number. The default value is 32.	Compulsory	Double-click to enter maximum number of multicast programs that can be online on the ONU port at the same time.

Item	Description	Value Range / Requirement	Property	Configuration Method
Port Bandwidth (Kbit/s)	The bandwidth used for multicast service at the ONU port.	The value range is 0 to 100000. The unit is kbit/s. The default value is 0.	Reserved	It is not recommended that users configure this parameter.
Signal vlan	The VLAN ID of the uplink multicast protocol message passing the ONU port.	The value range is 0 to 4085. The default value is 0.	Compulsory	Double-click to enter signaling VLAN.

3.6.2.4 Configuring Multicast Protocol Parameters

Command function

The command is used to configure the IGMP protocol parameters. The parameters to be configured include: robustness index, parameters related to common query, parameters related to specific query, etc.

Access method

Right-click the HSWA card in the **Object Tree** pane and select **IGMP Config** → **IGMP Profile and Port** from the shortcut menu to access the **IGMP Profile** window and click the **IGMP Protocol Parameters** tab.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Robustness variable	The robustness parameter of the IGMP protocol stack in relation to the network packet loss. Refers to the times of sending the multicast downlink query message.	The value range is 2 to 16. The default value is 2.	Compulsory It is recommended to use the default value.	Double-click to enter the robustness index.
Query response interval (s)	The maximum interval of a subscriber responding to a common query command.	The value range is 1 to 255. The unit is second. The default value is 10.	Compulsory It is recommended to use the default value.	Double-click to enter the maximum interval of a subscriber responding to a common query command.

Item	Description	Value Range / Requirement	Property	Configuration Method
Last member query interval (s)	The interval of the equipment issuing a specific group query command.	The value range is 1 to 255. The unit is second. The default value is 1.	Compulsory It is recommended to use the default value.	Double-click to enter the interval of the equipment issuing a specific group query command.
Last member query count	The times of the equipment issuing a specific group query command.	The value range is 1 to 16. The default value is 2.	Compulsory It is recommended to use the default value.	Double-click to enter the times of the equipment issuing a specific group query command.
Query Interval (s)	The interval of the equipment transmitting a common query command.	The value range is 11 to 255. The unit is second. The default value is 125.	Compulsory It is recommended to use the default value.	Double-click to enter the interval of the equipment transmitting a common query command.
Group Membership Interval (s)	The aging time of a multicast member. If a multicast member does not respond during the set aging time, this multicast member will be deleted from the multicast group.	The value range is 0 to 65535. The unit is second. The default value is 260.	Compulsory It is recommended to use the default value.	Double-click to enter the aging time of a multicast member.

3.6.3 Multicast Cascade

3.6.3.1 Configuring a Multicast Cascade Port

Command function

The command is used to configure multicast cascade ports. When the AN5116-06B cascades multicast services of other equipment sets, users need to configure the AN5116-06B uplink port connected with multicast services of another equipment set as a cascade port.

Access method

Right-click the HSWA card in the **Object Tree** pane and select **IGMP Config**→
IGMP Cascade Ports from the shortcut menu to access the **IGMP Cascade Ports** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Cascade Ports No.	The number of the uplink port connected with the cascaded equipment.	-	Compulsory	Click the drop-down list to select the value.

3.6.3.2 Viewing the Uplink Port Information

Command function

The command is used to check the online multicast program information of the cascade uplink port.

Access method

Right-click the HSWA card in the **Object Tree** pane and select **IGMP Config**→
IGMP Cascade Port from the shortcut menu to access the **IGMP Cascade Port** window and click the **Online Uplink Ports Info** tab.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Serial No.	The automatic generation sequence number.	-	Read-only	-
Uplink Port No.	The Uplink port number.	-	Read-only	-
Type	The uplink port type <ul style="list-style-type: none"> ◆ Uplink port: An uplink port without multicast cascade. ◆ Cascade port: An uplink port with multicast cascade. 	-	Read-only	-
Group Address	The IP address of the online multicast program on the cascade port.	-	Read-only	-

3.6.3.3 Configuring the Uplink Port's Maximum Multicast Bandwidth

Command function

The command is used to configure an uplink port's maximum bandwidth used for the multicast service.

Access method

Right-click the HSWA card in the **Object Tree** pane and select **IGMP Config**→**IGMP Cascade Ports** from the shortcut menu to access the **Max Uplink IGMP Bandwidth** tab.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Uplink Bandwidth (Kbit/s)	The uplink port's maximum bandwidth used for the multicast service.	The value range is 0 to 7000000. The unit is kbit/s. The default value is 0.	Compulsory	Double-click to enter the uplink port's maximum bandwidth used for the multicast service.

3.6.4 Configuring Multicast Mode

Command function

The command is used to configure the multicast mode of the AN5116-06B.

Access method

Right-click the HSWA card in the **Object Tree** pane and select **IGMP Config**→**IGMP Mode** from the shortcut menu to access the **IGMP Mode** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
IGMP Mode	The multicast mode used by the AN5116-06B.	<p>Includes Proxy Mode, Snooping Mode, Proxy-snooping Mode, Controlled Mode, and Disable.</p> <ul style="list-style-type: none"> ◆ Proxy Mode: The multicast proxy equipment intercepts multicast protocol messages sent by subscribers and the router, and maintains its own multicast forwarding table, so as to act as the proxy between the multicast router and the host. In this mode, both the core switch card and the PON interface card use the IGMP proxy protocol. ◆ Snooping Mode: The multicast snooping equipment snoops multicast protocol messages between the router and the host, and maintains a multicast address table, so as to set up corresponding relationships between the multicast group and ports. The multicast snooping equipment snoops and forwards IGMP messages in fully transparent mode. In this mode, both the core switch card and the PON interface card use the IGMP snooping protocol. ◆ Proxy-snooping Mode: The integration of the proxy mode and the snooping mode. In this mode, the core switch card uses the IGMP proxy protocol, and the PON interface card uses the IGMP snooping protocol. ◆ Controlled Mode: The IGMP proxy protocol is used, and the system adds management and control functions on the authorization of a subscriber watching the multicast programs. ◆ Disable: The core switch card broadcasts the multicast messages, and the PON interface card uses the IGMP snooping protocol. 	Compulsory	Click the drop-down list to select the mode.

3.6.5 Configuring a Multicast VLAN

Command function

The command is used to configure the default multicast service VLAN for the AN5116-06B. If users do not set multicast service VLANs in the **Group Parameters** window for the multicast programs, all the multicast programs will belong to the default multicast service VLAN.

One multicast program can only belong to one multicast VLAN, and one multicast VLAN can include one multicast program or one multicast program group (a multicast program group refers to the set of multicast programs managed under a unified authorization).

Access method

Right-click the HSWA card in the **Object Tree** pane and select **IGMP Config** → **Multicast VLAN** from the shortcut menu to access the **Multicast VLAN** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
VLAN	The VLAN ID of the default multicast service VLAN. The multicast VLAN is used to identify the video multicast data stream; users can configure one or multiple VLANs dedicated for the multicast service, so as to isolate the multicast service from other services.	The value range is 0, 4085 to 4088. The default value is 4088.	Compulsory	Double-click to enter the multicast VLAN ID.

3.6.6 Configuring Dynamic Multicast VLAN Mode

Command function

The command is used to enable or disable the dynamic multicast VLAN function.

Access method

Right-click the HSWA card in the **Object Tree** pane and select **IGMP Config** → **Dynamic IGMP VLAN Mode** from the shortcut menu to access the **Dynamic IGMP VLAN Mode** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Enable/Disable	The dynamic multicast VLAN switch	Includes enable/disable . The default value is Disable .	Compulsory	Click the drop-down list to select Enable or Disable.

3.6.7 Configuring a Multicast Proxy IP Address

Command function

The command is used to configure the multicast proxy IP address of the AN5116-06B, and the multicast proxy IP address acts as the source IP address of the multicast protocol message sent by the AN5116-06B.

Access method

Right-click the HSWA card in the **Object Tree** pane and select **IGMP Config** → **IGMP Proxy IP** from the shortcut menu to access the **IGMP Proxy IP** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
IGMP Proxy's IP	The multicast proxy IP address of the AN5116-06B is the source IP address of the multicast protocol message sent by the AN5116-06B.	The default value is 10.25.14.57.	Optional. When IGMP Mode is set to Proxy Mode , Proxy-snooping Mode , or Controlled Mode , users need to configure this parameter.	Double-click to enter the multicast proxy IP address.

3.6.8 Configuring the SSM IP Address Range

Command function

The command is used to set the multicast IP address range of enabling a specific source multicast mode.

Access method

Right-click the HSWA card in the **Object Tree** pane and select **IGMP Config**→**IGMP SSM IP Address Range** from the shortcut menu.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
SSM-Mapping IP Address	The multicast IP address range of enabling a specific source multicast mode.	-	Compulsory	Double-click to enter the IP address, and click the drop-down list to select the subnet mask.

3.6.9 Configuring the Multicast SSM-Mapping Source IP Address

Command function

The command is used to set the multicast source IP address mapping in the IGMPv1 or IGMPv2 report message when the IGMP SSM Mapping function is enabled.

Access method

Right-click the HSWA card in the **Object Tree** pane and select **IGMP Config**→**IGMP SSM-Mapping Source IP Address** from the shortcut menu to access the **IGMP SSM-Mapping Source IP Address** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
SSM-Mapping IP Address	The multicast source IP address mapping in the IGMPv1 or IGMPv2 report message.	-	Compulsory	Double-click to enter the SSM-Mapping IP address.

3.6.10 Configuring Pre-join Groups

Command function

The command is used to configure the pre-join multicast programs. Set the multicast programs with highest viewing frequency as the pre-join multicast programs. The multicast programs stream will be linked to the equipment uplink port. When users need to view the multicast program, users can view it quickly.

Access method

Right-click the HSWA card in the **Object Tree** pane and select **IGMP Config** → **Pre-join Groups** from the shortcut menu to access the **Pre-join Groups** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Prejoin Group	The IP address of the prejoin multicast programs.	The default value is 224.0.1.0.	Compulsory	Double-click to input the IP address of the pre-join group.

3.6.11 Configuring Default Preview Parameters

Command function

The command is used to configure the default multicast preview parameters. The parameters to be configured include: preview times, preview duration, preview interval, etc. If users do not set preview parameters in the **Group Parameters** window for a certain multicast program, the subscribers can only preview this multicast program according to the default preview parameters.

Access method

Right-click the HSWA card in the **Object Tree** pane and select **IGMP Config** → **Default Preview Parameters** from the shortcut menu to access the **Default Preview Parameters** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Preview Counts (Times)	The times for a subscriber to preview the multicast program.	The value range is from 1 to 16. The unit is times. The default value is 4.	Optional. This parameter is valid only in controllable mode when the authorization of the multicast program is set to Preview.	Double-click to enter the preview times.
Preview Time (Min)	The duration for a subscriber to preview the multicast program each time.	The value range is 1 to 254. The unit is minute. The default value is 10 minutes.	Optional. This parameter is valid only in controllable mode when the authorization of the multicast program is set to Preview.	Double-click to enter the preview duration.
Preview Interval (Min)	The interval for a subscriber to preview the multicast program twice.	The value range is 1 to 254. The unit is minute. The default value is 30 minutes.	Optional. This parameter is valid only in controllable mode when the authorization of the multicast program is set to Preview.	Double-click to enter the preview interval.
Preview Reset Interval (h)	The reset period of subscriber preview authority.	The value range is 1 to 254. The unit is hour. The default value is 24 hours.	Optional. This parameter is valid only in controllable mode when the authorization of the multicast program is set to Preview.	Double-click to enter the preview reset time.
Preview Total Time (min)	The total duration for a subscriber to preview the multicast program.	The value range is 1 to 254. The unit is minute. The default value is 254 minutes.	Optional. This parameter is valid only in controllable mode when the authorization of the multicast program is set to Preview.	Double-click to enter the preview total duration.

3.6.12 Log Management

3.6.12.1 Configuring Log Time

Command function

The command is used to configure the time parameters of the multicast log. The multicast log is used to record joining or leaving a multicast group of subscribers.

When the multicast log automatic report function is enabled, users need to configure the multicast log time parameters.

When the multicast mode is set to Controlled Mode, the multicast log function is valid.

Access method

Right-click the HSWA card in the **Object Tree** pane and select **IGMP Config**→**Log Management** from the shortcut menu to access the **Log Parameters** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Ignore Time (s)	After a subscriber joins the multicast group, if his / her watching time is less than the log ignore time set by this parameter, the record on his / her joining / leaving will not be kept in the multicast log.	The value range is 0 to 60 and the unit is second. The default value is 0. This indicates that no matter a subscriber joins the multicast group for a long or short time, the record on his / her joining / leaving will always be kept in the multicast log.	Compulsory	Double-click to enter the log ignore time.
Generate interval (min)	After a subscriber joins the multicast group, if his / her watching duration exceeds the automatic log generation interval set by this parameter, the system will automatically generate a multicast record on his / her online in the multicast log.	The value range is 1 to 60. The unit is minute. The default value is 60 minutes.	Compulsory	Double-click to enter the automatic log generation interval.

3.6.12.2 Configuring Multicast Log Automatic Report

Command function

The command is used to enable / disable the multicast log automatic report function and configure the parameters related to this function. When the multicast log automatic report function is enabled, the multicast log can be reported to the FTP server automatically.

When the multicast mode is set to Controlled Mode, the multicast log function is valid.



Note:

Before enabling the multicast log automatic report function, users need to run the WFTPD.exe program successfully as follows: Type the user name, password, and the path saving the multicast log file correctly, and keep the WFTPD.exe program in the running status.

Access method

Right-click the HSWA card in the **Object Tree** pane and select **IGMP Config**→**Log Management** from the shortcut menu to access the **Log Parameters** window and click to select the **IGMP Log Auto Upload**.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Enable	Enables or disables the multicast log automatic report function.	Includes Enable and disable .	Compulsory	Click the drop-down list to select Enable or disable .
Interval (min)	The interval of the automatically uploaded multicast log.	The value range is 1 to 1440. The unit is minute. The default value is 0.	Optional. When the multicast log automatic report function is enabled, this parameter is valid.	Double-click to enter the interval.

Item	Description	Value Range / Requirement	Property	Configuration Method
Host IP	The IP address of the FTP server to which the multicast log is reported.	DHCP	Optional. When the multicast log automatic report function is enabled, this parameter is valid.	Double-click to enter the IP address of the server.
UserName	The user name to log in the multicast log report FTP server.	Enters up to 20 characters.	Optional. When the multicast log automatic report function is enabled, this parameter is valid.	Click to enter the user name.
Password	The password to log in the multicast log report FTP server.	Enters up to 20 characters.	Optional. When the multicast log automatic report function is enabled, this parameter is valid.	Double-click to enter the password.

3.6.13 Configure ONU Parameters

Command function

The command is used to configure the multicast-related parameters of an ONU. The parameters to be configured include robustness parameter, times of issuing a specific group query command, multicast mode, etc.

Access method

Right-click the HSWA card in the **Object Tree** pane and select **IGMP Config** → **ONU Configuration** from the shortcut menu to access the **ONU Configuration** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The number of the slot containing the PON interface card that the ONU is connected with.	The value range is 1 to 8 or 11 to 18.	Compulsory	Click the drop-down list to select the slot number.
PON No.	The number of the PON port that is connected with the ONU.	The value range is 1 to 8.	Compulsory	Double-click to enter the PON port number.
The authorization number of the ONU.	The authorization number of the ONU.	The value range is 1 to 64.	Compulsory	Double-click to enter the ONU authentication number.
Leave Mode	The leaving multicast group mode of an ONU.	<p>Includes NON FAST-LEAVE and FAST-LEAVE. FAST-LEAVE is set by default.</p> <ul style="list-style-type: none"> ◆ FAST-LEAVE: In this mode, after a certain subscriber sends the leave message, the system will stop forwarding the multicast data stream to this subscriber terminal immediately. ◆ NON FAST-LEAVE: In this mode, after a certain subscriber sends the leave message, the ONU will transmit the specific group query message to the port receiving this leave message; if the join message of this subscriber terminal is not received in the query response time, the system will stop forwarding the multicast data stream to this subscriber terminal 	Reserved	It is not recommended that users configure this parameter.

Item	Description	Value Range / Requirement	Property	Configuration Method
Robustness Count	The robustness parameter of the IGMP protocol stack in relation to the network packet loss. Refers to the times of sending the multicast downlink query message.	The value range is 0 to 12. The default value is 2.	Compulsory	Double-click to enter the robustness parameter.
Last Member Query Count	The times of the ONU issuing a specific group query command.	The value range is 0 to 12. The default value is 2.	Compulsory	Double-click to enter the times of the ONU issuing a specific group query command.
IGMP Mode	The multicast mode of the ONU,	and includes the Snooping Mode , Proxy Mode , and Controlled Mode .	Compulsory	Click the drop-down list to select the multicast mode.

3.6.14 Multicast Log FTP Report

Command function

The command is used to report the multicast log to the FTP server manually.

When the multicast mode is set to Controlled Mode, the multicast log function is valid.



Note:

Before enabling the multicast log automatic report function, users need to run the WFTPD.exe program successfully as follows: Type the user name, password, and the path saving the multicast log file correctly, and keep the WFTPD.exe program in the running status.

Access method

Right-click the HSWA card in the **Object Tree** pane and select **IGMP Config** → **IGMP Log Upload** from the shortcut menu to access the **IGMP Log Upload** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Host IP	The IP address of the FTP server to which the multicast log is reported.	-	Compulsory	Double-click to enter the IP address of the server.
UserName	The user name to log in the multicast log report FTP server.	The maximum length is 20 characters.	Compulsory	Click to enter the user name.
Password	The password to log in the multicast log report FTP server.	The maximum length is 20 characters.	Compulsory	Double-click to enter the password.
File Name	The name of the multicast log file.	The maximum length is 20 characters (including the file name suffix).	Compulsory	Double-click to enter the file name.

3.6.15 Forcing Subscribers to Leave

Command function

The command is used to force subscribers under a certain ONU port to leave the multicast program that they are watching.

When the multicast mode is set to Controlled Mode, the forcing-subscriber-to-leave function is valid.

Access method

Right-click the HSWA card in the **Object Tree** pane and select **IGMP Config** → **Force Leave** from the shortcut menu to access the **Force Leave** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The number of the slot containing the PON interface card that the ONU is connected with.	The value range is 1 to 8 or 11 to 18.	Compulsory	Click the drop-down list to select the slot number.
PON No.	The number of the PON port that is connected with the ONU.	The value range is 1 to 8.	Compulsory	Double-click to enter the PON port number.
ONU No.	The authorization number of the ONU.	The value range is 1 to 128.	Compulsory	Double-click to enter the ONU authentication number.
ONU Port No.	The FE port number of the ONU.	The value range is 1 to 24.	Compulsory	Double-click to enter the ONU port number.
Group Address	The IP address of the multicast programs.	DHCP	Compulsory	Double-click to enter the IP address of the multicast programs.

3.6.16 Refreshing Multicast Configuration Information

Command function

The refreshing multicast configuration information command is used to re-issue multicast configuration information to the equipment.



Note:

Executing this command does not influence subscribers watching multicast programs.

Access method

Right-click the HSWA card in the **Object Tree** pane and select **IGMP Config** → **Flush IGMP Configuration** from the shortcut menu to access the **Flush IGMP Configuration** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Flush	Refreshes multicast configuration information.	-	Read-only	-

3.6.17 Clearing Logs

Command function

The clearing log command is used to clear the multicast log information saved in the Flash of the HSWA card. If the multicast log has been reported to and backed up in the FTP server, to free up a significant amount of storage memory occupied by multicast logs on the HSWA card, users can execute the clearing log command.

Access method

Right-click the HSWA card in the **Object Tree** pane and select **IGMP Config** → **Clear IGMP Record** from the shortcut menu to access the **Clear IGMP Record** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Clear	Clears the multicast log.	-	Read-only	-

3.7 Reliability Configuration

3.7.1 The PON Port Protection Group

3.7.1.1 Setting a PON Port Protection Group

Command function

The PON port protection group setting command is used to set the active/standby PON ports as a PON port protection group. After this command is executed, the system can perform the switching of the active/standby PON ports according to the status of a PON port, so as to ensure security of the downlink line.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Reliability Config** → **PON Protection Group Config** → **PON Protection Group Config** in the shortcut menu. Then the **PON Protection Group Config** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Group No.	The number of the PON port protection group.	The value range is 1 to 64.	Compulsory	Double-click to enter the group number.
Slot No.	The slot number of the line interface card containing the PON port joining the protection group.	Selects according to the PON port number.	Read-only	-
PON No.	The number of the port joining the PON port protection group. The PON ports joining the same protection group must have the same type.	-	Compulsory	Click to enter the PON No. configuration GUI, and select the port joining the PON port protection group.

3.7.1.2 Configuring PON Port Protection Group Mode

Command function

The PON port protection group mode configuration command is used to configure the protection mode of the PON port protection group. In addition, this command can implement the auto-returning-to-active-link function after the service of the active port resumes.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Reliability Config**→**PON Protection Group Config**→**PON Port Protection Group Mode** in the shortcut menu. Then the **PON Port Protection Group Mode** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Group No.	The number of the PON port protection group.	Selects the group number configured in the PON Protection Group Config.	Compulsory	Click the drop-down list to select the group number.
Item	<p>The protection mode of the PON port protection group.</p> <ul style="list-style-type: none"> ◆ Type B: Provides redundancy protection for the OLT PON port and the optical fiber between the splitter and the OLT. ◆ Type C: Provides 1+1 redundancy protection for OLT PON ports, ONU optical modules, optical fibers between the splitter and OLT, splitters, and distribution optical fibers. ◆ Type D: Provides 1+1 redundancy protection for OLT PON ports, ONU PON ports, optical fibers between the splitter and OLT, splitters, and distribution optical fibers. 	Includes Type B, Type C and Type D.	Compulsory	Click the drop-down list to select the protection group mode.
Auto Resume	The protected service will return to the former working link automatically after the set auto return interval.	Includes Enable and disable.	Optional. When Item is set to Type B, this parameter is valid.	Click the drop-down list to select Enable or disable.
Auto Resume Interval	The auto return wait time of the protected service.	The value range is 0 to 3600. The unit is second.	Optional. When Item is set to Type B, and Auto Resume is set to Enable, this parameter is valid.	Double-click to enter the time interval.

3.7.1.3 Configuring a Hand-in-Hand PON Port Protection Group

Command function

The hand-in-hand PON port protection group configuration command is used to configure ONUs spanning OLTs as a hand-in-hand PON port protection group, so as to protect the services on these ONUs.

A one hand-in-hand PON port protection group must have the same OLT type, the same line interface card type, and the same ONU type.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Reliability Config** → **PON Protection Group Config** → **Hand-in-Hand PON Protection Group Configure** in the shortcut menu. Then the **Hand-in-Hand PON Protection Group Configure** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Group No.	The number of the hand-in-hand PON port protection group.	The value range is 1 to 128.	Compulsory	Double-click to enter the group number.
OLT IP	The IP address of the local OLT.	The value must not be the same as the IP address of the opposite OLT.	Compulsory	Double-click to enter the IP address.
Local Slot No.	The slot number of the line interface card containing the local PON port joining the protection group.	Selects according to the local PON port number.	Read-only	-
Local PON Port No.	The number of the local port joining the PON port protection group.	The value range depends on the type of the line interface card.	Compulsory	Click to access the detailed configuration GUI of the Local PON Port No..
Peer IP of Hand-in-hand OLT	The IP address of the opposite OLT.	The common Internet IP address.	Compulsory	Double-click to enter the IP address.

Item	Description	Value Range / Requirement	Property	Configuration Method
Peer Slot No.	The slot number of the line interface card containing the opposite PON port joining the protection group.	The value range is 1 to 8 or 11 to 18.	Compulsory	Double-click to enter the slot number.
Peer Port No.	The number of the opposite port joining the PON port protection group.	The value range depends on the type of the line interface card.	Compulsory	Double-click to enter the PON port number.

3.7.2 Configuring Uplink Card Protection

Command function

The uplink card protection configuration command is used to set the protection mode of an uplink card. The protection includes load equalization protection, active / standby protection, or disabling the protection function. After the uplink card protection is set, the ports of the uplink cards in slots 19 and 20 are protected correspondingly, and each pair of uplink ports can form one protection group.

Access method

Right-click the HSWA card in the **Object Tree** pane and select **Reliability Config** → **UplinkCard Protect** from the shortcut menu to access the **UplinkCard Protect** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configura- tion Method
Protect Mode	The protection mode of the uplink card.	<p>The value includes Load Equalization, Active/Standby, and Disable.</p> <ul style="list-style-type: none"> ◆ Active/Standby: For the two ports forming a protection group, the system only allows traffics to pass through the active port, and it prohibits traffics to pass through the standby port. ◆ Load Equalization: Traffics pass through the two ports forming a protection group at the same time. ◆ Disable: The protection mode of an uplink card is disabled. <p>The default value is Disable.</p>	Compulsory	Click the drop-down list to select the protection group mode.

3.7.3 Configuring Dual Uplink Protection

Command function

The dual uplink protection configuration command is used to configure the dual route uplink protection for the equipment. In this mode, when a certain up link in the protection group is faulty, the uplink service will be switched to the other link; the service is not interrupted, and service protection is implemented.



Note:

The active and standby ports forming dual uplink protection must have the same properties.

Access method

Right-click the HSWA card in the **Object Tree** pane and select **Reliability Config** → **Dual Uplink Protection** from the shortcut menu to access the **Dual Uplink Protection** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Master Port work mode	<p>The processing mode after the active up link resumes normal.</p> <ul style="list-style-type: none"> ◆ Auto Resume indicates that the service will be switched to the pre-fault active link after the active link resumes normal. ◆ Non-auto Resume indicates that the service will be not switched to the pre-fault active link after the active link resumes normal. 	<p>Its value includes Auto Resume and Non-auto Resume. The default value is Non-auto Resume.</p>	Compulsory	Click the drop-down list to select the master port work mode.
Group No.	The number of the protection group. Its value is assigned by the system automatically.	Up to six protection groups can be generated.	Read-only	-
MasterPort	A protection group must have one active port (MasterPort) and one standby port (SlavePort) . Masterport refers to the uplink port in active mode.	All uplink ports. The format is slot number: port type . XFP means a 10Gb optical port, and SFP means a Gb optical port.	Compulsory	Click the drop-down list to select the master port.
SlavePort	A protection group must have one active port (MasterPort) and one standby port (SlavePort) . SlavePort refers to the uplink port in standby mode.	Other uplink ports with the properties the same as those of the active port. The format is slot number: port type . XFP means a 10Gb optical port, and SFP means a Gb optical port.	Compulsory	Click the drop-down list to select the slave port.

3.8 Relevant Service Configuration

3.8.1 Configuring a GPON Service Bandwidth Profile

Command function

This command is used to configure a bandwidth assignment profile. The bandwidth assignment profile is used to manually assign bandwidth for uplink services on various ONUs, and the parameters to be configured include fixed bandwidth, guaranteed bandwidth, and maximum bandwidth.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Service Config Relevance**→**GPON Service Bandwidth Config Profile** in the shortcut menu. Then the **GPON Service Bandwidth Config Profile** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Profile Name	The name of the bandwidth assignment profile.	Users can create up to 256 profiles. The value range: 1 to 32 characters, and a profile name can only consist of letters, digital numbers, and underlines.	Compulsory	Double-click to enter the profile name.
Service Type	The type of the service needing bandwidth assignment.	The service types include: IPTV, DATA, VOIP, TDM , Integrated service and COM service	Compulsory	Click the drop-down list to select the service type.
Fixed Bandwidth (Kbyte/s)	The fixed bandwidth assigned to the designated uplink service on the ONU. Even if the designated uplink service does not use the fixed bandwidth resource, other services cannot occupy it either.	The value range is 16 to 128000, with the unit being kbyte/s. The default value is 16.	Compulsory	Double-click to enter the value of the fixed bandwidth.

Item	Description	Value Range / Requirement	Property	Configuration Method
Assured Bandwidth (Kbyte/s)	The minimum bandwidth needed to provision the designated uplink service on the ONU. If the designated uplink service does not occupy the guaranteed bandwidth resource, other services can use it.	The value range is 0; 32 to 128000, with the unit being kbyte/s. The default value is 0.	Compulsory	Double-click to enter the assured bandwidth.
Maximum Bandwidth (Kbyte/s)	The maximum bandwidth assigned to the designated uplink service on the ONU. The summation of the Fixed Bandwidth value and the Assured Bandwidth value cannot exceed the value of Maximum Bandwidth .	The value range is 64 to 128000, with the unit being kbyte/s. The default value is 64.	Compulsory	Double-click to enter the maximum bandwidth.

3.8.2 Service Profile Configuration

3.8.2.1 Configuring a Data Service Profile

Command function

This command is used to configure a common data service profile.

Access method

Right-click the HSWA card in the **Object Tree**, select **Service Config Relevance** → **Service Profile Config**.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Profile Name	Profile Name	The value range: 1 to 32 characters, and a profile name can only consist of letters, digital numbers, and underlines.	Compulsory	Double-click to enter the profile name.
Enable/Disable	Enables / disables the designated port of the ONU. The data service of this port can be configured only when this item is set to Enable .	The options includes Enable and Disable .	Compulsory	Click the drop-down list to select Enable or Disable .
Auto Negotiation	Enables / disables the auto negotiation function. <ul style="list-style-type: none"> ◆ If the auto negotiation function is enabled, the designated port will automatically match the rate and duplex mode of the opposite port. ◆ Configure the rate and duplex mode of the port if the function is disabled. 	The options includes Enable and Disable .	Compulsory	Click the drop-down list to select Enable or Disable .
Speed (bit/s)	Selects the operating rate of the designated port.	Its value includes: 10 Mbit/s, 100 Mbit/s, and 1000 Mbit/s.	Optional. When the auto negotiation function is disabled, this parameter is valid.	Click the drop-down list to select 10M , 100M or 1000M .
Duplex Mode	Duplex mode of the data port.	Users can select the full duplex mode or the half duplex mode.	Optional. When the auto negotiation function is disabled, this parameter is valid.	Click the drop-down list to select full duplex mode or the half duplex mode.

Item	Description	Value Range / Requirement	Property	Configuration Method
Flow Control	Enables / disables the flow control function of the designated port.	The options includes Enable and Disable .	Compulsory	Click the drop-down list to select Enable or Disable .
Enable/Disable Port Rate Limit	Enables / disables the rate control function of the designated port.	The options includes Enable and Disable .	Compulsory	Click the drop-down list to select Enable or Disable .
Upstream Port Rate Limit	The maximum transmission rate of the uplink service on the designated port.	The value range is 0 to 1000, with the unit being kbit/s.	Optional. When the rate control function of a port is enabled, this parameter is valid.	Double-click to enter the maximum transmission rate of the uplink service on the designated port.
Downstream Port Rate Limit	The maximum transmission rate of the downlink service on the designated port.	The value range is 0 to 1000, with the unit being kbit/s.	Optional. When the rate control function of a port is enabled, this parameter is valid.	Double-click to enter the maximum transmission rate of the downlink service on the designated port.
Service Number	The serial number of the data service.	Up to 6 items can be added.	Read-only	-
Tag Mode	The tag mode of the data port.	Its value includes Tag and Untag .	Compulsory	Click the drop-down list to select the TAG mode.
COS	The Ethernet priority of the data service. 0 is the lowest priority and 7 is the highest.	The value range is 0 to 7.	Optional. When Tag Mode is set to Tag, this parameter is invalid.	Double-click to enter the Ethernet priority.
VLAN ID	The VLAN ID of the data service.	The value range is 1 to 4085.	Optional. When Tag Mode is set to Tag, this parameter is invalid.	Double-click to enter the VLAN ID value.

Item	Description	Value Range / Requirement	Property	Configuration Method
Down Encrypt State	Enables / disables the encryption function of the downlink service.	The options includes Enable and Disable .	Compulsory	Click the drop-down list to select Enable or Disable .
CVLAN Mode	<p>The VLAN mode of the data service.</p> <ul style="list-style-type: none"> ◆ When this item is set to TAG, the ONU will add a VLAN TAG to data. ◆ When this item is set to Transparent, the ONU will transparently transmit the data without processing it. ◆ When this item is set to Translate, the AN5116-06B will translate the original VLAN TAG to a new VLAN TAG. 	<p>The options includes TAG, Translate and Transparent.</p> <ul style="list-style-type: none"> ◆ When Tag Mode is set to Tag, this parameter can be set to Translate or Transparent. ◆ When Tag Mode is set to Untag, this parameter can be set to TAG or Transparent. 	Compulsory	Click the drop-down list to select the CVLAN mode.
CVLAN ID	Inner CVLAN ID	The value range is 1 to 4085. or null	Optional	Double-click to enter the CVLAN ID value.
COS of PON	The inner CVLAN processing priority of the data service. 0 is the lowest priority and 7 is the highest.	The value range is 0 to 7.	Compulsory	Double-click to enter the COS of PON.
QINQ State	Enables / disables the QinQ function.	<p>The options includes Enable and Disable.</p> <p>When the TAG mode is set to Untag and the CVLAN mode is set to Transparent, the QinQ should not be set to Enable.</p>	Compulsory	Click the drop-down list to select the QinQ state.

Item	Description	Value Range / Requirement	Property	Configuration Method
Service Name	The service name configured in the local VLAN tab.	Select from the pre-set VLAN names in the Configure Local Data of Service VLAN .	Optional. This parameter will be valid after the QinQ is enabled.	Double-click to enter the service VLAN name.
SVLAN ID	Service VLAN ID	The value range is 1 to 4085.	Optional. This parameter will be valid after the QinQ is enabled.	Double-click to enter the SVLAN ID value.
COS of PON	The outer CVLAN processing priority of the data service.	The value range is 0 to 7.	Optional. This parameter will be valid after the QinQ is enabled.	Double-click to enter the COS.

3.8.2.2 Configuring a Multicast Service Profile

Command function

This command is used to configure a common multicast service profile.

Access method

Right-click the HSWA card in the **Object Tree** pane, select **Service Config Relevance** → **Service Profile Config** in the shortcut menu, and click the **IGMP Service Profile** tab.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Profile Name	Profile Name	Up to 32 characters. Composed of letters, digital numbers, and underlines.	Compulsory	Double-click to enter the profile name.
IGMP Data VLAN Mode	The tag mode of the downlink multicast data stream to the ONU port. ◆ Untag indicates that the downlink multicast data stream passing through the ONU port is untagged. ◆ Tag indicates that the downlink multicast data stream passing through the ONU port is tagged.	Its value includes Tag and Untag .	Compulsory	Click the drop-down list to select the VLAN mode.
IGMP Data VLAN	The VLAN ID of the downlink multicast data stream. The VLAN tag used by the ONU to receive the appointed downlink multicast data stream.	The value range is 1 to 4085.	Compulsory	Double-click to enter the COS.
IGMP Data VLAN COS	The priority of the multicast data VLAN. 0 is the lowest and 7 is the highest.	The value range is 0 to 7.	Compulsory	Double-click to enter the COS.

Item	Description	Value Range / Requirement	Property	Configuration Method
IGMP Protocol VLAN Mode	<p>The VLAN mode of the uplink and downlink multicast protocol message.</p> <ul style="list-style-type: none"> ◆ TRANSPARENT indicates that the multicast protocol message is transmitted transparently. ◆ TAG indicates that a VLAN tag is added in the multicast protocol message. ◆ RETAG indicates that the system replaces the VLAN tag of the multicast protocol message with a new VLAN tag. ◆ REMOVE indicates that the system strips the VLAN tag of the multicast protocol message. 	Its value includes TRANSPARENT, TAG, RETAG, and REMOVE.	Compulsory	Click the drop-down list to select the VLAN mode of the multicast protocol.
IGMP Up Protocol VLAN	The VLAN ID of the uplink multicast protocol message.	The value range is 1 to 4085.	Optional. If IGMP Protocol VLAN Mode is set to TRANSPARENT or REMOVE , this parameter is invalid.	Double-click to enter the VLAN of uplink multicast protocol.
IGMP Up Protocol VLAN COS	The VLAN processing priority of the uplink multicast protocol message. 0 is the lowest and 7 is the highest.	The value range is 0 to 7.	Optional. If IGMP Protocol VLAN Mode is set to TRANSPARENT or REMOVE , this parameter is invalid.	Double-click to enter the VLAN COS of uplink multicast protocol.

Item	Description	Value Range / Requirement	Property	Configuration Method
IGMP Down Protocol VLAN	The VLAN ID of the downlink multicast protocol message.	The value range is 1 to 4085.	Optional. If IGMP Protocol VLAN Mode is set to RETAG or REMOVE , this parameter is invalid.	Double-click to enter the VLAN of downlink multicast protocol.
IGMP Down Protocol VLAN COS	The VLAN processing priority of the downlink multicast protocol message. 0 is the lowest and 7 is the highest.	The value range is 0 to 7.	Optional. If IGMP Protocol VLAN Mode is set to RETAG or REMOVE , this parameter is invalid.	Double-click to enter VLAN COS of downlink multicast protocol.

3.8.2.3 Configuring a Multicast Service Profile

Command function

This command is used to configure a common voice service profile.

Access method

Right-click the HSWA card in the **Object Tree** pane, select **Service Config Relevance**→**Service Profile Config** in the shortcut menu, and click the **Voice Service Profile** tab.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Profile Name	Profile Name	The value range: 1 to 32 characters, and a profile name can only consist of letters, digital numbers, and underlines.	Compulsory	Double-click to enter the profile name.
Signal VLAN ID	CVLAN ID In the single-tagged and QinQ modes, you should enter the layer 1 VLAN value.	This item should be within the value range of the local VLAN configured in the Local Service VLAN Data window.	Compulsory	Double-click to enter the signal VLAN ID value.
Voice Code Mode	The voice encoding rule.	The value of this parameter includes G.711U, G.711A, G.723, and G.729.	Compulsory	Click the drop-down list to select the voice code.
Fax Mode	The transmission mode of the fax service.	Its value includes Transparent and T38.	Compulsory	Click the drop-down list to select the fax mode.
Silence Switch	Enables / disables the silence suppression function. Its purpose is to reduce number of mute frames in the line and save the bandwidth.	Its value includes Enable and Disable.	Compulsory	Click the drop-down list to select the silence switch.
Echo Cancel	Enables / disables the echo suppression function. Its purpose is to cancel echo in the call process.	Its value includes Enable and Disable.	Compulsory	Click the drop-down list to select the echo cancel .
Input Gain	The input signal power.	The value range is -32 to 32, with the unit being dB.	Compulsory	Double-click to enter the value of the input gain.

Item	Description	Value Range / Requirement	Property	Configuration Method
Output Gain	The output signal power.	The value range is -32 to 32, with the unit being dB.	Compulsory	Double-click to enter the value of the output gain.
DTMF Mode	DTMF transmission mode.	Its value includes Transparent and RFC2833 .	Compulsory	Click the drop-down list to select the DTMF mode.
SVLAN ID	The SVLAN ID of the voice service.	The value range is 1 to 4085.	Optional. When the SVLAN function is disabled, this parameter is invalid.	Double-click to enter the SVLAN ID value.
SVLAN State	Enables / disables the QinQ function. Enable the QinQ to configure the SVLAN and the priority.	The options includes Enable and Disable .	Compulsory	Click the drop-down list to select the SVLAN state.
COS 1	The priority of the SVLAN. 0 is the lowest priority and 7 is the highest.	The value range is 0 to 7.	Optional. When the SVLAN function is disabled, this parameter is invalid.	Double-click to enter the priority of the outer VLAN.
COS 2	The priority of the CVLAN. 0 is the lowest priority and 7 is the highest.	The value range is 0 to 7.	Compulsory	Double-click to enter the priority of the inner VLAN.

3.8.2.4 Configuring a Service Profile

Command function

This command is used to configure a common service profile. The common service profile is used to bind the bandwidth assignment profile to a certain ONU and bind the corresponding service profile to the designated port of this ONU.

**Note:**

Before configuring a service profile, users need to complete configuration of the bandwidth assignment profile and the data / voice / multicast service profile.

Access method

Right-click the HSWA card in the **Object Tree** pane, select **Service Config Relevance** → **Service Profile Config** in the shortcut menu, and click the **Service Profile** tab.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Profile Name	Profile Name	Up to 32 characters. Composed of letters, digital numbers, and underlines.	Compulsory	Double-click to enter the profile name.
ONU Type	Selects the type of the ONU that the service profile is to be bound with.	-	Compulsory	Click the drop-down list to select the ONU type.
ONU Subprofile Config	Select the configured bandwidth assignment profile name.	-	Compulsory	Click to enter the configuration GUI.
Port Type	ONU port type.	The port type depends on the value of ONU Type.	Compulsory	Click the drop-down list to select the ONU port type.
Port No.	The number of the port that the corresponding service profile is to be bound with.	The value range depends on the value of ONU Type.	Compulsory	Double-click to enter the port number.
Port Subprofile Config	Select the configured corresponding service profile name.	-	Compulsory	Click to enter the configuration GUI.

3.8.2.5 Service Profile Configuration

Command function

This command is used to bind a service profile with the designated ONU, so as to apply the bandwidth assignment and service configuration in this service profile to the ONU.



Note:

Before binding a service profile, users need to complete configuration of the service profile.

Access method

Right-click the HSWA card in the **Object Tree** pane, select **Service Config Relevance** → **Service Profile Config** in the shortcut menu, and click the **Service Profile Binding** tab.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Profile ID	The name of the service profile.	-	Compulsory	Click the drop-down list to select the profile ID.
Bind/Unbind	Select whether to bind the service profile. Refresh the bound ONU after modifying one or multiple sub-profile.	Its value includes Refresh , Bind , and Unbind .	Compulsory	Click the drop-down list to select Bind or Unbind .
Slot No.	The number of the slot containing the interface card connected with the ONU.	Confirm this item according to the ONU number.	Read-only	-
PON No.	The number of the used PON port on the ONU.	Confirm this item according to the ONU number.	Read-only	-
ONU No.	The authorization number of the ONU that the service profile is to be bound with.	-	Compulsory	Click to enter the configuration GUI.

3.8.3 Aging Time

Command function

This command is used to configure or query the aging time of the MAC address table of the system. The network management system starts timing after a certain MAC address joins the dynamic MAC address table. If during the aging time, the ports do not receive frames whose source address is the given MAC address, this address will be deleted from the address table.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Config**→**Aging Time (s)** in the shortcut menu. Then the **Aging Time (s)** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Aging Time	Update the time interval for maintaining the MAC address in the FDB table.	The value range is 0 to 300, with the unit being second. The default value is 80 seconds.	Compulsory	Double-click to enter the aging time.

3.8.4 Configuring ONU Address Aging Time

Command function

This command is used to configure or query the aging time of the MAC address table of a certain ONU. The ONU starts timing after a certain MAC address joins the address table. If during the aging time, various ports do not receive frames whose source address is the given MAC address, this address will be deleted from the dynamic MAC address table.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Config**→**ONU MAC Aging Time** in the shortcut menu. Then the **ONU MAC Aging Time** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the service interface card connected with the ONU.	The value range is 1 to 8 and 11 to 18.	Compulsory	Click the drop-down list to select the slot number.
PON No.	The number of the PON port to which the ONU belongs.	The value range is 1 to 8.	Compulsory	Click the drop-down list to select the PON port number.
ONU No.	ONU authorization number.	The value range is 1 to 64.	Compulsory	Double-click to enter the ONU port number.
Aging Time	Update the time interval for maintaining the MAC address in the FDB table.	The value range is 0 to 300, with the unit being second. The default value is 80 seconds.	Compulsory	Double-click to enter the aging time.

3.8.5 Upgrading ONUs Automatically

Command function

This command is used to configure the automatic upgrade function of all ONUs under a specified PON interface card. When the ONU automatic upgrade function is enabled, each ONU under this slot will compare its own file to the upgrade file; if upgrade is needed, the ONU will download the upgrade file to perform the upgrade operation. Users can also perform the auto-upgrade pre-configuration of all ONUs under a certain slot. After a certain ONU is electrified, it will perform the upgrade operation automatically. After the automatic upgrade succeeds, the upgraded ONU will be restarted.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Config**→**ONU Auto Upgrade** in the shortcut menu. Then the **ONU Auto Upgrade** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the line interface card connected with the ONU to be upgraded.	-	Read-only	-
Enable / Disable	<p>The enable / disable switch of the ONU automatic upgrade function.</p> <ul style="list-style-type: none"> ◆ When this parameter is set to Enable, an ONU under this slot will upgrade automatically via obtaining the upgrade file from the appointed FTP server. ◆ When this parameter is set to Disable, the system supports manual upgrade of ONUs under this slot. 	The options includes Enable and Disable .	Compulsory	Click the drop-down list to select Enable or Disable .
FTP Server IP address	The IP address of the FTP server. It is used to provide the upgrade file for users to download.	General Internet IP address	Optional. This parameter is valid only when Enable / Disable is set to Disable.	Double-click to enter the FTP server IP address
FTP Username	The user name to access the FTP server.	Users can enter up to 16 characters.	Optional. This parameter is valid only when Enable / Disable is set to Disable.	Double-click to enter the user name to access the FTP server.

Item	Description	Value Range / Requirement	Property	Configuration Method
FTP Password	The password to access the FTP server.	Users can enter up to 16 characters.	Optional. This parameter is valid only when Enable / Disable is set to Disable.	Double-click to enter the password to access the FTP server.
File Name	The name of the upgrade file. Users can select multiple upgrade files, but the total file size should not exceed 3M. Presently the equipment supports combination upgrade of the ONU software, meaning that the ONU firmware and the CPU software are upgraded together. (the IAD software cannot support combination upgrade now).	The name of the upgrade file on the FTP server should be the same as the upgrade file name displayed in the ONU Auto Upgrade window.	Optional. This parameter is valid only when Enable / Disable is set to Disable.	Click to enter the File Name configuration window.

3.8.6 Replacing an ONU

Command function

When a certain ONU is faulty, users can replace the faulty ONU with an ONU of the same type. The ONU replacement command is used to enable the new ONU to take charge of all services on the old ONU.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Config**→**ONU Replace** in the shortcut menu. Then the **ONU Replace** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the service interface card connected with the ONU to be replaced.	The value range is 1 to 8, or 11 to 18.	Compulsory	Click the drop-down list to select the slot number.
PON Port No.	The PON port number corresponding to the ONU to be replaced.	The value range: 1 to 8.	Compulsory	Click the drop-down list to select the PON port number.
Onu No.	The authorization number of the ONU to be replaced. The new ONU will use the authorization number of the replaced ONU.	The value range: 1 to 64.	Compulsory	Double-click to enter the ONU port number.
OldPhyicsID	The physical identifier of the ONU to be replaced.	The maximum length is 12 characters.	Compulsory	Double-click to enter the original physical identifier.
NewPhyicsID	The physical identifier of the new ONU.	The maximum length is 12 characters.	Compulsory	Double-click to enter the new physical identifier.

3.8.7 Configuring EPON ONU Replacement Aging Interval

Command function

After a certain ONU is deauthorized, the MAC address of this ONU will be written into the unauthorized MAC address table. Users can perform the EPON ONU replacement aging interval configuration command to set the EPON ONU replacement aging interval; during the set aging interval, this ONU cannot be authorized automatically.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Config**→**Aging time of ONU Replace** in the shortcut menu. Then the **Aging time of ONU Replace** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Aging Time	The interval from an ONU being deauthorized to it being authorized automatically again.	The value range is 300 to 2147483647, with the unit being second. The default value is 600 seconds.	Compulsory	Double-click to enter the aging time.

3.9 Configuring QoS

3.9.1 Configuring a QoS Profile

Command function

This command is used to configure flow rules such as VLAN ID, port, Ethernet protocol type, priority queuing, and DSCP value. Based on these flow rules, the system can control the data stream, so as to provide network services with different QoS levels.

When configuring the IP flow classification parameters in a QoS profile, users can perform the combined configuration. The allowed IP flow classification parameter groups are described as follows; in the same group, the parameters can be combined as required.

- ◆ SIP, DIP, Protocol Type, TCP/UDP SPORT, TCP/UDP DPORT;
- ◆ SMAC, DMAC, Ethernet Type, Priority Domain, VID;
- ◆ SMAC, SIP, Ethernet Type, Priority Domain, VID;
- ◆ DMAC, DIP, Ethernet Type, Priority Domain, VID.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Config** → **QoSProfiles** in the shortcut menu. Then the **QoSProfiles** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Profile Name	The name of the QoS profile. Users can create up to 1024 profiles.	The value range: 1 to 20 characters.	Compulsory	Double-click to enter the profile name.
VLAN ID	The VLAN ID value, used to classify and filter the data service flow.	The value range is 1 to 4095.	Optional. When the VLAN-ID-based flow rule is configured to filter the service flow, this parameter is valid.	Double-click to enter the VLAN ID value.
Src IP	The VLAN ID value, used to classify and filter the data service flow.	This item is 0.0.0.0 by default.	Optional. When the VLAN-ID-based flow rule is configured to filter the service flow, this parameter is valid.	Double-click to enter the source IP address.
Src IP MASK	The source IP address mask, used to classify and filter the data service flow.	This item is 255.255.255.255 by default. Users should configure the source IP mask if the source IP address is set in the profile.	Optional. When the VLAN-ID-based flow rule is configured to filter the service flow, this parameter is valid.	Click the drop-down list to select the source IP mask.
Dst IP	The destination IP address, used to classify and filter the data service flow.	This item is 0.0.0.0 by default.	Optional. When the VLAN-ID-based flow rule is configured to filter the service flow, this parameter is valid.	Double-click to enter the destination IP address.
Dst IP Mask	The destination IP address mask, used to classify and filter the data service flow.	This item is 255.255.255.255 by default. Users should configure the destination IP mask if the destination IP address is set in the profile.	Optional. When the IP-based flow rule is configured to filter the service flow, this parameter is valid.	Click the drop-down list to select the destination IP mask.
Src MAC	The source MAC address, used to classify and filter the data service flow.	The default value is 00-00-00-00-00-00.	Optional. When the MAC-based flow rule is configured to filter the service flow, this parameter is valid.	Double-click to enter the source MAC address.

Item	Description	Value Range / Requirement	Property	Configuration Method
Dst MAC	The destination MAC address, used to classify and filter the data service flow.	The default value is 00-00-00-00-00-00.	Optional. When the MAC-based flow rule is configured to filter the service flow, this parameter is valid.	Double-click to enter the destination MAC address.
Priority	The priority of the data service flow, used to classify and filter the data service flow.	The value range is 0 to 7 or null. This item is null by default.	Optional. When the priority-based flow rule is configured to filter the service flow, this parameter is valid.	Click the drop-down list to select the priority domain.
Ethernet Type	The value corresponding to the Ethernet type of the data service flow, used to classify and filter the data service flow.	The value range is 0 to 65534.	Optional. When the Ethernet-type-based flow rule is configured to filter the service flow, this parameter is valid.	Double-click to enter the value corresponding to the Ethernet type.
Protocol Type	The value corresponding to the network layer protocol type of the data service flow, used to classify and filter the data service flow.	The value range is 1 to 255.	Optional. When the protocol-type-based flow rule is configured to filter the service flow, this parameter is valid.	Double-click to enter the protocol type.
TCP/UDP Src Port	The source port number corresponding to the transport layer TCP / UDP protocol type of the data service flow, used to classify and filter the data service flow.	The value range is 0 to 65534.	Optional. UDP-source-port-number-based flow rule is configured to filter the service flow, this parameter is valid.	Double-click to enter the port number.
TCP/UDP Dst Port	The destination port number corresponding to the transport layer TCP / UDP protocol type of the data service flow, used to classify and filter the data service flow.	The value range is 0 to 65534.	Optional. UDP-source-port-number-based flow rule is configured to filter the service flow, this parameter is valid.	Double-click to enter the port number.

Item	Description	Value Range / Requirement	Property	Configuration Method
DscpParameter	If the IP protocol is used, this parameter refers to the first six bits in the TOS domain at the head of an IP message. It is used to classify and filter the data service flow. dscp: differential services code point.	The value range is 0 to 63 or null.	Optional. When the DSCP-based flow rule is configured to filter the service flow, this parameter is valid.	Double-click to enter the dscp value.
CMD	Processes the data service flow meeting the filtering conditions.	Its value includes Forward, Discard, and Null.	Compulsory	Click the drop-down list to select the source command code.
Rate Limit	Controls the transmission rate of the data service flow meeting the filtering conditions.	The value range is 1 to 160000 in the step of 64 kbit/s. For example, when the value is 1, it indicates that the rate threshold is 64 kbit/s.	Optional. This parameter is valid only when CMD is Forward.	Double-click to enter the rate value.
Queue	Re-configures the priority of the data service flow meeting the filtering conditions.	The value range is 0 to 7 or null.	Optional. Users can configure this parameter as required.	Click the drop-down list to select the queue priority.
DSCP	Re-configures the DSCP value of the data service flow meeting the filtering conditions.	The value range is 0 to 63 or null.	Optional. Users can configure this parameter as required.	Double-click to enter the DSCP value.
Flow Mirror Enable	Enables / disables the flow mirroring function.	The options includes Enable and Disable.	Optional. Users can configure this parameter as required.	Select or clear the check box to enable / disable the flow mirroring function.

Item	Description	Value Range / Requirement	Property	Configuration Method
Flow Mirror DstPorts	When the target port of flow mirroring is configured, the data stream through the source port can be mirrored to the target port.	The value range includes all uplink ports.	Optional. When the flow mirroring function is enabled, this parameter is valid.	Click the drop-down list to select the target port of flow mirroring.
New Port	When the re-direction port is configured, the data stream will not pass through the source port, but will be forwarded directly via the re-direction port.	The value range includes all uplink ports.	Optional. When the flow mirroring function is disabled, this parameter is invalid.	Click the drop-down list to select the re-direction port.

3.9.2 Binding / Unbinding a QoS Profile with a Slot

Command function

The command is used to bind the card with the QoS profile. After the designated QoS profile is bound with a line interface card, the uplink data stream through this line interface card will be processed according to the rule of this QoS profile.



Note:

Before binding / unbinding a QoS profile with a slot, users need to complete configuration of the QoS profile.

Access method

Right-click the HSWA card in the **Object Tree** pane, select **Config**→**QoSProfiles** in the shortcut menu to enter the **QoSProfiles**, and click the **Slot Attach/Detach QoS** tab.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the service card joining the binding / unbinding operation.	The value range is 1 to 8 and 11 to 18.	Compulsory	Double-click to enter the slot number.
Bind/Unbind	Performs the binding / unbinding operation.	Its value includes Bind and Unbind .	Compulsory	Click the drop-down list to select Bind and Unbind .
Profile Name	The name of the QoS profile that needs to be bound / unbind.	-	Read-only	-
Bind or Unbind	Selects whether the profile is to be bound or unbound	-	Compulsory	Select or clear the check box to enable / disable the flow mirroring function.

3.9.3 Binding / Unbinding a QoS Profile with an Uplink Port

Command function

The command is used to bind the uplink interface with the QoS profile. After the designated QoS profile is bound with an uplink port, the downlink data stream through this uplink port will be processed according to this QoS profile.



Note:

Before binding / unbinding a QoS profile with an uplink port, users need to complete configuration of the QoS profile.

Access method

Right-click the HSWA card in the **Object Tree** pane, select **Config**→**QoSProfiles** in the shortcut menu to enter the **QoSProfiles**, and click the **Port Attach/Detach QoS** tab.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Uplink No.	The number of the uplink port joining the binding / unbinding operation.	-	Compulsory	Click the drop-down list to select the uplink port number.
Bind/Unbind	Performs the binding / unbinding operation.	Its value includes Bind and Unbind .	Compulsory	Click the drop-down list to select Bind and Unbind .
Profile Name	The name of the QoS profile that needs to be bound / unbind.	-	Read-only	-
Bind or Unbind	Selects whether the profile is to be bound or unbound with the uplink port.	-	Compulsory	Select or clear the check box to enable / disable the flow mirroring function.

3.9.4 Priority Mode

Command function

This command is used to configure or query the priority mode of data forwarding of the switch chip in the core switch card. The switch chip in the core switch card maps the uplink and downlink services into different priority queues according to the IEEE 802.1D user priority labels, and performs scheduling of the uplink and downlink services. Each port supports eight priority queues.

- ◆ Strict priority ensures that higher-priority services are always processed prior to lower-priority services.
- ◆ Weight priority is a weight round robin queue scheduling mechanism. In this mode, the system first processes higher-priority services, but when the system processes higher-priority services, lower-priority services are not blocked completely, and they are processed by a certain proportion at the same time.
- ◆ Mixed priority includes strict priority and weight priority.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Config**→**Priority Mode** in the shortcut menu. Then the **Priority Mode** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Model	The priority mode of data forwarding of the switch chip in the core switch card.	Its value includes: Strict Priority , Weight Priority , and Mixed Priority . The default value is Weight Priority.	Compulsory	Click the drop-down list to select the mode.
Queue Priority	Each port supports eight priority queues. According to the configured mapping relationships and priority of a message, the system makes each message enter the corresponding queue and receive processing of corresponding QoS level.	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
Queue Schedule Method	The queue scheduling algorithm corresponds to the priority mode.	When Mode is set to Mixed Priority, the priority queues 0 to 5 can use the strict priority algorithm or the weight priority algorithm; the priority queues 6 and 7 are the strict priority.	Compulsory When Mode is set to Strict Priority or Weight Priority , this parameter is invalid.	Click the drop-down list to select the queue schedule method.
Weight	The service processing bandwidth assignment proportion. The higher the weight value of a service is, the more bandwidth it occupies for processing.	The value range is 1 to 15.	Compulsory When Mode is set to Strict Priority , this parameter is invalid. When Mode is set to Mixed Priority , the weight corresponding to the last two rows of this parameter is invalid.	Double-click to enter the weight.

3.9.5 Configuring Flow Classification Rule

Command function

This command is used to configure flow rules (based on source / destination MAC address, based on source / destination IP address, etc.), so as to filter the uplink service flow entering an ONU port.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Config**→**Priority Mode** in the shortcut menu. Then the **Priority Mode** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method	
Rule Name	The name of the flow classification rule.	Users can create up to 253 rules and enter up to 20 characters.	Compulsory	Double-click to enter the rule name.	
Rule Type	Select the object of the flow classification rule.	Its value includes service flow rule and chip flow switch rule .	Compulsory	Click the drop-down list to select the rule type.	
Rule domain type	Rule Type	The rule domain type of the flow classification rule.	Compulsory	Click the drop-down list to select the rule type.	
	Operator	According to the appointed Rule Type ,		users can select one of the following seven operators: =, !=, <=, >=, Exist Match , Not Exist Match , and Always Match .	Click the drop-down list to select the operator.
	Rule Value	According to the appointed value of Rule Type , users can set the corresponding rule domain value.		-	Double-click to enter the rule domain value.

3.9.6 Configuring Flow Policy

Command function

This command is used to apply the defined flow classification rule to the flow policy. Its purpose is described as follows: Bind the ONU port and perform access control and flow control of the uplink service flow entering an ONU port, so as to guarantee the QoS.



Note:

Before configuring the **Flow Policy**, users need to complete configuration of the flow classification rule.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Config**→**Flow Policy** in the shortcut menu. Then the **Flow Policy** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Policy ID	Auto-generated serial number	-	Read-only	-
Policy Name	The name of the flow policy.	Users can create up to 128 policies and enter up to 20 characters.	Compulsory	Double-click to enter the name of the flow policy.
Rule ID	The name of the flow classification rule to be bound with.	-	Compulsory	Click the drop-down list to select the Rule ID.
Precedence	The processing priority of the designated flow policy.	The value range is 1 to 12. 12 means the highest priority, and 1 means the lowest priority.	Compulsory	Double-click to enter the priority value.
ACL Enable	Enables / disables the access control function.	The options includes Enable and Disable .	Optional. This parameter cannot be set to Enable together with RateLimit , Queue Enable , and CoS Remark .	Click the drop-down list to select the ACL Enable.

Item	Description	Value Range / Requirement	Property	Configuration Method
Forward	Filters and forwards the service flow entering the ONU port.	Its values include: Allow (in this mode, only the flow matching the rule can be forwarded, and other flows are discarded) or Forbid (in this mode, the flow matching the rule is discarded, and other flows can be forwarded).	Optional. This parameter cannot be set to Enable with ACL Enable.	Click the drop-down list to select the Forward.
RateLimit	Enables / disables the flow rate control function, so as to perform rate control of the service flow entering the ONU port.	The options includes Enable and Disable .	Optional. This parameter cannot be set to Enable together with ACL Enable, Queue Enable, and CoS Remark .	Click the drop-down list to select the rate control.
CIR (kbps)	The minimum transmission rate.	The value range is 0 to 100000, with the unit being kbit/s. The default value is 0kbit/s.	Optional. When RateLimit is set to Enable, this parameter is valid.	Double-click to enter the rate value.
CBS (Byte)	The size of the burst traffic.	The value range is not less than 0. The unit is byte. The default value is 0.	Optional. When RateLimit is set to Enable, this parameter is valid.	Double-click to enter the size of the burst traffic.
EBS (Byte)	The size of the excess burst traffic.	The value range is 0 to 4294967294, with the unit being byte. The default value is 0Byte.	Reserved	Double-click to enter the size of the excess burst traffic. It is not recommended that users configure this parameter.

Item	Description	Value Range / Requirement	Property	Configuration Method
PIR (kbit/s)	The maximum cell rate value.	The value range is 0 to 4294967294, with the unit being kbit/s. The default value is 0kbit/s.	Reserved	Double-click to enter the rate value. It is not recommended that users configure this parameter.
Queue Enable	Enables / disables the queue mapping function. When the queue mapping function is enabled, the service flow is mapped into the priority queue according to its priority.	The options includes Enable and Disable .	Optional. This parameter cannot be set to Enable with ACL Enable and RateLimit also enabled.	Click the drop-down list to select the Queue Enable.
Queue Mapped	The queue that the service flow is mapped into according to its priority.	The value range is 0 to 7. 7 means the queue with the highest priority, and 0 means the queue with the lowest priority. The default value is 0.	Optional. When Queue Enable is set to Enable , this parameter is valid.	Double-click to enter the queue that the service flow is mapped into.
COS Remark	Enables / disables the re-tagging function. Modify the priority of a service flow.	The options includes Enable and Disable .	Optional. This parameter cannot be set to Enable with ACL Enable and RateLimit also enabled.	Click the drop-down list to select the COS Remark.
CoS	Modifies the CoS priority tag.	The value range is 0 to 7. 7 means the queue with the highest priority, and 0 means the queue with the lowest priority. The default value is 0.	Optional. When COS Remark is set to Enable , this parameter is valid.	Double-click to enter the priority value.

3.9.7 Enabling / Disabling RSTP

Command function

This command is used to enable / disable the RSTP function of an uplink card.

The RSTP (Rapid Spanning Tree Protocol) is a layer 2 management protocol. It implements path redundancy and path optimization via certain algorithms, and also prunes a loop network into a loop-free tree network. This helps to avoid proliferation and infinite loop of packets in the loop network. The RSTP features fast convergence in the event of network topology changes.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Config**→**RSTP Switch** in the shortcut menu to enter the **RSTP Switch** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
RSTP Switch	Enables / disables the RSTP function.	The options includes Enable and Disable .	Compulsory	Click the drop-down list to select the RSTP switch.

3.9.8 Configuring an Ethernet Switch Queue Scheduling Algorithm Profile

Command function

This command is used to configure the priority mode of data forwarding of the switch chip in the ONU. The switch chip in the ONU arranges the uplink and downlink services in different priority queues according to the flow features, and performs scheduling of the uplink and downlink services according to the priority algorithm.

- ◆ Strict priority ensures that higher-priority services are always processed prior to lower-priority services.

- ◆ Weight priority is a weight round robin queue scheduling mechanism. In this mode, the system first processes higher-priority services, but when the system processes higher-priority services, lower-priority services are not blocked completely, and they are processed by a certain proportion at the same time.
- ◆ Mixed priority includes strict priority and weight priority.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Config**→**Queue Schedule Profile** to enter the **Queue Schedule Profile** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Profile Name	The name of the Ethernet switch queue scheduling algorithm profile.	The value range: 1 to 20 characters, and a profile name can only consist of letters, digital numbers, and underlines.	Compulsory	Double-click to enter the profile name.
Mode	The priority mode of data forwarding of the switch chip in the ONU.	Its value includes: Strict Priority , Weight Priority , and Mixed Priority . The default value is Weight Priority .	Compulsory	Click the drop-down list to select the mode.
Queue Priority	An EPON FTTB ONU port only supports four priority queues, and a port of another ONU type supports eight priority queues. According to the configured mapping relationships and priority of a message, the system makes each message enter the corresponding queue and receive processing of corresponding QoS level. Priority 7 means the queue with the highest priority, and priority 0 means the queue with the lowest priority.	-	Optional. When the Mode is set to Strict Priority , this parameter is invalid.	Click the drop-down list to select the queue priority.

Item	Description	Value Range / Requirement	Property	Configuration Method
Queue Schedule Method	The queue scheduling algorithm corresponds to the priority mode.	Its value includes Strict Priority and Weight Priority .	Optional. When the Mode is set to Strict Priority , this parameter is invalid.	Click the drop-down list to select the queue schedule method.
Weight	The service processing bandwidth assignment proportion. The higher the weight value of a service is, the more bandwidth it occupies for processing.	The value range is 1 to 55.	Compulsory When the Queue Schedule Method is set to Weight Priority , this parameter is valid.	Double-click to enter the weight.

3.9.9 Managing a DBA Profile

3.9.9.1 Configuring a DBA Configuration Profile

Command function

This command is used as follows: Filters the uplink service flow entering the ONU port, and performs dynamic bandwidth assignment via binding the SLA configuration profile, so as to increase the uplink bandwidth utilization ratio of the system and guarantee fairness and QoS of the service.



Note:

Before configuring a **DBA configuration profile**, users need to complete configuration of the flow classification rule and the SLA configuration profile.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select Config DBA Profile ManageDBA Configuration Profile in the shortcut menu. Then the DBA Configuration Profile window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
DBA Profile name	The DBA profile name.	Users can create up to 1022 profiles with 1 to 20 characters, and a profile name can only consist of letters, digital numbers, and underlines.	Compulsory	Double-click to enter the profile name.
Service SN	Auto-generated serial number	The value range is 1 to 7.	Compulsory	Double-click to enter the service serial number.
Flow Classification Rule Profile	The name of the flow classification rule to be bound with.	Select from the flow classification rule profile names configured in the Flow Classification Rule window.	Compulsory	Click the drop-down list to select the flow classification rule profile.
LLID SLA Profile	The name of the SLA profile to be bound with.	Select from the SLA configuration profile names configured in the SLA Config Profile window.	Compulsory	Click the drop-down list to select the LLID SLA profile.

3.9.9.2 Configuring a SLA Configuration Profile

Command function

This command is used to configure bandwidth for the uplink / downlink service flow of the ONU according to the SLAs of different subscribers.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Config**→**DBA Profile Manage**→**SLA Configuration Profile** in the shortcut menu. Then the **SLA Configuration Profile** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
LLID SLA Profile name	SLA Profile name	Users can create up to 1020 profiles and enter up to 20 characters.	Compulsory	Double-click to enter the profile name.
Up CIR (kbit/s)	The minimum guaranteed bandwidth that the ONU can obtain, used to transmit the uplink service flow of the ONU. When the uplink service flow of an ONU does not reach the minimum guaranteed bandwidth, the system can assign the remaining bandwidth for uplink services of other ONUs via the DBA mechanism.	The value range is 0, 256 to 10000000. The unit is kbit/s. The default value is 640kbit/s.	Compulsory	Double-click to enter the bandwidth value.
Up PIR (kbit/s)	The maximum bandwidth that the ONU can obtain, used to transmit the uplink service flow of the ONU.	The value range is 256 to 10000000. The unit is kbit/s. The default value is 1000000kbit/s.	Compulsory	Double-click to enter the bandwidth value.
Up FIR (kbit/s)	The fixed bandwidth distributed to the ONU, used to transmit the uplink service flow of the ONU. When an ONU does not transmit uplink service flow, this ONU still can obtain the fixed bandwidth, and this fixed bandwidth cannot be used by other ONUs.	The value range is 0 to 10000000. The unit is kbit/s. The default value is 0kbit/s.	Compulsory	Double-click to enter the bandwidth value.

Item	Description	Value Range / Requirement	Property	Configuration Method
Up min Scheduler level	<p>Performs the minimum bandwidth level scheduling of the LLID of the ONU.</p> <p>The system will first assign bandwidth for the uplink service with a high level.</p>	The value range is 0 to 7. 0 means the highest level, and 7 means the lowest level This item is 1 by default.	Optional. When Mode is set to Common, this parameter is invalid.	Double-click to enter the scheduling level value.
Up max Scheduler level	<p>Performs the maximum bandwidth level scheduling of the LLID of the ONU.</p> <p>The system will first assign bandwidth for the uplink service with a high level.</p>	The value range is 0 to 7. 0 means the highest level, and 7 means the lowest level This item is 5 by default.	Optional. When Mode is set to Common, this parameter is invalid.	Double-click to enter the scheduling level value.
Up Polling level	<p>Performs the polling level scheduling of the LLID of the ONU.</p> <p>The system will first assign bandwidth for the uplink service with a high level.</p>	The value range is 0 to 7. 0 means the highest level, and 7 means the lowest level This item is 1 by default.	Optional. When Mode is set to Common, this parameter is invalid.	Double-click to enter the scheduling level value.
Dn CIR (kbit/s)	<p>The minimum guaranteed bandwidth that the ONU can obtain, used to transmit the downlink service flow of the ONU.</p> <p>When the downlink service flow of an ONU does not reach the minimum guaranteed bandwidth, the system can assign the remaining bandwidth for uplink services of other ONUs via the DBA mechanism.</p>	The value range is 256 to 10000000. The unit is kbit/s. The default value is 640kbit/s.	Optional	Double-click to enter the bandwidth value.
Dn PIR (kbit/s)	The maximum bandwidth that the ONU can obtain, used to transmit the downlink service flow of the ONU.	The value range is 256 to 10000000. The unit is kbit/s. The default value is 1000000kbit/s.	Optional	Double-click to enter the bandwidth value.

Item	Description	Value Range / Requirement	Property	Configuration Method
Dn min Scheduler level	Performs the minimum bandwidth level scheduling of the LLID of the ONU. The system will first assign bandwidth for the uplink service with a high level.	The value range is 0 to 7. 0 means the highest level, and 7 means the lowest level This item is 1 by default.	Optional. When Mode is set to Common, this parameter is invalid.	Double-click to enter the scheduling level value.
Dn max Scheduler level	Performs the maximum bandwidth level scheduling of the LLID of the ONU. The system will first assign bandwidth for the uplink service with a high level.	The value range is 0 to 7. 0 means the highest level, and 7 means the lowest level This item is 5 by default.	Optional. When Mode is set to Common, this parameter is invalid.	Double-click to enter the scheduling level value.
Mode	If users need to adjust the bandwidth assignment parameters accurately, they should select Advanced . If users only configure Up CIR (kbit/s), Up PIR (kbit/s), and Up FIR (kbit/s) and use the default values of other parameters, they can select Common .	Its value includes Common and Advanced .	Compulsory	Click the drop-down list to select Common or Advanced .

3.9.9.3 Refreshing a DBA Profile

Command function

This command is used to refresh configuration of a DBA profile. Its function is described as follows: After a DBA profile is bound with the designated ONU, if its configuration is modified, users can perform the DBA profile refreshing command to apply the modified DBA profile configuration to the ONU.



Note:

Before refreshing a DBA profile, users need to complete configuration of the DBA configuration profile.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Config**→**DBA Profile Manage**→**DBA Profile refresh** in the shortcut menu. Then the **DBA Profile refresh** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
DBA Profile name	The name of the DBA profile to be refreshed.	This value should use the DBA profile name configured in the DBA Configuration Profile window.	Compulsory	Click the drop-down list to select the DBA profile name.

3.10 Basic Ethernet Configuration

3.10.1 Configuring a Static Route

Command function

This command is used to configure the parameters of the static route from the equipment to the destination network. The parameters to be configured include **destination network IP address**, **gateway** and **mask**.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Config**→**Static Routing** in the shortcut menu. Then the **Static Routing** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the HSWA card.	Its value includes 9 and 10.	Read-only	Click the drop-down list to select the slot 9.
Route Destination	The IP address of the destination network.	General Internet IP address	Compulsory	Double-click to enter the destination network IP address.
Gateway	The gateway of the destination network IP address.	General Internet IP address	Compulsory	Double-click to enter the gateway.
Subnet	The mask of the destination network IP address.	-	Compulsory	Click the drop-down list to select the mask.

3.10.2 Configuring Signaling Tracing

Command function

This command is used to enable or disable the signaling tracing function and define the features of the packets to be traced. The feature parameters include **IP**, **L4 Src Port No.** and **L4 Dst Port No.**. When the signaling tracing function is enabled, the equipment will send the packets with the set features to the network management server, and users can trace and analyze these packets.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Config**→**Signal Trace** in the shortcut menu. Then the **Signal Trace** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
IP Address	The destination IP address of the packet. The packet whose destination IP address is the value set here will be sent to the network management server.	-	Compulsory	Double-click to enter the destination IP address of the packet.
L4 Src Port No.	The L4 source port number of the packet. The packet whose source port number is the value set here will be sent to the network management server.	The value range is 1 to 65534.	Compulsory	Double-click to enter the L4 source port number of the packet.
L4 Dst Port No.	The L4 destination port number of the packet. The packet whose destination port number is the value set here will be sent to the network management server.	The value range is 1 to 65534.	Compulsory	Double-click to enter the L4 destination port number of the packet.
Enable Status	Enables / disables the signaling trace function.	The options includes Enable and Disable .	Compulsory	Click the drop-down list to select Enable or Disable .

3.10.3 DHCP

3.10.3.1 Enabling DHCP Snooping Function

Command function

This command is used to enable the DHCP snooping function of the AN5116-06B. After this function is enabled, the equipment snoops the DHCP messages, and extracts / records the IP address and MAC address information from the received DHCP Request or DHCP Ack messages.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Config**→**DHCP**→**DHCP Snooping Switch** in the shortcut menu. Then the **DHCP Snooping Switch** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Switch	Enables / disables the DHCP snooping function.	Its value includes Enable and Disable . Disable by default.	Compulsory	Click the drop-down list to select Enable or Disable.

3.10.3.2 Configuring a DHCP Snooping Trusted Port

Command function

This command is used to set a certain uplink port as the trusted port. A trusted port can receive and forward DHCP Offer messages normally; a non-trusted port will discard the received DHCP Offer messages. Via this operation, the system can filter information from an illegal DHCP server, so as to ensure that the client end obtains the IP address from the legal DHCP server.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Config**→**DHCP**→**DHCP Snooping Trusted Ports** in the shortcut menu. Then the **DHCP Snooping Trusted Ports** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Uplink Port No.	Selects a trusted uplink port as follows:	Includes: 19:XFP , 19:SFP1 to 19:SFP4 , 20:SFP1 to 20:SFP6 .	Optional. When the DHCP snooping function is enabled, this parameter is valid.	Click the drop-down list to select the uplink port number.

3.10.3.3 Managing Line Identifier

Command function

The AN5116-06B uses this command to select one of the following modes to add its own access node identifier, cabinet number, and subrack number in the DHCP Request message: DHCP Option82, Option18, or PPPoE+.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Config**→**DHCP**→**Line Identifier Management** in the shortcut menu. Then the **Line Identifier Management** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Option82 Switch	After this parameter is set to Enable, as the DHCP relay agent, the AN5116-06B will add the Option82 option in the received DHCP Request message, and report its own address information and the DHCP client end address information to the DHCP server. To enable this function, users should use DHCPv4 to obtain the IPv4 address.	When the DHCP Option82 mode is used, set this parameter to Enable.	Optional	Click the drop-down list to select the Option82.
Option18 Switch	After this parameter is set to Enable, as the DHCP relay agent, the AN5116-06B will add the Option18 option in the received DHCP Request message, and report its own address information and the DHCP client end address information to the DHCP server. To enable this function, users should use DHCPv6 to obtain the IPv6 address.	When the DHCP Option18 mode is used, set this parameter to Enable.	Optional	Click the drop-down list to select the Option18.

Item	Description	Value Range / Requirement	Property	Configuration Method
PPPoE+ Switch	After this parameter is set to Enable, the AN5116-06B will add its own address information in the received PPPoE PADI and PPPoE PADR messages, and report this information and the DHCP client end address information to the DHCP server. To enable this function, users must use PPPoE to obtain the IP address.	When the PPPoE + mode is used, set this parameter to Enable.	Optional	Click the drop-down list to select the PPPoE+ switch.
AccessNodeIdentifier	The identifier of the AN5116-06B.	The value range: 1 to 50 characters, and the value can only consist of letters, digital numbers, and underlines.	Optional. When Option82 Switch, Option18 Switch, and PPPoE + Switch are all set to Disable, this parameter is invalid.	Double-click to enter the identifier of the AN5116-06B
ANI-rack	The number of the cabinet.	The value range is 0 to 15.	Optional. When Option82 Switch, Option18 Switch, and PPPoE+ Switch are all set to Disable, this parameter is invalid.	Double-click to enter the number of the cabinet.
ANI-frame	The number of the subrack.	The value range is 0 to 31.	Optional. When Option82 Switch, Option18 Switch, and PPPoE+ Switch are all set to Disable, this parameter is invalid.	Double-click to enter the number of the subrack.

3.10.3.4 DHCP SNOOPING Trust Server

Command function

This command is used to configure the uplink trust server of the DHCP Snooping, receiving and transmitting the DHCP Offer messages.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Config**→**DHCP**→**DHCP Snooping Trust Server** in the shortcut menu. Then the **DHCP Snooping Trust Server** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Server IP	The IP address of the DHCP SNOOPING trust server.	General Internet IP address	Optional. When the DHCP snooping function is enabled, this parameter is valid.	Double-click to enter the server IP address.

3.10.3.5 Configuring Line Identifier Format

Command function

This command is used to configure the system line identifier format and transparent options. The system can use the CTC standard, the CNC standard, or the user defined configuration to set the line identifier format, so as to add the subscriber information and equipment information in the packets for the upper level BRAS equipment to manage conveniently.



Note:

Before configuration, users need to select the line identifier format. For the CTC standard and the CNC standard, users can select them directly; to use the user defined configuration, users need to determine the line identifier message format.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Config**→**DHCP**→**Circuit ID Format** in the shortcut menu. Then the **Circuit ID Format** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
ID Format Type	The type of the identifier format.	Its value includes Use CTC Format, Use CNC Format, and Customer Format.	Compulsory	Select or clear the check box to enable / disable the flow mirroring function.
Custom String	The user defined fixed value of the line identifier.	-	Optional. When ID Format Type is set to Customer Format, this parameter is valid.	Double-click to enter the string value.
Circuit ID Variable	The line identifier variable needed for the user defined configuration.	The value includes: Outer VLAN, Inner VLAN, AccessNodeIdentifier, ANI-rack, ANI-frame, ANI-slot, ANI-PON-port, ANI-ONU-ID(MAC), Uplink-port-type, Service-card-type, OLT-management – VLAN-IP, ONU-authorization-No., ONU-type, MDU-ONU-slot, MDU-ONU-subslot, MDU-ONU-UNI-port, ONU-user-port-type, ,Port -VPI/SVLAN, Port -VCI/CVLAN, IAD-IP, IAD-MAC and Access-type.	Optional. When ID Format Type is set to Customer Format, this parameter is valid.	Click the drop-down list to select the circuit ID variable.
Delimiter	The delimiter between different line identifier variables.	-	Optional. When ID Format Type is set to Customer Format, this parameter is valid.	Click the drop-down list to select the delimiter.

Item	Description	Value Range / Requirement	Property	Configuration Method
TRUST-IPDSLAM	The identifier of the transparent IP DSLAM message. When the IPDSLAM-ID value is the same as the identifier value of the line identifier message, this message will be transmitted transparently.	-	Compulsory	Select or clear the check box to enable / disable the flow mirroring function.
IPDSLAM-PARAM	The type of the variable matching the IP DSLAM line identifier.	Users can select ONU-ID , AccessNodeIdentifier , or Access-type .	Compulsory	Click the drop-down list to select the IPDSLAM-PARAM.
IPDSLAM-ID	The variable value matching the IP DSLAM line identifier message. If the matching succeeds, this message will be transmitted transparently.	-	Compulsory	Double-click to enter the variable value matching the IP DSLAM line identifier message.
TRUST-LAN	The identifier of the transparent LAN ONU message. When the LAN-ID value is the same as the identifier value of the line identifier message, this message will be transmitted transparently.	-	Compulsory	Select or clear the check box to enable / disable the flow mirroring function.

Item	Description	Value Range / Requirement	Property	Configuration Method
LAN-PARAM	The type of the variable matching the LAN ONU line identifier.	Users can select ONU-ID , AccessNodeIdentifier , or Access-type .	Compulsory	Click the drop-down list to select the LAN-PARAM.
LAN-ID	The variable value matching the LAN ONU line identifier message. If the matching succeeds, this message will be transmitted transparently.	-	Compulsory	Double-click to enter the variable value matching the IP DSLAM line identifier message.

3.10.3.6 Remote Identifier Format

Command function

This command is used to configure the Remote ID format of the Option82 and confirm how to add user and equipment information into the data packet, so as to facilitate the higher layer BRAS equipment management.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Config**→**DHCP**→**Remote Identifier Format** in the shortcut menu. Then the **Remote Identifier Format** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Remote Identifier Format	Set the remote identifier format according to the requirement. The remote identifier variables supported by the equipment include the source MAC address of the message (variable identifier is %h), MAC address of the core switch card (variable identifier is %z) and the PON MAC address of the ONU (variable identifier is %C). The variable identifier should be separated from the subsequent character strings or variables by a separator. The separator can be the follows: space, ,, /, ;, :, {, }, <, >, [and].	The variable identifier can be composed of any character strings or variables with up to 256 characters.	Compulsory	Double-click to enter the remote identifier format.

3.10.4 Trunking Mode Configuration

Command function

This command is used to configure the trunking mode of the TRUNK group.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Config**→**Trunking Mode Config** in the shortcut menu. Then the **Trunking Mode Config** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Group No.	The serial number of the TRUNK group.	-	Read-only	-
Trunking Mode	<p>The trunking mode of the TRUNK group.</p> <ul style="list-style-type: none"> ◆ Manual trunking: manually add multiple member interfaces into the trunking group. All the interfaces are forwarding, so as to share the traffic load. ◆ Static LACP: the trunking mode that performs the trunking parameter negotiation and activity / non-activity interface confirmation using the LACP protocol message. 	Includes: manual trunking and static LACP .	Compulsory	Click the drop-down list to select the trunking mode.

3.10.5 Configuring Trunking Link Aggregation

Command function

This command is used to configure the static trunking group of the AN5116-06B. Compared with the LACP mode, Trunking needs manual setting of trunking member ports. The member ports can only be uplink ports. Users cannot configure trunking and LACP modes at the same time.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Config**→**Port Trunking** in the shortcut menu. Then the **Port Trunking** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Trunk Group SN	The TRUNK group serial number in the Trunking Mode Config window.	-	Read-only	Click the drop-down list to select the serial number.
Trunk Group Master Port	The master port of a certain trunking group. A trunking group can only have one master port.	This parameter will be displayed according to the master port.	Read-only	-
Trunk Group Member Port	The member port of a certain trunking group.	This parameter will be displayed according to the member port.	Read-only	-
Port Name	The system reads the available uplink ports of the equipment automatically, with the format being slot number: port type .	-	Read-only	-
Master Port	The master port of a certain trunking group. A trunking group can only have one master port.	All uplink ports	Compulsory	Select or clear the check box to enable / disable the flow mirroring function.
Member Port	The member port of a certain trunking group.	All uplink ports except for the master port.	Compulsory	Select or clear the check box to enable / disable the flow mirroring function.

3.10.6 Configuring Port Mirroring

Command function

This command is used as follows: Mirrors the data on a certain uplink port to a designated uplink port, so as to perform the real time network traffic analysis and fault diagnosis.



Note:

- ◆ Users can configure only one pair of ports to perform the port mirroring,
- ◆ which should be within the same VLAN.
- ◆ Disable the mirror function after the operation is completed.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Config**→**Port Mirror** in the shortcut menu. Then the **Port Mirror** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Mirroring Port	The data are mirrored to this uplink port. It can be any one of the available uplink ports on the equipment.	-	Compulsory	Click the drop-down list to select the mirroring port.
Mirrored Port	The data on this port are mirrored to the mirroring port. It can be any one of the available uplink ports on the equipment other than the mirroring port.	-	Compulsory	Click the drop-down list to select the mirrored port.

3.10.7 APR Proxy Management

3.10.7.1 APR Proxy Enable

Command function

This command is used to enable or disable the APR proxy function of the AN5116-06B so as to provide the ARP proxy for the voice communication within the equipment.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Config**→**DHCP**→**APR Proxy Management** in the shortcut menu. Then the **APR Proxy Management** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
APR Proxy Enable	Enables or disables the APR proxy function.	The options includes Enable and Disable .	Compulsory	Click the drop-down list to select the APR Proxy Enable.
APR Proxy Entity	The names of the cards that provides the APR proxy function.	Includes: the HSWA card or the PUBA card.	Compulsory	Click the drop-down list to select the APR proxy entity.

3.10.7.2 APR Proxy Subnet

Command function

This command is used to configure the IP address of the ARP proxy subnet.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Config**→**APR Proxy Management**→**APR Proxy Subnet** in the shortcut menu. Then the **APR Proxy Subnet** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
SN	Auto-generated serial number	-	Read-only	-
Proxy IP	The subnet IP and mask of the ARP proxy.	General Internet IP address	Compulsory	Double-click to enter the proxy IP address and click the drop-down list to select the mask.

3.10.7.3 APR Proxy Range

Command function

This command is used to enable the ACL to make the configured IP address matching rule valid.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Config**→**DHCP**→**APR Proxy Range** in the shortcut menu. Then the **APR Proxy Range** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Access Control List Name	The ACL names used for the ARP proxy.	Select from the access control list configured in the Create layer 3 ACL .	Compulsory	Click the drop-down list to select the access control list name.

3.10.7.4 ARP Proxy Switch under VLAN

Command function

This command is used to configure the ARP proxy switch of Super VLAN.



Note:

- ◆ This item can only be read from the equipment. The ARP proxy switch can be configured after the Super VLAN is configured.
- ◆ The ARP proxy switch of routing style, within the VLAN and between the VLANs have the same function. Select one of them to configure.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Config**→**APR Proxy Management**→**ARP Proxy Switch under VLAN** in the shortcut menu. Then the **ARP Proxy Switch under VLAN** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
VLAN ID	Super VLAN ID.	The value range is 1 to 4085.	Compulsory	Double-click to enter the VLAN ID value.
ARP proxy switch (routing style)	Enable or disable the ARP proxy switch of Super VLAN.	The options includes Enable and Disable .	Compulsory	Click the drop-down list to select Enable or Disable .
ARP proxy switch (within VLAN)	Enable or disable the ARP proxy switch of Super VLAN.	The options includes Enable and Disable .	Compulsory	Click the drop-down list to select Enable or Disable .
ARP proxy switch (between VLANs)	Enable or disable the ARP proxy switch of Super VLAN.	The options includes Enable and Disable .	Compulsory	Click the drop-down list to select Enable or Disable .

3.10.7.5 Slot Interconnection Configuration

Command function

This command is used to interconnect the PON interface cards to make the users of different PON port under the same slot can access each other.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Config**→**APR Proxy Management**→**Slot Interconnection Config** in the shortcut menu. Then the **Slot Interconnection Config** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card for interconnection.	The value range is 1 to 8 and 11 to 18.	Compulsory	Click the drop-down list to select the slot number.

3.10.8 LACP Configuration

3.10.8.1 Setting LACP

Command function

This command is used to configure the LACP function of the AN5116-06B. After the LACP function is enabled, users do not need to configure the aggregation member ports manually, and the system can perform the dynamic configuration automatically. Various ports can be aggregated dynamically only under the following conditions: They have the same rate, the same duplex property, and the same basic configurations, and are connected with the same equipment set. The member ports can only be uplink ports. Users cannot configure trunking and RSTP functions when configuring the LACP function.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Config**→**LACP Config** in the shortcut menu. Then the **LACP Config** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Lacp dynamic Switch	Enables / disables the LACP function.	Includes: Enable and Disable	Compulsory	Click the drop-down list to select Enable or Disable .
System Priority	The priority of the AN5116-06B. When the AN5116-06B is connected with the uplink equipment, the system will compare this parameter.	The value range is 0 to 65534. The default value is 32768.	Optional. When Lacp dynamic Switch is set to Enable , this parameter is valid.	Double-click to enter the system priority.

3.10.8.2 Setting LACP Port Parameters

Command function

This command is used to set the LACP protocol parameters of each uplink port. After the uplink card is connected with the uplink equipment, the system will compare these parameters of different uplink ports, and the parameters of a high-priority uplink port will act as the group parameters of the group including this port.



Note:

Before configuring the **LACP port parameter** command, users need to enable the LACP function.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Config**→**LACP Config** in the shortcut menu. Then the **LACP Config** window will appear, and click the **LACP Port Config** tab.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Uplink Port No.	The number of the port supporting the LACP function, with the format being slot number: port number . The system can automatically read all ports supporting the LACP function.	Select from the uplink port number configured in the LACP Config .	Read-only	-
Port Priority	When this equipment is interconnected other equipment sets, this parameter will be used for comparison. The less its value is, the higher the port priority is.	The value range is 0 to 65534. The default value is 32768.	Compulsory It is recommended to use the default value.	Double-click to enter the port priority.
Operation Key	The operation key is a configuration combination generated for port aggregation according to the port configuration (rate, duplex mode, basic configuration, and management key) by the LACP protocol. The transmission end and the receiving end must have the same operation key.	The value range is 0 to 65534. The default value is 1.	Compulsory It is recommended to use the default value.	Double-click to enter the operation key.
timer	port timer type	Its value includes Long Timer and Short Timer . ◆ Long Timer indicates that the port sends a packet every 30 seconds, ◆ Short Timer indicates that the port sends a packet every three seconds.	Compulsory	Click the drop-down list to select the timer.

3.10.9 Configuring a CLI Account

Command function

This command is used to set the user name, password, and user level to log in the CLI network management system.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Config**→**Consol User** in the shortcut menu. Then the **Consol User** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Operation UserName	The user name to log in the CLI network management system.	The maximum value length is 32 characters.	Compulsory	Double-click to enter the user name.
Operation Passwd	The password to log in the CLI network management system.	The maximum value length is 32 characters.	Compulsory	Double-click to enter the password.
User Level	The level of the CLI user.	Its value includes Admin and User .	Compulsory	Click the drop-down list to select the user level.

3.10.10 Port Re-direction Configuration

Command function

This command is used to configure the port re-direction function, re-directing the data of the local port to the specified port.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Config**→**Port Re-direction Config** in the shortcut menu. Then the **Port Re-direction Config** window will appear.

Parameter

Item		Description	Value Range / Requirement	Property	Configuration Method
Basic Parameter	Config SN	Auto-generated serial number	-	Read-only	-
	Chip Flow Switch Rule	Matches the flow rule whose rule type is chip switch in the flow classification rules.	Select from the rule IDs configured in the Flow Classification Rule window.	Compulsory	Click the drop-down list to select.
Source port (object: PON line card, PON port, uplink port, FE port, GE port)	Slot No.	The slot number to be re-directed where the port is located.	The value range is 1 to 8 and 11 to 18, 19 and 20.	Compulsory	Click the drop-down list to select the slot number.
	PON No.	The PON port number to be re-directed.	The value range is 1 to 8.	Compulsory	Click the drop-down list to select the PON port number.
	ONU No.	ONU authorization number.	The value range is 1 to 64.	Compulsory	Double-click to enter the ONU port number.
	ONU port number	The ONU port number to be re-directed.	The value range is 1 to 128.	Optional. This parameter is invalid if the port is re-directed to be non-ONU port.	Double-click to enter the ONU port number.
Destination port (object: PON line card, PON port, uplink port, FE port, GE port)	Slot No.	The slot number where the re-directed port is located.	The value range is 1 to 8 and 11 to 18, 19 and 20.	Compulsory	Click the drop-down list to select the slot number.
	PON No.	The re-directed PON port number.	The value range is 1 to 8.	Compulsory	Click the drop-down list to select the PON port number.
	ONU No.	ONU authorization number.	The value range is 1 to 64.	Compulsory	Double-click to enter the ONU port number.

Item		Description	Value Range / Requirement	Property	Configuration Method
	ONU port number	The re-directed ONU port number.	The value range is 1 to 128.	Optional. This parameter is invalid if the port is re-directed to be non-ONU port.	Double-click to enter the ONU port number.

3.11 Security Configuration

3.11.1 Setting Saving Configuration Rule

Command function

This command is used to set the rule to save the configuration parameters (in the ANM2000) in the Flash of the HSWA card.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Config**→**Save Config Set** in the shortcut menu. Then the **Save Config Set** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Save Frequency	<p>The frequency of the system saving the configuration parameters into the Flash of the HSWA card.</p> <ul style="list-style-type: none"> ◆ When it is set to Not-Auto, the system will not save the configuration automatically. ◆ When it is set to Once-per-Period, the system will save the configuration automatically according to the set period. 	Includes: Not-Auto and Once-per-Period .	Compulsory	Click the drop-down list to select the frequency.
Cycle (s)	The period of the system saving the configuration parameters in the Flash of the HSWA card.	<p>Time length input format: ABC, DE, FG.</p> <ul style="list-style-type: none"> ◆ ABC: day. ◆ DE: hour. ◆ FG: minute. <p>The value range is 000 00:05 to 365 23:59.</p>	Optional. When Save Frequency is set to Once-per-Period , this parameter is valid.	Double-click to enter the cycle.

3.11.2 Enabling Anti-DOS Attack Function

Command function

This command is used to enable the anti-DOS attack function of the equipment. When the anti-DOS attack function is enabled, the equipment can control and limit number of protocol packets sent from a user, so as to increase its anti-attack performance and guarantee the security.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Config**→**Anti-DOS-Attack Switch** in the shortcut menu. Then the **Anti-DOS-Attack Switch** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Enable/Disable	Enables / disables the anti-DOS attack function.	The options includes Enable and Disable . The default value is Disable .	Compulsory	Click the drop-down list to select Enable or Disable .

3.11.3 Configuring a SNMP TRAP Receiving Address

Command function

This command is used to set or modify the receiving address of the SNMP TRAP. After this command is executed, the equipment will send the TRAP message to the network management server matching the set receiving address.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Config**→**SNMP TRAP Receiver IP Address** in the shortcut menu. Then the **SNMP TRAP Receiver IP Address** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
IP Address	The IP address of the network management server.	General Internet IP address	Compulsory	Double-click to enter the IP address.
Udp Port	The number of the TRAP-receiving port of the network management system.	-	Read-only	-
Community	The community parameter in the TRAP message.	Users can enter up to 32 characters. The default value is adsl .	Compulsory	Double-click to enter the community.
SNMP Version	The protocol version number of SNMP.	Its value includes SNMP v1 and SNMP v2c . The default value is SNMP v2c .	Compulsory	Click the drop-down list to select the SNMP version.

3.11.4 Packet Suppression on an Uplink Port

Command function

This command is used to configure or query the function of suppressing broadcast packets, multicast packets, and unknown packets on an uplink port. When the packet suppression function is enabled, the switch chip in the core switch card will suppress the broadcast packets, multicast packets, and unknown packets sent to the CPU port, so as to ensure normal working of the CPU.

The uplink port packet suppression function is used to suppress the downlink broadcast packets, multicast packets, and unknown packets.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Config**→**Upport Packet Rate Control** in the shortcut menu. Then the **Upport Packet Rate Control** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Port No.	The number of the uplink port.	-	Read-only	-
Type of packet	The type of the packet suppression.	-	Read-only	-
Enable/Disable	Enables / disables the packet suppression function of the uplink port.	The options includes Enable and Disable .	Compulsory	Select or clear the check box to enable / disable the flow mirroring function.
Rate Limit	Sets the number of packets that can pass through the uplink port per second.	The value range is 1 to 262142, with the unit being packet/s. The default value is 100 packet/s.	Optional. When the packet suppression function is enabled, this parameter is valid.	Double-click to enter the rate limit.

3.11.5 Enabling Anti MAC Spoofing Function

Command function

This command is used to prevent malicious users from attacking the network by forging MAC addresses.

MAC spoofing is described as follows: Malicious users forge the MAC addresses of common users to damage the services of these users. Malicious users can also transmit a large number of forged packets that contain different MAC addresses to the system, which affects the normal operation of the system or even causes a network disruption.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Config**→**Anti-MAC-Spoofing Switch** in the shortcut menu. Then the **Anti-MAC-Spoofing Switch** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Enable/Disable	Enables / disables the anti MAC spoofing function.	The options includes Enable and Disable . The default value is Disable .	Compulsory	Click the drop-down list to select Enable or Disable .

3.11.6 Configuring Access Control of Network Management System

Command function

This command is used to set the access control rule for the network management server to access the equipment. After this command is executed, only the network management server matching the set IP address can access the equipment so that the equipment security can be increased.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Config**→**Control User** in the shortcut menu. Then the **Control User** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
IP Address	The IP address of access control. Set this parameter to the IP address of the network management server in general.	General Internet IP address	Compulsory	Double-click to enter the IP address.
Mask	The IP address mask of access control.	If the system allows a certain IP address to access the equipment, the mask configuration should be 255.255.255.255. The default value is 255.255.255.255.	Compulsory	Click the drop-down list to select the mask.
Enable/Disable	Enables or disables the network management system access control rule.	The options includes Enable and Disable .	Compulsory	Click the drop-down list to select Enable or Disable .

3.11.7 Configuring a Packet Suppression Profile

Command function

This command is used to configure or query the function of suppressing uplink broadcast packets, multicast packets, and unknown packets on an ONU port.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Config**→**Packets Rate Control Profile** in the shortcut menu. Then the **Packets Rate Control Profile** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Profile Name	Profile Name	The value range: 1 to 20 characters, and a profile name can only consist of letters, digital numbers, and underlines.	Compulsory	Double-click to enter the profile name.
Type of packet	The type of the packet suppression.	-	Read-only	-
Enable/Disable	Enables / disables the packet suppression function of the ONU port.	The options includes Enable and Disable . The default value is Disable.	Compulsory	Click the drop-down list to select Enable or Disable .
Rate Limit	Sets the number of packets that can pass through the ONU port per second.	The value range is 1 to 262142, with the unit being kbit/s. The default value is 64kbit/s.	Optional. When the packet suppression function is enabled, this parameter is valid.	Double-click to enter the rate limit.

3.11.8 Configuring a Smart Grid Server

Command function

This command is used to configure the related parameters of the smart grid server connected with the equipment.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Config**→**Smart Grid Server Config** in the shortcut menu. Then the **Smart Grid Server Config** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Smart Grid Server Name	The name of the smart grid server connected with the equipment.	The value range: 0 to 20 characters.	Compulsory	Double-click to enter the name of the smart grid server.
Connect IP	The IP address of the smart grid server connected with the equipment.	-	Compulsory	Click the drop-down list to select IPv4, and Double-click to enter the IP address of the smart grid server connected with the equipment.
Connect Port	The port number of the smart grid server connected with the equipment.	The value range is 0 to 65535.	Compulsory	Double-click to enter the port number.

3.12 Alarm Management

3.12.1 Configuring Temperature Threshold

Command function

This command is used to set the system temperature alarm threshold. If the system temperature is higher than the threshold value, the corresponding alarm prompt will be displayed in the **Alarm Report** pane at the bottom part of the ANM2000 GUI.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Config**→**Temp Threshold** in the shortcut menu to enter the **Temp Threshold** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
TempThreshold	The equipment temperature alarm threshold. When the equipment temperature is higher than the set threshold value, an alarm will be reported.	The value range is 35 to 85, with the unit being °C. The default value is 65°C.	Compulsory	Double-click to enter the equipment temperature alarm threshold.

3.12.2 Configuring Optical Module Alarm Thresholds

Command function

This command is used to set the alarm thresholds of an OLT optical module. The related parameters include temperature, voltage, bias current and optical Tx / Rx power. If the equipment detects that the value of a certain previous parameter exceeds its range, the corresponding alarm prompt will be displayed in the **Alarm Report** pane at the bottom part of the ANM2000 GUI.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Alarm Manage** → **Optmodule AlarmThreshold** in the shortcut menu to enter the **Optmodule AlarmThreshold** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Maximum Temperature Alarm Threshold (°C)	When the equipment detects that the actual temperature of an OLT optical module is higher than the set threshold, the corresponding alarm prompt will be displayed in the ANM2000 GUI.	The value range is -40.00 to 100.00, with the unit being °C. The default value is 100°C.	Compulsory	Double-click to enter the maximum temperature alarm threshold.
Minimum Warning Temperature Threshold (°C)	When the equipment detects that the actual temperature of an OLT optical module is lower than the set threshold, the corresponding alarm prompt will be displayed in the ANM2000 GUI.	The value range is -40.00 to 100.00, with the unit being °C. The default value is -40°C.	Compulsory	Double-click to enter the minimum temperature alarm threshold.
Maximum Voltage Alarm Threshold (V)	When the equipment detects that the actual voltage of an OLT optical module is higher than the set threshold, the corresponding alarm prompt will be displayed in the ANM2000 GUI.	The value range is 0.00 to 3.60, with the unit being V. The default value is 3.60V.	Compulsory	Double-click to enter the maximum voltage alarm threshold.
Minimum Warning Voltage Alarm Threshold (V)	When the equipment detects that the actual voltage of an OLT optical module is lower than the set threshold, the corresponding alarm prompt will be displayed in the ANM2000 GUI.	The value range is 0.00 to 3.60, with the unit being V. The default value is 3.00V.	Compulsory	Double-click to enter the minimum voltage alarm threshold.
Maximum Bias Current Alarm Threshold (mA)	When the equipment detects that the actual current of an OLT optical module is higher than the set threshold, the corresponding alarm prompt will be displayed in the ANM2000 GUI.	The value range is 0.0 to 100.0, with the unit being mA. The default value is 100.0mA.	Compulsory	Double-click to enter the maximum bias current alarm threshold.

Item	Description	Value Range / Requirement	Property	Configuration Method
Minimum Warning Bias Current Alarm Threshold (mA)	When the equipment detects that the actual current of an OLT optical module is lower than the set threshold, the corresponding alarm prompt will be displayed in the ANM2000 GUI.	The value range is 0.0 to 100.0, with the unit being mA. The default value is 0.0mA.	Compulsory	Double-click to enter the minimum warning bias current alarm threshold.
Maximum TX Power Alarm Threshold (Dbm)	When the equipment detects that the actual optical Tx power of an OLT optical module is higher than the set threshold, the corresponding alarm prompt will be displayed in the ANM2000 GUI.	The value range is -4.00 to 10.00, with the unit being dBm. The default value is 8.00dBm.	Compulsory	Double-click to enter the maximum TX power alarm threshold.
Minimum Warning TX Power threshold (Dbm)	When the equipment detects that the actual optical Tx power of an OLT optical module is lower than the set threshold, the corresponding alarm prompt will be displayed in the ANM2000 GUI.	The value range is -4.00 to 10.00, with the unit being dBm. The default value is 0.00dBm.	Compulsory	Double-click to enter the minimum TX power alarm threshold.
Maximum RX Power Alarm Threshold (Dbm)	When the equipment detects that the actual optical Rx power of an OLT optical module is higher than the set threshold, the corresponding alarm prompt will be displayed in the ANM2000 GUI.	The value range is -32.00 to -1.00, with the unit being dBm. The default value is -50.00dBm.	Compulsory	Double-click to enter the maximum RX power alarm threshold.
Minimum Warning RX Power threshold (Dbm)	When the equipment detects that the actual optical Rx power of an OLT optical module is lower than the set threshold, the corresponding alarm prompt will be displayed in the ANM2000 GUI.	The value range is -32.00 to -1.00, with the unit being dBm. The default value is -32.00dBm.	Compulsory	Double-click to enter the minimum RX power alarm threshold.

3.12.3 Configuring CPU / Memory Utilization Ratio Threshold of a Card

Command function

This command is used to set or modify the CPU / memory utilization ratio threshold of a certain card. When the actual CPU / memory utilization ratio of this card is higher than the threshold value, the corresponding alarm prompt will be displayed in the **Alarm Report** pane at the bottom part of the ANM2000 GUI.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Alarm Manage** → **CPU/Memory Usage Threshold** in the shortcut menu to enter the **CPU/Memory Usage Threshold** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the object card.	The value range is 1 to 18.	Compulsory	Click the drop-down list to select the slot number.
CPU Usage Threshold (%)	When the actual CPU utilization is higher than the set threshold, the corresponding alarm prompt will be displayed in the ANM2000 GUI. This alarm indicates that the CPU is too busy.	The value range is 0.00 to 100.00. The default value is 90.	Compulsory	Double-click to enter the CPU usage threshold.
Memory Usage Threshold (%)	When the actual memory utilization ratio is higher than the set threshold, the corresponding alarm prompt will be displayed in the ANM2000 GUI. This alarm indicates that the memory utilization ratio is too high.	The value range is 0.00 to 100.00. The default value is 90.	Compulsory	Double-click to enter the memory usage threshold.

3.12.4 Configuring CPU / Memory Utilization Ratio Threshold of ONUs

Command function

This command is used to set or modify the CPU / memory utilization ratio threshold of all ONUs under the OLT. When the actual ONU CPU / memory utilization ratio is higher than the threshold value, the corresponding alarm prompt will be displayed in the **Alarm Report** pane at the bottom part of the ANM2000 GUI.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Alarm Manage** → **ONU CPU/Memory Usage Threshold** in the shortcut menu to enter the **ONU CPU/Memory Usage Threshold** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
CPU Usage Threshold (%)	When the actual CPU utilization is higher than the set threshold, the corresponding alarm prompt will be displayed in the ANM2000 GUI. This alarm indicates that the CPU is too busy.	The value range is 0.00 to 100.00. The default value is 0.00.	Compulsory	Double-click to enter the CPU usage threshold.
Memory Usage Threshold (%)	When the actual memory utilization ratio is higher than the set threshold, the corresponding alarm prompt will be displayed in the ANM2000 GUI. This alarm indicates that the memory utilization ratio is too high.	The value range is 0.01 to 100.00. The default value is 0.00.	Compulsory	Double-click to enter the memory usage threshold.

3.12.5 Default Alarm Property Management

Command function

This command is used to perform default management configuration for the alarm properties.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Alarm Manage** → **Default Alarm Property Management** in the shortcut menu to enter the **Default Alarm Property Management** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Local Alarm Property	Sets the local alarm report. ◆ Immediate report: report all the local alarms by default. ◆ No report: does not report all the local alarms by default.	Includes: Immediate report and No report .	Compulsory	Click the drop-down list to select the local alarm property.
Remote alarm	Sets the remote alarm report. ◆ Immediate report: report all the remote alarms by default. ◆ No report: does not report all the remote alarms by default.	Includes: Immediate report and No report .	Compulsory	Click the drop-down list to select the remote alarm property.

3.13 System Maintenance

3.13.1 Upgrading System Software

Command function

This command is used to upgrade the card software, including the core switch card software, the PON interface card software, the TDM card software, the voice interface card software, and the OLT firmware. Via this command, users can obtain the upgrade file from the appointed server and upgrade the card software.



Note:

After upgrading the software of a certain card successfully, users can right-click the HSWA card and execute the **Get Information** → **Card Version** command to view the card software status.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **System control** → **Upgrade Software** in the shortcut menu. Then the **Upgrade and Backup System Software** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
FileType	The type of the file to be downloaded.	Its value includes HSW, PONINF, TDM, AC16/VOIP/PU, and OLT Firmware.	Compulsory	Click the drop-down list to select the download file type.
FtpServerIp	The IP address of the FTP server.	General Internet IP address	Compulsory	Enter the FTP server IP address
Slot No.	The slot number of the card to be upgraded.	Read the relevant card slot number according to the selected download file type.	Compulsory	Click the drop-down list to select the slot number.

Item	Description	Value Range / Requirement	Property	Configuration Method
UserName	The user name to log in the FTP server.	-	Compulsory	Enter the user name to access the FTP server.
Password	The password to log in the FTP server.	-	Compulsory	Enter the password to access the FTP server.
File Name	The name of the upgrade file.	-	Compulsory	When Manual Input is selected, users can enter the parameter value directly. When Manual Input is not selected, please click the drop-down list to select the value.

3.13.2 Backing up System Software

Command function

This command is used to back up the system software to an appointed server. When the system needs restoration, users can execute the **Upgrade Software** command to read the upgrade file from this server, so as to restore the system to the backed-up software version.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **System control** → **Backup Software** in the shortcut menu. Then the **Upgrade and Backup System Software** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
FtpServerIp	The IP address of the FTP server.	General Internet IP address	Compulsory	Enter the FTP server IP address
UserName	The user name to log in the FTP server.	-	Compulsory	Enter the user name to access the FTP server.

Item	Description	Value Range / Requirement	Property	Configuration Method
Password	The password to log in the FTP server.	-	Compulsory	Enter the password to access the FTP server.
File Name	The name of the backed-up file.	Users can enter up to 16 characters.	Compulsory	Enter the name of the backed-up file.

3.13.3 Upgrading Line Interface Cards in a Batch Manner

Command function

This command is used to upgrade the line interface card software in a batch manner.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **System control** → **Batch Upgrade Line Card** in the shortcut menu. Then the **Batch Upgrade Line Card** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
File Type	The type of the file to be downloaded, that is. the PON interface software.	Only includes the PON interface software .	Compulsory	Click the drop-down list to select the download file type.
FtpServerIp	The IP address of the FTP server.	General Internet IP address	Compulsory	Enter the FTP server IP address
UserName	The user name to log in the FTP server.	-	Compulsory	Enter the user name to access the FTP server.
Password	The password to log in the FTP server.	-	Compulsory	Enter the password to access the FTP server.

Item	Description	Value Range / Requirement	Property	Configuration Method
File Name	The name of the upgrade file.	-	Compulsory	Enter the parameter value directly or click the drop-down list to select the value.
Refresh Time	The time interval of refreshing the object upgrading status.	Includes 30 seconds, 60 seconds and 90 seconds.	Optional	Click the drop-down list to select the refresh time.

3.13.4 Upgrading ONUs in a Batch Manner

Command function

This command is used to upgrade the ONU software in a batch manner. The ONU software to be upgraded includes the ONU system software and the ONU firmware.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **System control** → **Batch Upgrade ONU** in the shortcut menu. Then the **Batch Upgrade ONU** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
File Type	The type of the ONU upgrade file.	Its value includes ONU CPU/IAD and ONU Firmware . <ul style="list-style-type: none"> ◆ To upgrade the CPU or built-in IAD of the ONU, select ONU CPU/IAD. ◆ To upgrade the firmware (including app, boot, and pers) of the ONU, select ONU Firmware. 	Compulsory	Click the drop-down list to select the download file type.
FtpServerIp	The IP address of the FTP server.	General Internet IP address	Compulsory	Enter the FTP server IP address

Item	Description	Value Range / Requirement	Property	Configuration Method
UserName	The user name to log in the FTP server.	-	Compulsory	Enter the user name to access the FTP server.
Password	The password to log in the FTP server.	-	Compulsory	Enter the password to access the FTP server.
File Name	The name of the upgrade file.	-	Compulsory	Enter the parameter value directly or click the drop-down list to select the value.
Slot No.	The number of the slot containing the line interface card connected with the ONU to be upgraded.	-	Compulsory	Click the drop-down list to select the slot number.
Refresh Time	The time interval of refreshing the object upgrading status.	Includes 30 seconds, 60 seconds and 90 seconds.	Optional	Click the drop-down list to select the refresh time.

3.13.5 Importing Configuration Files

Command function

This command is used to download configuration files to the Flash of the HSWA card from the FTP server.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **System control** → **Import Config** in the shortcut menu. Then the **Import Config** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
FtpServerIP	The IP address of the FTP server.	General Internet IP address	Compulsory	Enter the FTP server IP address
UserName	The user name to log in the FTP server.	-	Compulsory	Enter the user name to access the FTP server.
Password	The password to log in the FTP server.	-	Compulsory	Enter the password to access the FTP server.
File Name	The name of the configuration file to be imported to the equipment.	The name of the upgrade file on the FTP server should be the same as the upgrade file name typed in the ANM2000. Users can enter up to 16 characters.	Compulsory	Enter the name of the configuration file.

3.13.6 Importing Configuration Files

Command function

This command is used to export the configuration files in the Flash of the HSWA card to the FTP server.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **System control** → **Export config** in the shortcut menu. Then the **Export config** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
FtpServerIP	The IP address of the FTP server.	General Internet IP address	Compulsory	Enter the FTP server IP address
UserName	The user name to log in the FTP server.	-	Compulsory	Enter the user name to access the FTP server.

Item	Description	Value Range / Requirement	Property	Configuration Method
Password	The password to log in the FTP server.	-	Compulsory	Enter the password to access the FTP server.
File Name	The name of the configuration file to be exported to the FTP server.	Users can enter up to 16 characters.	Compulsory	Enter the name of the configuration file.

3.14 System Control

3.14.1 Saving Configuration in Flash

Command function

This command is used to save the current configuration in the Flash of the HSWA card. After completing all configuration operations in the ANM2000, users need to execute the **Save Config to Flash** command. After the equipment is restarted, the Flash of the HSWA card will feedback the configuration data saved in it to the RAM of the equipment, and the configuration can be displayed in the ANM2000 GUI via the **Read from Device** command.



Note:

After configuring the equipment or modifying the configuration of the equipment, users must execute the **Save Config to Flash** command, otherwise after the equipment is restarted, the unsaved configuration will be lost.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **System control** → **Save Config to Flash** in the shortcut menu. Then the **Sending Commands...** window will appear.

Click the **OK** button to execute the command. After the configuration data are saved successfully, **Command Succeed** will be displayed in the command result pane of the window.

3.14.2 Clearing Configuration in Flash

Command function

This command is used to clear all configuration information in the Flash of the HSWA card of the current equipment and make the equipment return to the factory default.

- ◆ After **Clear All Config** is selected, users cannot access the equipment via the ANM2000.
- ◆ After **Clear All Config Except Manage VLAN** is selected, users still can access the equipment via the ANM2000.



Caution:

After the **Erase Flash** command is executed, the equipment will be restarted automatically. Please operate with cautions.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Config**→**Erase Flash** in the shortcut menu. Then the **Erase Flash** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Action	Two operation modes to clear the configuration information in the Flash.	Its value includes Clear All Config and Clear All Config Except Manage VLAN .	Compulsory	Click the drop-down list to select the operation method.

3.14.3 Exporting Log Files

Command function

This command is used to export the system operating log to an appointed server.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **System control** → **Export Log** in the shortcut menu. Then the **Export Log** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
FtpServerIp	The IP address of the FTP server.	General Internet IP address	Compulsory	Enter the FTP server IP address
UserName	The user name to log in the FTP server.	Users can enter up to 16 characters.	Compulsory	Double-click to enter the user name of the FTP server.
Password	The password to log in the FTP server.	Users can enter up to 16 characters.	Compulsory	Double-click to enter the password of the FTP server.
File Type	The type of the log file to be exported.	Only includes the log files.	Compulsory	Click the drop-down list to select the file type.
File Name	The name of the log file to be exported.	Users can enter up to 20 characters.	Compulsory	Double-click to enter the file name.

3.14.4 Uploading System Log Automatically

Command function

This command is used to enable or disable the function of automatically uploading the system log to an appointed network management server. In addition, it can be used to set interval of automatic uploading operation, the IP address of the appointed network management server, etc.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **System control** → **System Log Auto Upload** in the shortcut menu. Then the **System Log Auto Upload** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Enable	Enables or disables the system log automatic upload function.	Includes: Enable and Disable .	Compulsory	Click the drop-down list to select Enable or Disable.
Report Interval (s)	The interval of the system log to be uploaded.	The value range is 60 to 43200, with the unit being minute.	Optional. This parameter is valid only when Enable is set.	Double-click to enter the interval.
hostip	The IP address of the FTP server.	General Internet IP address	Optional. This parameter is valid only when Enable is set.	Double-click to enter the FTP server IP address
UserName	The user name to log in the FTP server.	Users can enter up to 20 characters.	Optional. This parameter is valid only when Enable is set.	Double-click to enter the user name to access the FTP server.
Password	The password to log in the FTP server.	Users can enter up to 20 characters.	Optional. This parameter is valid only when Enable is set.	Double-click to enter the password to access the FTP server.

3.14.5 Forced Active / Standby Switch

Command function

This command is used to perform forced switching between the active and standby core switch cards. This command is generally executed before users replace the active core switch card or upgrade the software of the active core switch card.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **System control**→**Force Switch** in the shortcut menu. Then the **Sending Commands...** window will appear.

Click the **OK** button in the **command** window. After the forced switching is successful, **Command Succeed** will be displayed in the command result pane of the window.

3.14.6 Resetting Standby Card

Command function

This command is used to reset the standby core switch card.

Users can execute this command after the software of the standby core switch card is upgraded. After the standby core switch card is reset, the ACT indicator LED on its panel will first blink slowly, then blink quickly, and finally be illuminated.

Access method

1. Right-click the HSWA card in the **Object Tree** pane, and select **System control**→**Reset Standby HSWX** in the shortcut menu. Then the **Sending Commands...** window will appear.
2. Click the **OK** button in the **command** window. . After the standby core switch card is reset successfully, **Command Succeed** will be displayed in the command result pane of the window.

3.14.7 Restarting an Appointed Device

Command function

This command is used to restart the entire system or the card in a certain slot. Users can execute this command after the software of the appointed device is upgraded or the appointed device is faulty.

**Caution:**

This command will cause relevant service interruption, so please operate with cautions.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **System Control**→**Reboot The Appointed Device** in the shortcut menu. Then the **Reset the Equipment** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	<p>The entire system or the slot number of the card to be restarted.</p> <ul style="list-style-type: none"> ◆ When it is set to Reset System, the entire system will be restarted. ◆ When it is set to a certain slot number, only the card in this slot will be restarted. 	Includes: Reset System and Reset a certain slot.	Compulsory	Click the drop-down list to select the slot number.

3.14.8 Resetting a PON Port

Command function

This command is used to restart a PON port. After this command is executed, the ONU connected with this PON port will register again.

**Caution:**

This command is mainly used to test the performance of a PON port.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **System Control**→**Reset PON** in the shortcut menu. Then the **Reset PON** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the card containing the PON port to be reset.	-	Compulsory	Click the drop-down list to select the slot number.
PON Port No.	The number of the PON port to be reset.	The value range is 1 to 8.	Compulsory	Double-click to enter the PON port number.

3.14.9 Resetting Line Interface Cards in a Batch Manner

Command function

This command is used to reset line interface cards in a batch manner. Users can execute this command after the line interface card software is upgraded or a line interface card is faulty. After a line interface card is reset.



Caution:

This command will cause line card service interruption, so please operate with cautions.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **System Control**→**Batch Reset Line Card** in the shortcut menu. Then the **Batch Reset Line Card** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the line interface card to be reset.	The value range is 1 to 8 and 11 to 18.	Compulsory	Click the drop-down list to select the slot number.

3.14.10 PON Port Protection Group Forced Switching

Command function

This command is used to perform switching of the active / standby PON ports in the PON port protection group forcibly.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **System control** → **PON Protection Group Switch** in the shortcut menu. Then the **PON Protection Group Switch** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Group No.	The number of the PON port protection group.	The value range is 1 to 64.	Compulsory. Select from the group numbers configured in the PON Protection Group Config window.	Click the drop-down list to select the group number.

3.14.11 PON Port Protection Group Ranging

Command function

This command is used to measure the relative distance from the ONU to the OLT according to the round-trip delay of a PON port in the PON port protection group.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **System control** → **Pon Protect Group Rtt Value** in the shortcut menu. Then the **Pon Protect Group Rtt Value** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Group No.	The number of the PON port protection group.	The value range is 1 to 64.	Compulsory. Select from the group numbers configured in the PON Protection Group Config window.	Click the drop-down list to select the group number.

3.14.12 Registering / Logging Out a NGN Subscriber

Command function

This command is used to register / log out a certain NGN subscriber to the MGC manually according to the telephone number of this subscriber.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **System control** → **NGN User Register/Unregister** in the shortcut menu. Then the **NGN User Register/Unregister** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Telephone number	The telephone number of the NGN subscriber.	The value range is 1 to 4294967294. The telephone number should be one of the telephone numbers configured in the NGN Config command. The value range is 0 to 99999999.	Compulsory	Double-click to enter the telephone number.
Register/Un-register	Registers or logs out the NGN subscriber to the MGC manually.	Includes: Register and Unregister .	Compulsory	Click the drop-down list to select Register or Unregister .

3.15 Status Review

3.15.1 Viewing Card Software / Hardware Version

Command function

This command is used to view the software / hardware version information of the card in a certain slot.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Get Information** → **Card Version** in the shortcut menu. Then the **Card Version** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The number of the slot containing the card.	-	Read-only	-
Hardware Version	The hardware version number of the card.	-	Read-only	-
Software Version	The software version number of the card.	-	Read-only	-

3.15.2 Viewing System Time

Command function

This command is used to view the OLT equipment system time and the network management server time.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **System control**→**System Time** in the shortcut menu. Then the **System Time** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
System Time	The equipment system time	-	Read-only	-
Server Time	The network management server time	-	Read-only	-

3.15.3 Viewing System Status

Command function

This command is used to view the present condition and active / standby status of the current HSWA card.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **System control**→**System Status** in the shortcut menu. Then the **System Status** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Type	The operating status of the HSWA card.	-	Read-only	-
Slot No.	The slot number of the HSWA card.	-	Read-only	-
Status	The present condition and active / standby status of the HSWA card.	-	Read-only	-

3.15.4 Voice Status

3.15.4.1 Viewing MGC / Register Server Status

Command function

This command is used to view the real time connection status between the IAD and the softswitch platform MGC. The status parameters to be viewed include the IP address of the MGC connected with the IAD and the current register status.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Get Information** → **NGN Status** to enter the **MGC/Register Server Status** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The number of the slot containing the interface card that the ONU is connected with.	The value range is 1 to 8 and 11 to 18.	Compulsory	Double-click to enter the slot number.
PON No.	The number of the PON port that is connected with the ONU.	The value range is 1 to 8.	Compulsory	Double-click to enter the PON port number.
ONU No.	ONU authorization number.	The value range is 1 to 128.	Compulsory	Double-click to enter the ONU number.

Item	Description	Value Range / Requirement	Property	Configuration Method
MGC/Register Server Address	The IP address of the MGC connected with the IAD.	-	Read-only	-
Reg Status	The connection status between the IAD and the MGC.	-	Read-only	-

3.15.4.2 Viewing NGN Subscriber Port Status

Command function

This command is used to view status of a certain subscriber port of the IAD according to the subscriber telephone number.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Get Information** → **NGN Status** to enter the **MGC/Register Server Status** window. Select the **NGN User Port Status** tab.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Telephone number	The telephone number of the NGN subscriber.	The value range is 1 to 4294967294. The telephone number should be one of the telephone numbers configured in the NGN Config command. The value range is 0 to 99999999.	Compulsory	Double-click to enter the telephone number.
Reg Status	Displays the status of the current subscriber port.	-	Read-only	-

3.15.4.3 Viewing IAD IP Address

Command function

This command is used to view status of a certain subscriber port of the IAD according to the subscriber telephone number.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Get Information** → **NGN Status** to enter the **MGC/Registrar Server Status** window. Select the **IAD IP** tab.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The number of the slot containing the interface card that the ONU is connected with.	The value range is 1 to 8 and 11 to 18.	Compulsory	Double-click to enter the slot number.
PON No.	The number of the PON port that is connected with the ONU.	The value range is 1 to 8.	Compulsory	Double-click to enter the PON port number.
ONU No.	ONU authorization number.	The value range is 1 to 128.	Compulsory	Double-click to enter the ONU number.
IP Address	The ONU voice IP address dynamically configured via DHCP.	-	Read-only	-
IP Mask	The subnet mask corresponding to the voice IP address actually used by the ONU.	-	Read-only	-
Gateway	The gateway address corresponding to the voice IP address actually used by the ONU.	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
Master DNS Server	When the MGC address is in domain name mode, this parameter is used to display the IP address of the master DNS server.	-	Read-only	-
Slave DNS Server	When the MGC address is in domain name mode, this parameter is used to display the IP address of the slave DNS server.	-	Read-only	-

3.15.5 Aggregation Status

Command function

This command is used to view the status of the uplink port aggregation group.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Get Information** → **Aggregation Status** in the shortcut menu. Then the **Aggregation Status** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Group No.	Aggregation Group No.	-	Read-only	-
System Priority	Displays the system priority configured in the LACP configuration if the aggregation status is static LACP.	-	Read-only	-
System ID number	The MAC address of the equipment.	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
Trunking Mode	The aggregation s mode of the aggregation group.	-	Read-only	-
Uplink Port No.	The number of the uplink port which adds into the aggregation group.	-	Read-only	-

3.15.6 Querying Dual Uplink Protection Status

Command function

This command is used to query the group information of the dual uplink protection, including the group member port status.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Get Information** → **Dual Uplink Protection Status** in the shortcut menu. Then the **Dual Uplink Protection Status** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Group No.	The number of the dual uplink protection group.	-	Read-only	-
ActivePort	The current active (activated) port in the uplink protection group.	-	Read-only	-
StandbyPort	The current standby (deactivated) port in the uplink protection group.	-	Read-only	-

3.15.7 PON Port Protection Group Status

Command function

This command is used to view the current operating status of the PON port protection group.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Get Information** → **PON Protection Group Working Status** in the shortcut menu. Then the **PON Protection Group Working Status** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Group No.	The number of the PON port protection group.	-	Read-only	-
Group State	The status of the PON port protection group. <ul style="list-style-type: none"> ◆ When the PON port is under stable status, this parameter is displayed as Stable. ◆ When the PON port is under detecting status, this parameter is displayed as Detecting. 	-	Read-only	-
Slot No.	The slot number of the line interface card containing the PON port joining the protection group.	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
PON No.	The number of the port joining the PON port protection group.	-	Read-only	-
State	<p>The status of a certain PON port in the PON port protection group.</p> <ul style="list-style-type: none"> ◆ Stable Main indicates that this PON port is the active PON port in the protection group and is in normal operating status. ◆ Stable Standby indicates that this PON port is the standby PON port in the protection group and is in normal operating status. ◆ Detecting indicates that the active and standby PON ports are switching and are in the abnormal operating status. 	-	Read-only	-

3.15.8 Performance Switch Enable Status

Command function

This command is used to view the performance switch enable status. Four types of performance can be viewed: performance statics, optical module parameter detect, environment monitoring switch and CPU / memory usage utilization switch.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Get Information** → **Performance Switch Enable Status** in the shortcut menu. Then the **Performance Switch Enable Status** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Performance code	Type of the performance to be required.	-	Read-only	-
Slot No.	The slot number of the object to be required.	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
PON No.	The PON port number of the object to be required.	-	Read-only	-
ONU No.	The ONU number of the object to be required.	-	Read-only	-

3.15.9 Viewing OLT MAC Address Table

Command function

This command is used to view the MAC address learned from the card or uplink port and the VLAN containing this MAC address.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Get Information** → **OLT Mac Addr Table** in the shortcut menu. Then the **OLT Mac Addr Table** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the service interface card or uplink card.	-	Read-only	-
Port No.	The port number of the uplink card.	-	Read-only	-
MAC Address	The MAC address learned from the card or uplink port.	-	Read-only	-
VLAN ID	The VLAN containing the MAC address learned from the card or uplink port.	-	Read-only	-

3.15.10 Viewing Uplink Port Loopback

Command function

This command is used to view the OAM loopback test function on an uplink port. The parameters to be viewed include the transmitted frame, the received frame, and the delay.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Get Information** → **UplinkPort LoopBack** in the shortcut menu. Then the **UplinkPort LoopBack** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Uplink Slot No.	The slot number of the uplink card containing the uplink port.	The value range is 19 to 20.	Compulsory	Click the drop-down list to select the uplink slot number.
Uplink Port No.	The number of the uplink port needing the loopback test.	Its value should match the selected Uplink Slot No..	Compulsory	Click the drop-down list to select the uplink port number.
Send Frame	The number of transmitted frames in the uplink port loopback test.	-	Read-only	-
Frames Received OK	The number of received correct frames in the uplink port loopback test.	-	Read-only	-
Frames Received Corrupted	The number of received error frames in the uplink port loopback test.	-	Read-only	-
MinDelay	The minimum delay from transmitting a packet to receiving it in the uplink port loopback test.	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
MaxDelay	The maximum delay from transmitting a packet to receiving it in the uplink port loopback test.	-	Read-only	-
Avg-Delay	The average delay from transmitting a packet to receiving it in the uplink port loopback test.	-	Read-only	-

3.15.11 Viewing ONU Automatic Upgrade Log

Command function

This command is used to view the history records on automatic upgrade of ONUs.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Config**→**ONU Auto Upgrade Log** in the shortcut menu. Then the **ONU Auto Upgrade Log** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Time	The generation time of the automatic upgrade log.	-	Read-only	-
Slot No.	The number of the slot containing the service interface card connected with the ONU.	-	Read-only	-
PON No.	The PON port number of the service interface card connected with the ONU.	-	Read-only	-
ONU No.	ONU authorization number.	-	Read-only	-
Event Code	The status information in the automatic upgrade process.	-	Read-only	-
File Name	The ONU upgrade file name.	-	Read-only	-

3.15.12 Multicast

3.15.12.1 Viewing Online Multicast Group Information

Command function

This command is used to view information of all subscribers watching a certain multicast program.

This command is valid only when the multicast mode is set to **Controlled Mode**.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Get Information** → **IGMP Config** → **IGMP Information** in the shortcut menu. Then the **Online Groups Information** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Group Address	The IP address of the multicast program to be viewed.	-	Read-only	-
Slot No.	The slot number of the PON interface card connected with the subscriber watching the multicast program.	-	Read-only	-
PON No.	The number of the PON port connected with the subscriber watching the multicast program.	-	Read-only	-
ONU No.	ONU authorization number.	-	Read-only	-
ONU Port No.	The number of the ONU port connected with the subscriber watching the multicast program.	-	Read-only	-
Status	The status of the subscriber watching the multicast program. ◆ Normal User : The subscriber can watch this multicast program with no restriction. ◆ Preview User : The subscriber only can watch this multicast program with certain restrictions.	-	Read-only	-

3.15.12.2 Viewing Online Group Information of an ONU Port

Command function

This command is used to view information of multicast programs that are watched by subscribers on a certain ONU port.



Note:

This command is valid only when the multicast mode is set to **Controlled Mode**.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Get Information** → **IGMP Config** → **IGMP Information**, and click the **Online ONU Ports Info** tab in the window that appears. Then the **Online ONU Ports Info** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU to be viewed.	The value range is 1 to 8 and 11 to 18.	Compulsory	Click the drop-down list to select the slot number.
PON No.	The number of the PON port to which the ONU belongs.	The value range is 1 to 4 and 1 to 8.	Compulsory	Double-click to enter the PON port number.
ONU No.	ONU authorization number.	The value range is 1 to 64.	Compulsory	Double-click to enter the ONU authorization number.
ONU Port No.	The number of the PON port connected with the ONU to be viewed.	The value range is 1 to 24.	Compulsory	Double-click to enter the ONU port number.

Item	Description	Value Range / Requirement	Property	Configuration Method
Group Address	The IP address of the multicast program.	-	Read-only	-
Preview Flag	<p>The authorization of the subscribers on the ONU port watching a certain multicast program.</p> <ul style="list-style-type: none"> ◆ Normal: The subscribers on the ONU port can watch this multicast program with no restriction. ◆ Preview: The subscribers on the ONU port can only watch this multicast program with certain restrictions. 	-	Read-only	-

3.15.12.3 Viewing Uplink Port Information

Command function

This command is used to view the online multicast program information on a cascade uplink port.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Get Information** → **IGMP Config** → **IGMP Information**, and click the **Online Uplink Ports Info** tab in the window that appears. Then the **Online Uplink Ports Info** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Serial No.	Auto-generated serial number	-	Read-only	-
Uplink Port No.	The number of the uplink port.	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
Type	The type of an uplink port. <ul style="list-style-type: none"> ◆ Uplink Port: an uplink port without multicast cascade; ◆ Cascade Port: an uplink port with multicast cascade. 	-	Read-only	-
Group Address	The IP address of the online multicast program on the cascade port.	-	Read-only	-

3.15.12.4 Viewing Core Switch Card Multicast Address Table

Command function

This command is used to view the group forming information on the core switch card, including the IP address of the multicast program on the core switch card and the slot number of the PON interface card connected with the subscriber watching the multicast program.



Note:

This command is valid in all non-disable modes.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Get Information** → **IGMP Config** → **IGMP Information**, and click the **GSW IGMP Addr Table** tab in the window that appears. Then the **GSW IGMP Addr Table** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Group Address	The IP address of the multicast program on the core switch card.	-	Read-only	-
Group Member Slot	The slot number of the PON interface card connected with the subscriber watching the multicast program.	-	Read-only	-
Group Member Port	The number of the PON port connected with the subscriber watching the multicast program.	-	Read-only	-

3.15.12.5 Viewing ONU Multicast Address Table

Command function

This command is used to view the group forming information on a certain ONU, including the IP address of the multicast program on the ONU and the number of the ONU port connected with the subscriber watching the multicast program.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Get Information** → **IGMP Config** → **IGMP Information**, and click the **ONU IGMP Addr Table** tab in the window that appears. Then the **ONU IGMP Addr Table** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU to be viewed.	The value range is 1 to 8 and 11 to 18.	Compulsory	Click the drop-down list to select the slot number.
PON No.	The number of the PON port to which the ONU belongs.	The value range is 1 to 4 and 1 to 8.	Compulsory	Double-click to enter the PON port number.

Item	Description	Value Range / Requirement	Property	Configuration Method
ONU No.	ONU authorization number.	The value range is 1 to 64.	Compulsory	Double-click to enter the ONU authorization number.
Item	The multicast program numbers on the ONU.	-	Read-only	-
Group Address	The IP address of the multicast program on the ONU.	-	Read-only	-
Port No.	The number of the ONU port connected with the subscriber watching the multicast program.	-	Read-only	-

3.15.12.6 Viewing PON Interface Card Multicast Address Table

Command function

This command is used to view the group forming information on a certain PON interface card, including the IP address of the multicast program on the PON interface card and the number of the PON port connected with the subscriber watching the multicast program.



Note:

This command is valid in **Proxy Mode** and **Controlled Mode**.

Access method

Right-click the HSWA card in the Object Tree pane, and select **Get Information**IGMP ConfigIGMP Information, and click the **Line Card IGMP Addr Table** tab in the window that appears. Then the **Line Card IGMP Addr Table** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card to be viewed.	The value range is 1 to 8 and 11 to 18.	Compulsory	Double-click to enter the slot number.
Item	The multicast program numbers on the PON interface card.	-	Read-only	-
Group Address	The IP address of the multicast program on the PON interface card.	-	Read-only	-
PON No.	The number of the PON port connected with the subscriber watching the multicast program.	-	Read-only	-

3.15.12.7 Viewing Multicast Group Statistics Information

Command function

This command is used to view the statistics information of a certain multicast program, including times of a subscriber joining the multicast group and duration of a subscriber watching the multicast program.



Note:

This command is valid only when the multicast mode is set to **Controlled Mode**.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Get Information** → **IGMP Config** → **IGMP Statistics** in the shortcut menu. Then the **Group Statistics** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Group Address	The IP address of the multicast program.	-	Read-only	-
Order Count	Times of a subscriber joining the multicast group.	-	Read-only	-
Average Order Time	The average duration of a subscriber watching the multicast program.	-	Read-only	-
Max Order Time	The maximum duration of a subscriber watching the multicast program.	-	Read-only	-
Total Order Time	The total duration of a subscriber watching the multicast program.	-	Read-only	-
Preview Count	Times of a subscriber previewing the multicast program.	-	Read-only	-
Total Preview Time	The total duration of a subscriber previewing the multicast program.	-	Read-only	-

3.15.12.8 Viewing ONU Port Statistics Information

Command function

This command is used to view the statistics information of a certain ONU port, including times of subscribers on this port joining the multicast group and duration of subscribers watching the multicast program.



Note:

This command is valid only when the multicast mode is set to **Controlled Mode**.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Get Information** → **IGMP Config** → **IGMP Statistics**, and click the **ONU Port Statistics** tab in the window that appears. Then the **ONU Port Statistics** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface connected with the ONU.	-	Read-only	-
PON No.	The number of the PON port to which the ONU belongs.	-	Read-only	-
ONU No.	ONU authorization number.	-	Read-only	-
ONU Port No.	The number of the ONU port.	-	Read-only	-
Order Count	Times of a subscriber on the ONU port joining the multicast group.	-	Read-only	-
Average Order Time	The average duration of a subscriber on the ONU port watching the multicast program.	-	Read-only	-
Max Order Time	The maximum duration of a subscriber on the ONU port watching the multicast program.	-	Read-only	-
Total Order Time	The total duration of a subscriber on the ONU port watching the multicast program.	-	Read-only	-

3.15.12.9 Viewing Log Information

Command function

This command is used to view the multicast log information, including event records on joining / leaving the multicast group and watching the multicast program of subscribers on the ONU port.



Note:

This command is valid only when the multicast mode is set to **Controlled Mode**.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Get Information** → **IGMP Config** → **IGMP Log** in the shortcut menu. Then the **IGMP Log** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Generate Time	The generation time of the designated log record.	-	Read-only	-
Slot No.	The slot number of the PON interface connected with the ONU.	-	Read-only	-
PON No.	The number of the PON port to which the ONU belongs.	-	Read-only	-
ONU No.	The authorization number of the ONU.	-	Read-only	-
ONU Port No.	The LAN port number of the ONU.	-	Read-only	-
Preview	The preview flag of the subscriber.	-	Read-only	-
Group Address	The IP address of the multicast program / group that the recorded subscriber joins / leaves / watches.	-	Read-only	-
Action	The event corresponding to the designated log record.	-	Read-only	-
State	Status of the event corresponding to the designated log record.	-	Read-only	-
Stay Time (min)	The interval to automatically generate a subscriber watching log record. If a subscriber's watching duration exceeds the automatic log generation interval, the system will automatically generate a log record on his / her watching.	-	Read-only	-

3.15.12.10 Querying ONU Fast Leave Capability

Command function

This command is used to query whether the designated ONU has fast leave capability.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Get Information** → **IGMP Config** → **Onu Fast Leave Capability** in the shortcut menu. Then the **Onu Fast Leave Capability** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU to be viewed.	The value range is 1 to 8 and 11 to 18.	Compulsory	Click the drop-down list to select the slot number.
PON No.	The number of the PON port to which the ONU belongs.	The value range is 1 to 4 and 1 to 8.	Compulsory	Double-click to enter the PON port number.
ONU No.	The authorization number of the ONU.	The value range is 1 to 64.	Compulsory	Double-click to enter the ONU authorization number.
Capability	Whether the ONU has fast leave capability.	-	Read-only	-

3.15.12.11 Querying Core Switch Card Multicast Source Address Table

Command function

This command is used to query the multicast source address information obtained by the core switch card.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Get Information** → **IGMP Config** → **GSW IGMP Source Addr Table** in the shortcut menu. Then the **GSW IGMP Source Addr Table** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	If the multicast cascade port has been configured, the value of this parameter refers to the slot number of the uplink card. Otherwise, the value here refers to the slot number of the PON interface card connected with the subscriber watching the multicast program.	-	Read-only	-
Group Member Port	If the multicast cascade port has been configured, the value of this parameter refers to the port number of the uplink card. Otherwise, the value here is null.	-	Read-only	-
Group Address	Group IP	-	Read-only	-
VLAN	The ID value of the multicast VLAN containing the multicast group.	-	Read-only	-
Source Item	The IP address of the multicast server.	-	Read-only	-

3.15.13 Viewing LACP Port Information

Command function

This command is used to view the aggregation status information of an uplink port.



Note:

Before performing the **viewing LACP port information** command, users need to enable the LACP function and complete configuration of parameters in the **LACP Port Config** window.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Get Information** → **LACP Port Information** in the shortcut menu. Then the **LACP Port Information** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Port No.	The number of the uplink port.	-	Read-only	-
Group No.	The number of the aggregation group.	-	Read-only	-
Port Priority	The priority set for the uplink port.	-	Read-only	-
Operation Key	The operation key value set for the uplink port.	-	Read-only	-
Lacp protocol timeout flag	The sending protocol message timeout status value set for the uplink port.	-	Read-only	-
Lacp protocol syn flag	Indicates whether the aggregation link is under the synchronizing-with-opposite-end status.	-	Read-only	-
Lacp protocol collecting flag	Indicates whether the aggregation link is under the protocol-message-collecting status.	-	Read-only	-
Lacp protocol distributing flag	Indicates whether the aggregation link is under the protocol-message-transmitting status.	-	Read-only	-

4 **Shortcut Menu of the EC4B / EC8B / XG2B Card**

Real-time Performance

Configuration

Control Command

Status Review

4.1 Real-time Performance

4.1.1 Querying CPU / Memory Utilization

Command function

This command is used to query the CPU / memory utilization ratio of a card or ONU and help users understand the equipment operation status.



Note:

Before querying the CPU / memory utilization ratio of a card or ONU, users need to enable the CPU / memory utilization ratio collection function in the **Performance Group** tab of this card.

Applicable object

The EC4B, EC8B and XG2B cards support this command.

Access method

Right-click a card in the **Object Tree** pane, and select **Realtime Performance** → **CPU/memory Proportion** in the shortcut menu. Then the **CPU/memory Proportion** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Realtime Curve	The real time sampling curve of the CPU / memory utilization ratio of the card.	-	Read-only	Click the Start Collect button in the toolbar to start query.
Performance Data	The real time sampling value of the CPU / memory utilization ratio of the card.	-	Read-only	click the Start Collect button in the toolbar, and click Performance Data in the tab that appears.

4.1.2 Querying PON Port Performance Statistical Value

Command function

This command is used to query the PON port performance statistical value of an interface card.



Note:

Before querying the PON port performance statistical value of a card, users need to enable the PON port performance statistics function in the **Performance Group** tab of this card.

Applicable object

The EC4B, EC8B and XG2B cards support this command.

Access method

Right-click a card in the **Object Tree** pane, and select **Realtime Performance** → **Statistics on OLT End PON Port** in the shortcut menu. Then the **Statistics on OLT End PON Port** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Realtime Curve	The real time sampling curve of the PON port performance of the card.	-	Read-only	Select the PON port to be queried in the logical window, and click the Start Collect button in the toolbar.
Performance Data	The real time sampling value of the PON port performance of the card.	-	Read-only	Select the PON port to be queried in the logical window, click the Start Collect button in the toolbar, and click Performance Data in the tab that appears.

4.2 Configuration

4.2.1 Traffic Rate Control Configuration

Command function

This command is used to configure the traffic rate control rule under the PON port. The PON port will control the data traffic rate according to the defined rules.

Applicable object

The XG2B card supports this command.

Access method

Right-click a card in the **Object Tree** pane, and select **Config**→**Rate Control** in the shortcut menu. Then the **Rate Control** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the XG2B card.	The value range is 1 to 8 and 11 to 18.	Compulsory	Double-click to enter the slot number.
PON No.	The PON port number of the XG2B card.	The value range is 1 to 2.	Compulsory	Double-click to enter the PON port number.
Seq No	The sequence number of the rate control rule.	The value range is 1 to 1024.	Compulsory	Double-click to enter the SN

Item	Description	Value Range / Requirement	Property	Configuration Method
Traffic feature	The features of the data traffic to be controlled.	Its value includes: Based On SMAC, Based On DMAC, Based On SIP, Based On DIP, Based On SVLAN ID, Based On SVLAN COS, Based On User VLAN ID, Based On CVLAN COS, Based On Ethernet, Based On IP Protocol Type, Based On IP TOS/DSCP (IPv4), Based On L4 SPORT, Based On TTL and Based On Physical DPORT.	Compulsory	Click to enter the configuration GUI.
Rate Control	The rate control of the data traffic.	The value range is 0 to 10000000, with the unit being kbit/s.	Compulsory	Double-click to enter the traffic control value.

4.2.2 Configuring OLT Optical Power Compensation

Command function

This command is used to compensate the optical power of an OLT. When the transmitting or receiving optical power of an OLT is too high or too low, users can execute this command to adjust the optical power.

Applicable object

The EC4B, EC8B and XG2B cards support this command.

Access method

Right-click a card in the **Object Tree** pane, and select **Config**→**OLT Optical Compensation** in the shortcut menu. Then the **OLT Optical Compensation** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the line card.	-	Read-only	-
PON No.	The PON port number of the line card.	-	Read-only	-
Tx Adjustment (dBm)	The adjustment difference of the OLT transmitting optical power.	The value range is -100.00 to 100.00, with the unit being dBm.	Compulsory	Double-click the adjustment value.

4.2.3 Enabling / Disabling a PON Port

Command function

This command is used to enable or disable a certain PON port. After a certain port is disabled, this port will stop transmitting optical signals, and all ONUs connected with this PON port will enter unregistered status.



Caution:

This command can interrupt services on the PON port. Please operate with cautions.

Applicable object

The EC4B, EC8B and XG2B cards support this command.

Access method

Right-click a card in the **Object Tree** pane, and select **Config**→**Enable/Disable PON** in the shortcut menu. Then the **Enable/Disable PON** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the line card.	-	Read-only	-
PON No.	The PON port number of the line card.	-	Read-only	-
Enable Status	Enable or disable the specified PON port.	The options includes Enable and Disable .	Compulsory	Click the drop-down list to select Enable or Disable .

4.2.4 Configuring PON Port Isolation

Command function

This command is used to configure the PON port isolation, making the PON ports in the same card cannot communicate with each other. This function can be used to suppress broadcast storm inside the card.

Applicable object

The EC4B, EC8B and XG2B cards support this command.

Access method

Right-click the specified card in the **Object Tree** pane, and select **Config**→**PON Isolation**.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the line card.	-	Read-only	-
Enable Status	To isolate the specified PON port or not.	The options includes Enable and Disable .	Compulsory	Click the drop-down list to select Enable or Disable .

4.2.5 Configuring PON Port Working Mode

Command function

This command is used to configure or view the current working mode of each PON port of the card. The PON port supports two operating modes: 1 Gbit/s and 2 Gbit/s.



Caution:

When users modify the **Working Mode** of a certain PON port, the services on this port and the adjacent PON ports (these PON ports share the chip with this port) will be interrupted. So please operate with cautions. If users change the value of the **PON port working mode** from **1G** to **2G**, the remote end equipment should also be an ONU with the rate of 2 Gbit/s. The relevant configuration of the ONU should be delivered again because the ONU is replaced.

Applicable object

The XG2B card supports this command.

Access method

Right-click a card in the **Object Tree** pane, and select **Config**→**PON Mode** in the shortcut menu. Then the **PON Mode** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the line card.	-	Read-only	-
PON No.	The PON port number of the line card.	-	Read-only	-
Mode	The working mode of the PON port.	Includes 1G and 2G .	Compulsory	Click the drop-down list to select the mode.

4.2.6 Enabling / Disabling FEC Function of a PON Port

Command function

This command is used to configure or view the FEC function of each PON port of the card.



Caution:

For the same PON port, its FEC function in the uplink and downlink directions must be configured as the same enabling / disabling status. After the FEC function of a PON port is enabled, the ONUs connected with this PON port will first enter unregistered status, and register to the line card again. This process can cause interruption of subscriber services.

Applicable object

The EC4B, EC8B and XG2B cards support this command.

Access method

Right-click a card in the **Object Tree** pane, and select **Config**→**PON FEC Enable** in the shortcut menu. Then the **PON FEC Enable** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the line card.	-	Read-only	-
PON No.	The PON port number of the line card.	-	Read-only	-
Direction	The uplink or downlink direction of the signal in the PON port.	-	Read-only	-
Enable Status	Enables / disables the FEC function in the uplink or downlink direction of the signal in the PON port.	The options includes Enable and Disable .	Compulsory	Click the drop-down list to select Enable or Disable .

4.2.7 Configuring DBA Parameters

Command function

This command is used to configure the DBA parameters of the specified PON port.

Applicable object

The EC4B, EC8B and XG2B cards support this command.

Access method

Right-click a card in the **Object Tree** pane, and select **Config**→**DBA Para Config** in the shortcut menu. Then the **DBA Para Config** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the line card.	-	Read-only	-
PON No.	The PON port number of the line card.	-	Compulsory	Double-click to enter the PON port number.
PON DBA Param mode	<p>The DBA parameter configuration mode of the PON port.</p> <ul style="list-style-type: none"> ◆ If Auto is selected, the other parameters will use their default values assigned by the system, and users cannot modify them. ◆ If Manual is selected, users can modify values of the other parameters manually. 	Its value includes Manual and Auto .	Compulsory	Click the drop-down list to select Manual and Auto .

Item	Description	Value Range / Requirement	Property	Configuration Method
Dropdown Weight Level 1 (KB)	The uplink bandwidth scheduling weight reserved for the level 1 scheduler by the OLT level 0 scheduler. The level 0 scheduler has the highest priority.	The value is an integer in the range [0 to 256], with the step being 4. The unit is kb.	Optional. This parameter is valid if the PON DBA Param mode is set to Manual .	Click the drop-down list to select the Dropdown Weight Level 1.
Dropdown Weight Level 2 (KB)	The uplink bandwidth scheduling weight reserved for the level 2 scheduler by the OLT level 1 scheduler. The level 0 scheduler has the highest priority.	The value is an integer in the range [0 to 256], with the step being 4. The unit is kb.	Optional. This parameter is valid if the PON DBA Param mode is set to Manual .	Click the drop-down list to select the Dropdown Weight Level 2.
Dropdown Weight Level 3 (KB)	The uplink bandwidth scheduling weight reserved for the level 3 scheduler by the OLT level 2 scheduler. The level 0 scheduler has the highest priority.	The value is an integer in the range [0 to 256], with the step being 4. The unit is kb.	Optional. This parameter is valid if the PON DBA Param mode is set to Manual .	Click the drop-down list to select the Dropdown Weight Level 3.
Dropdown Weight Level 4 (KB)	The uplink bandwidth scheduling weight reserved for the level 4 scheduler by the OLT level 3 scheduler. The level 0 scheduler has the highest priority.	The value is an integer in the range [0 to 256], with the step being 4. The unit is kb.	Optional. This parameter is valid if the PON DBA Param mode is set to Manual .	Click the drop-down list to select the Dropdown Weight Level 4.
Dropdown Weight Level 5 (KB)	The uplink bandwidth scheduling weight reserved for the level 5 scheduler by the OLT level 4 scheduler. The level 0 scheduler has the highest priority.	The value is an integer in the range [0 to 256], with the step being 4. The unit is kb.	Optional. This parameter is valid if the PON DBA Param mode is set to Manual .	Click the drop-down list to select the Dropdown Weight Level 5.

Item	Description	Value Range / Requirement	Property	Configuration Method
Dropdown Weight Level 6 (KB)	The uplink bandwidth scheduling weight reserved for the level 6 scheduler by the OLT level 5 scheduler. The level 0 scheduler has the highest priority.	The value is an integer in the range [0 to 256], with the step being 4. The unit is kb.	Optional. This parameter is valid if the PON DBA Param mode is set to Manual .	Click the drop-down list to select the Dropdown Weight Level 6.
Dropdown Weight Level 7 (KB)	The uplink bandwidth scheduling weight reserved for the level 7 scheduler by the OLT level 6 scheduler. The level 0 scheduler has the highest priority.	The value is an integer in the range [0 to 256], with the step being 4. The unit is kb.	Optional. This parameter is valid if the PON DBA Param mode is set to Manual .	Click the drop-down list to select the Dropdown Weight Level 7.
Polling rate Level 0 (65.5us)	The frequency of the OLT level 0 scheduler sending the grants frame to the ONU.	The value is an integer in the range [0 to 15000]. The unit is 65.5 μ s.	Optional. This parameter is valid if the PON DBA Param mode is set to Manual .	Double-click to enter the Polling rate Level 0.
Polling rate Level 1 (65.5us)	The frequency of the OLT level 1 scheduler sending the grants frame to the ONU.	The value is an integer in the range [0 to 15000]. The unit is 65.5 μ s.	Optional. This parameter is valid if the PON DBA Param mode is set to Manual .	Double-click to enter the Polling rate Level 1.
Polling rate Level 2 (65.5us)	The frequency of the OLT level 2 scheduler sending the grants frame to the ONU.	The value is an integer in the range [0 to 15000]. The unit is 65.5 μ s.	Optional. This parameter is valid if the PON DBA Param mode is set to Manual .	Double-click to enter the Polling rate Level 2.
Polling rate Level 3 (65.5us)	The frequency of the OLT level 3 scheduler sending the grants frame to the ONU.	The value is an integer in the range [0 to 15000]. The unit is 65.5 μ s.	Optional. This parameter is valid if the PON DBA Param mode is set to Manual .	Double-click to enter the Polling rate Level 3.
Polling rate Level 4 (65.5us)	The frequency of the OLT level 4 scheduler sending the grants frame to the ONU.	The value is an integer in the range [0 to 15000]. The unit is 65.5 μ s.	Optional. This parameter is valid if the PON DBA Param mode is set to Manual .	Double-click to enter the Polling rate Level 4.

Item	Description	Value Range / Requirement	Property	Configuration Method
Polling rate Level 5 (65.5us)	The frequency of the OLT level 5 scheduler sending the grants frame to the ONU.	The value is an integer in the range [0 to 15000]. The unit is 65.5 μ s.	Optional. This parameter is valid if the PON DBA Param mode is set to Manual .	Double-click to enter the Polling rate Level 5.
Polling rate Level 6 (65.5us)	The frequency of the OLT level 6 scheduler sending the grants frame to the ONU.	The value is an integer in the range [0 to 15000]. The unit is 65.5 μ s.	Optional. This parameter is valid if the PON DBA Param mode is set to Manual .	Double-click to enter the Polling rate Level 6.
Polling rate Level 7 (65.5us)	The frequency of the OLT level 7 scheduler sending the grants frame to the ONU.	The value is an integer in the range [0 to 15000]. The unit is 65.5 μ s.	Optional. This parameter is valid if the PON DBA Param mode is set to Manual .	Double-click to enter the Polling rate Level 7.

4.2.8 Enabling / Disabling Performance Classification

Command function

This command is used to enable / disable classification function of the appointed performance parameters. These performance parameters include PON port performance statistics data, optical module parameters, and CPU / memory utilization ratio.

Applicable object

The EC4B, EC8B and XG2B cards support this command.

Access method

Right-click a card in the **Object Tree** pane, and select **Config**→**OLT Perf Sort Line Switch** in the shortcut menu. Then the **OLT Perf Sort Line Switch** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the line card.	-	Read-only	-
Performance code	The performance statistics category of the line card.	-	Read-only	-
Switch	Enables / disables the performance classification function	The options includes Enable and Disable .	Compulsory	Click the drop-down list to select Enable or Disable .

4.2.9 Binding / Unbinding a PON Port with a Domain

Command function

This command is used to configure and view the status of the PON port binding with OLT QinQ domains.



Note:

Before performing this configuration command, users need to complete the related operations of **OLT QinQ domains**.

Applicable object

The EC4B, EC8B and XG2B cards support this command.

Access method

Right-click a card in the **Object Tree** pane, and select **Config**→**PON Attach/Detach Domain** in the shortcut menu. Then the **PON Attach/Detach Domain** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the line card.	-	Read-only	-
PON No.	The PON port number of the line card.	-	Read-only	-
Action	attach means binding the services of the PON port with an OLT QinQ domain. detach means unbinding the services of the PON port with an OLT QinQ domain.	Its value includes attach and detach .	Compulsory	Click the drop-down list to select attach or detach .
Domain name	The name of the OLT QinQ domain.	Select from the domain names configured in the OLT QinQ domain configuration.	Compulsory	Click the drop-down list to select the domain name.

4.2.10 Suppressing Broadcast / Multicast / Unknown Packet of a PON Port

Command function

This command is used to configure and view broadcast / multicast / unknown packet suppression function of a PON port. Its purpose is to prevent generation of broadcast storm inside the system and improve the system performance.

Applicable object

The EC4B, EC8B and XG2B cards support this command.

Access method

Right-click a card in the **Object Tree** pane, and select **Config**→**Packet Rate Control** in the shortcut menu. Then the **Packet Rate Control** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the line card.	-	Read-only	-
PON No.	The PON port number of the line card.	-	Read-only	-
Packet Type	The packet type of the appointed PON port.	-	Read-only	-
Enable/Disable	<ul style="list-style-type: none"> ◆ Enable: enables the packet suppression function. ◆ Disable: disables the packet suppression function. 	The options includes Enable and Disable .	Compulsory	Click the drop-down list to select Enable or Disable .
Speed (Packet/second)	The system will discard the packets exceeding the set speed control threshold.	The value range is 1 to 262142, with the unit being packet/s. The default value is 150 packet/s.	Optional. When the packet suppression function is enabled, this parameter is valid.	Double-click to enter the rate limit.

4.2.11 Constantly Emitting Light Detection Configuration

Command function

This command is used to configure the detection for the constantly emitting light status of the ONU under the line card.

Applicable object

The EC4B, EC8B and XG2B cards support this command.

Access method

Right-click a card in the **Object Tree** pane, and select **Config**→**Constantly Emitting Light Detect Config** in the shortcut menu. Then the **Constantly Emitting Light Detect Config** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the line card.	-	Read-only	-
Detect Switch	Enable or disable the detection function for the constantly emitting light of the line card.	Includes Enable and Disable .	Compulsory	Click the drop-down list to select Enable or Disable .
Detect Interval	The time interval of the detection for the constantly emitting light faults.	The value range is 5 to 3600, with the unit being second. The default value is 60 seconds.	Optional. When the detection is disabled, this parameter is invalid.	Double-click to enter the detection interval.
Fault Disable Type	The disabling mode used when the constantly emitting light fault exists in the ONU.	Includes: Auto Disable and Manual Disable .	Optional. When the detection is disabled, this parameter is invalid.	Click the drop-down list to select the fault disable type.

4.3 Control Command

4.3.1 Resetting

Command function

This command is used to reset the line card. Users can execute this command after the line interface card software is upgraded or a line interface card is faulty. After a line interface card is reset.



Caution:

This command will cause line card service interruption, so please operate with cautions.

Applicable object

The EC4B, EC8B and XG2B cards support this command.

Access method

Right-click a card in the **Object Tree** pane, and select **System control**→**Reset** in the shortcut menu. Then the **Reset** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the line card.	-	Read-only	-

4.3.2 Deauthorizing an ONU

Command function

This command is used to deauthorize the appointed ONU.

Applicable object

The EC4B, EC8B and XG2B cards support this command.

Access method

Right-click a card in the **Object Tree** pane, and select **System control**→**Deauthorize ONU** in the shortcut menu. Then the **Deauthorize ONU** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the line card.	-	Read-only	-
PON No.	The PON port number of the line card.	<ul style="list-style-type: none"> ◆ The value range of the XG2B card is 1 to 2. ◆ The value range of the EC4B card is 1 to 4. ◆ The value range of the EC8B card is 1 to 8. 	Compulsory	Double-click to enter the PON port number.
ONU No.	The authorization number of the ONU.	The value range is 1 to 128.	Compulsory	Double-click to enter the ONU number.

4.3.3 Resetting an ONU

Command function

This command is used to restart the appointed ONU. After an ONU is restarted, it will register to the OLT again.

Applicable object

The EC4B, EC8B and XG2B cards support this command.

Access method

Right-click a card in the **Object Tree** pane, and select **System control** → **Reset ONU** in the shortcut menu. Then the **Reset ONU** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the line card.	-	Read-only	-
PON No.	The PON port number of the line card.	<ul style="list-style-type: none"> ◆ The value range of the XG2B card is 1 to 2. ◆ The value range of the EC4B card is 1 to 4. ◆ The value range of the EC8B card is 1 to 8. 	Compulsory	Click the drop-down list to select the PON port number.
ONU Authorized No.	The authorization number of the ONU.	The value range is 1 to 128.	Compulsory	Double-click to enter the ONU number.

4.3.4 Refreshing Firmware

Command function

This command is used to re-run the firmware of the appointed ONU, generally used when an ONU has faults.

Applicable object

The EC4B, EC8B and XG2B cards support this command.

Access method

Right-click a card in the **Object Tree** pane, and select **System control** → **Restore ONU** in the shortcut menu. Then the **Restore ONU** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the line card.	-	Read-only	-
PON No.	The PON port number of the line card.	<ul style="list-style-type: none"> ◆ The value range of the XG2B card is 1 to 2. ◆ The value range of the EC4B card is 1 to 4. ◆ The value range of the EC8B card is 1 to 8. 	Compulsory	Double-click to enter the PON port number.
ONU No.	The authorization number of the ONU.	The value range is 1 to 128.	Compulsory	Double-click to enter the ONU number.

4.4 Status Review

4.4.1 Viewing ONU Type and Software / Hardware Version Number

Command function

This command is used to view the ONU type and software / hardware version of all registered ONUs under the PON port of the card. When an ONU is faulty or its software is upgraded, users can execute this command to verify the software / hardware version of the ONU.

Applicable object

The EC4B, EC8B and XG2B cards support this command.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Get Information** → **ONU Information** in the shortcut menu. Then the **ONU Information** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the line card.	-	Read-only	-
PON No.	The PON port number of the line card.	-	Read-only	-
ONU No.	The authorization number of the ONU.	-	Read-only	-
Configured Type	The ONU type configured in the ANM2000.	-	Read-only	-
Actual Type	The actual hardware type of the ONU.	-	Read-only	-
CPU Software Version	The internal CPU software version number of the ONU.	-	Read-only	-
Firmware Version	The internal CPU firmware version number of the ONU.	-	Read-only	-
IAD Software Version	The internal IAD software (for voice processing) version number of the ONU.	-	Read-only	-
Hardware Version	The hardware number of the ONU.	-	Read-only	-
IAD Hardware Version	The hardware number of the built-in IAD (for voice processing) in the ONU.	-	Read-only	-
TDM Hardware Version	The hardware number of the built-in TDM subcard (for TDM processing) in the ONU.	-	Read-only	-

4.4.2 Viewing PON Port Firmware Version

Command function

This command is used to view the firmware version on the appointed PON port of the card.

Applicable object

The EC4B, EC8B and XG2B cards support this command.

Access method

Right-click a card in the **Object Tree** pane, and select **Get Information**→**PON Firmware Version** in the shortcut menu. Then the **PON Firmware Version** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the line card.	-	Read-only	-
PON No.	The PON port number of the line card.	-	Read-only	-
PON Firmware Version	The firmware version on the appointed PON port of the line card.	-	Read-only	-

4.4.3 Viewing ONU Authorization List

Command function

This command is used to view information of authorized ONUs connected with the appointed PON port of the EC4B / EC8B card. The authorized ONUs include all online and offline ONUs.

Applicable object

The EC4B, EC8B and XG2B cards support this command.

Access method

Right-click a card in the **Object Tree** pane, and select **Get Information**→**ONU Authcated Table** in the shortcut menu. Then the **ONU Authcated Table** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the line card.	-	Compulsory	Select from the pane of setting object on the left side.
PON No.	The PON port number of the line card.	-	Compulsory	Select from the pane of setting object on the left side.
ONU No.	The authorization number of the ONU.	-	Read-only	-
Physical SN	The MAC address of the ONU, with the format being XX-XX-XX-XX-XX-XX.	-	Read-only	-
Password	This parameter is only valid for the GPON equipment.	-	Read-only	-
LogicSN: LOID	The SN number of the ONU.	-	Read-only	-
LogicSN: Password	The SN password of the ONU.	-	Read-only	-
ONU Type	For various types of FiberHome EPON ONUs, this parameter refers to the type value, such as AN5006-04; for ONUs of other vendors, this parameter value will be displayed as Others .	-	Read-only	-
Authentication Mode	The authentication mode of the ONU.	-	Read-only	-
Status	The current status of the ONU.	-	Read-only	-

4.4.4 Viewing Unauthorized ONU List

Command function

This command is used to view information of unauthorized ONUs connected with the appointed PON port of the card. The unauthorized ONUs here include all online ONUs.

Applicable object

The EC4B, EC8B and XG2B cards support this command.

Access method

Right-click a card in the **Object Tree** pane, and select **Get Information** → **ONU Unauthorized Table** in the shortcut menu. Then the **ONU Unauthorized Table** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the line card.	-	Compulsory	Select from the pane of setting object on the left side.
PON No.	The PON port number of the line card.	-	Compulsory	Select from the pane of setting object on the left side.
Physical SN	The MAC address of the ONU, with the format being XX-XX-XX-XX-XX-XX.	-	Read-only	-
Password	This parameter is only valid for the GPON equipment.	-	Read-only	-
LogicSN: LOID	The SN number of the ONU.	-	Read-only	-
LogicSN: Password	The SN password of the ONU.	-	Read-only	-

4.4.5 Viewing Registered ONU List

Command function

This command is used to view information of authorized and online ONUs connected with the appointed PON port of the card.

Applicable object

The EC4B, EC8B and XG2B cards support this command.

Access method

Right-click a card in the **Object Tree** pane, and select **Get Information** → **Registered ONU List** in the shortcut menu. Then the **Registered ONU List** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the line card.	-	Compulsory	Select from the pane of setting object on the left side.
PON No.	The PON port number of the line card.	-	Compulsory	Select from the pane of setting object on the left side.
ONU No.	The authorization number of the ONU.	-	Read-only	-
Physical SN	The MAC address of the ONU, with the format being XX-XX-XX-XX-XX-XX.	-	Read-only	-
Password	This parameter is only valid for the GPON equipment.	-	Read-only	-
LogicSN: LOID	The SN number of the ONU.	-	Read-only	-
LogicSN: Password	The SN password of the ONU.	-	Read-only	-
ONU Type	For various types of FiberHome EPON ONUs, this parameter refers to the type value, such as AN5006-04; for ONUs of other vendors, this parameter value will be displayed as Others .	-	Read-only	-

4.4.6 Viewing PON Port MAC Address Table

Command function

This command is used to view the MAC address information and VLAN value learned by the PON port.

Applicable object

The EC4B, EC8B and XG2B cards support this command.

Access method

Right-click a card in the **Object Tree** pane, and select **Get Information**→**MAC Learning Table on PON** in the shortcut menu. Then the **MAC Learning Table on PON** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
PON No.	The PON port number of the line card.	-	Read-only	-
MAC Address	The MAC address learned by the PON port with the format being XX-XX-XX-XX-XX-XX.	-	Read-only	-
VLAN ID	The VLAN value learned by the PON port.	-	Read-only	-

4.4.7 Viewing Optical Module Parameters

Command function

This command is used to view the actual operating status of the optical module on the current ONU under the PON port of the card.

Applicable object

The EC4B, EC8B and XG2B cards support this command.

Access method

Right-click a card in the **Object Tree** pane, and select **Get Information**→**Opt Module Para Information** in the shortcut menu. Then the **Opt Module Para Information** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the line card.	-	Read-only	-
Port No.	The PON port number of the line card.	<ul style="list-style-type: none"> ◆ The value range of the XG2B card is 1 to 2. ◆ The value range of the EC4B card is 1 to 4. ◆ The value range of the EC8B card is 1 to 8. 	Compulsory	Click the drop-down list to select the port number.
Optical Module Type	The type of the optical module. Its value includes 10 and 20 (unit: km), indicating the optical fiber transmission distance from the OLT to the ONU.	-	Read-only	-
Temperature	The current temperature of the optical module. The unit is °C.	-	Read-only	-
Voltage	The current voltage of the optical module. The unit is V.	-	Read-only	-
Bias Current	The current bias current of the optical module. The unit is mA.	-	Read-only	-
Tx-Power	The actual Tx optical power of the optical module. The unit is dBm.	-	Read-only	-
ONU Authorized No.	The authorization number of the ONU.	-	Read-only	-
Receive OptPower	The actual optical power received from the ONU side. The unit is dBm.	-	Read-only	-

5 **Shortcut Menu Command of the GC4B / GC8B Card**

Real-time Performance

Configuration

Control Command

Status Review

5.1 Real-time Performance

5.1.1 Querying CPU / Memory Utilization

Command function

This command is used to query the CPU / memory utilization ratio of a card or ONU and help users understand the equipment operation status.



Note:

Before querying the CPU / memory utilization ratio of a card or ONU, users need to enable the CPU / memory utilization ratio collection function in the **Performance Group** tab of this card.

Applicable object

The GC4B and GC8B cards support this command.

Access method

Right-click a card in the **Object Tree** pane, and select **Realtime Performance** → **CPU/memory Proportion** in the shortcut menu. Then the **CPU/memory Proportion** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Realtime Curve	The real time sampling curve of the CPU / memory utilization ratio of the card.	-	Read-only	Click the Start Collect button in the toolbar to start query.
Performance Data	The real time sampling value of the CPU / memory utilization ratio of the card.	-	Read-only	click the Start Collect button in the toolbar, and click Performance Data in the tab that appears.

5.1.2 Querying PON Port Performance Statistical Value

Command function

This command is used to query the PON port performance statistical value of an interface card.



Note:

Before querying the PON port performance statistical value of a card, users need to enable the PON port performance statistics function in the **Performance Group** tab of this card.

Applicable object

The GC4B and GC8B cards support this command.

Access method

Right-click a card in the **Object Tree** pane, and select **Realtime Performance** → **Statistics on OLT End PON Port** in the shortcut menu. Then the **Statistics on OLT End PON Port** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Realtime Curve	The real time sampling curve of the PON port performance of the card.	-	Read-only	Select the PON port to be queried in the logical window, and click the Start Collect button in the toolbar.
Performance Data	The real time sampling value of the PON port performance of the card.	-	Read-only	Select the PON port to be queried in the logical window, click the Start Collect button in the toolbar, and click Performance Data in the tab that appears.

5.2 Configuration

5.2.1 Configuring Bandwidth

Command function

This command is used to configure or view the uplink / downlink bandwidth of each PON port of the GC4B / GC8B card.

Applicable object

The GC4B and GC8B cards support this command.

Access method

Right-click a card in the **Object Tree** pane, and select **Config**→**Bandwidth** in the shortcut menu. Then the **Bandwidth** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the line card.	-	Read-only	-
PON No.	The PON port number of the line card.	-	Read-only	-
Direction	The uplink direction of the signal in the PON port.	-	Read-only	-
Total Bandwidth	The maximum uplink bandwidth of the PON port.	The value range is 160000 to 1250000, with the unit being kbit/s. The default value is 0kbit/s.	Compulsory	Double-click to enter the total bandwidth.

5.2.2 Configuring QinQ

Command function

This command is used to configure the TPID (Tag Protocol Identifier) value of the QinQ VLAN on the card.

Applicable object

The GC4B and GC8B cards support this command.

Access method

Right-click a card in the **Object Tree** pane, and select **Config**→**QinQ config** in the shortcut menu. Then the **QinQ config** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the line card.	-	Read-only	-
Layer 2 VLAN Protocol Identifier	The TPID of the QinQ VLAN.	The value range is 1 to 65534. The default value is 33024.	Compulsory	Double-click to enter the Layer 2 VLAN Protocol Identifier.

5.2.3 Enabling / Disabling Performance Classification

Command function

This command is used to enable / disable classification function of the appointed performance parameters. These performance parameters include PON port performance statistics data, optical module parameters, and CPU / memory utilization ratio.

Applicable object

The GC4B and GC8B cards support this command.

Access method

Right-click a card in the **Object Tree** pane, and select **Config**→**Statistics Switch** in the shortcut menu. Then the **Statistics Switch** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the line card.	-	Read-only	-
Performance code	The performance statistics category of the line card.	-	Read-only	-
Switch	Enables / disables classification function of the appointed performance parameters.	The options includes Enable and Disable .	Compulsory	Click the drop-down list to select Enable or Disable .

5.2.4 Enabling / Disabling a PON Port

Command function

This command is used to enable or disable a certain PON port. After a certain port is disabled, this port will stop transmitting optical signals, and all ONUs connected with this PON port will enter unregistered status.



Caution:

This command can interrupt services on the PON port. Please operate with cautions.

Applicable object

The GC4B and GC8B cards support this command.

Access method

Right-click a card in the **Object Tree** pane, and select **Config**→**Enable/Disable PON** in the shortcut menu. Then the **Enable/Disable PON** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the line card.	-	Read-only	-
PON No.	The PON port number of the line card.	-	Read-only	-
Enable Status	Enable indicates disabling the appointed PON port. Disable indicates enabling the appointed PON port.	The options includes Enable and Disable .	Compulsory	Click the drop-down list to select Enable or Disable .

5.2.5 Configuring PON Port Isolation

Command function

This command is used to configure the PON port isolation, making the PON ports in the same card cannot communicate with each other. This function can be used to suppress broadcast storm inside the card.

Applicable object

The GC4B and GC8B cards support this command.

Access method

Right-click a card in the **Object Tree** pane, and select **Config**→**Isolate PON Port** in the shortcut menu. Then the **Isolate PON Port** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the line card.	-	Read-only	-
Enable Status	<ul style="list-style-type: none"> ◆ Enable indicates setting isolation between services at the appointed PON port. ◆ Disable indicates canceling isolation between services at the appointed PON port. 	The options includes Enable and Disable .	Compulsory	Click the drop-down list to select Enable or Disable .

5.2.6 Enabling / Disabling FEC Function of a PON Port

Command function

This command is used to configure or view the FEC function of each PON port of the card.



Caution:

For the same PON port, its FEC function in the uplink and downlink directions must be configured as the same enabling / disabling status. After the FEC function of a PON port is enabled, the ONUs connected with this PON port will first enter unregistered status, and register to the line card again. This process can cause interruption of subscriber services.

Applicable object

The GC4B and GC8B cards support this command.

Access method

Right-click a card in the **Object Tree** pane, and select **Config**→**PON FEC Enable** in the shortcut menu. Then the **PON FEC Enable** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the line card.	-	Read-only	-
PON No.	The PON port number of the line card.	-	Read-only	-
Direction	The uplink or downlink direction of the signal in the PON port.	-	Read-only	-
Enable Status	Enable / Disable the FEC function in the uplink or downlink direction of the signal in the PON port.	The options includes Enable and Disable .	Compulsory	Click the drop-down list to select Enable or Disable .

5.2.7 Configuring PON Port Key Modification Interval

Command function

This command is used to configure the time interval of the key updating.

Applicable object

The GC4B and GC8B cards support this command.

Access method

Right-click a card in the **Object Tree** pane, and select **Config**→**Secret Update Interval** in the shortcut menu. Then the **Secret Update Interval** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the line card.	-	Read-only	-
PON No.	The PON port number of the line card.	-	Read-only	-
Secret Update Interval	The time interval for updating the key value regularly.	The value range is 0, 10 to 4294967294, with the unit being second. The default value is 0 seconds.	Compulsory	Double-click to enter the PON Port Key Modification Interval

5.2.8 Binding / Unbinding a PON Port with a VLAN Operation Table

Command function

This command is used to configure and view the status of each PON port binding with an OLT VLAN operation table.

**Note:**

Before performing this configuration command, users need to complete the related operations of **GPON OLT VLAN operation tables**.

Applicable object

The GC4B and GC8B cards support this command.

Access method

Right-click a card in the **Object Tree** pane, and select **Config**→**PON attach/detach VLAN Table** in the shortcut menu. Then the **PON attach/detach VLAN Table** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the line card.	-	Read-only	-
PON No.	The PON port number of the line card.	-	Read-only	-
Action	<ul style="list-style-type: none"> ◆ attach means binding the services of the PON port with a GPON OLT VLAN operation table. ◆ detach means unbinding the services of the PON port with a GPON OLT VLAN operation table. 	Its value includes Bind and Unbind .	Compulsory	Click the drop-down list to select attach or detach .
Table Name	The name of the GPON OLT VLAN operation table. The same PON port can be bound with multiple GPON OLT VLAN operation tables.	Select from the table names configured in the GPON OLT VLAN operation table window.	Compulsory	Click the drop-down list to select the table name.

5.2.9 Binding / Unbinding a PON Port with a Domain

Command function

This command is used to configure and view the status of the PON port binding with OLT QinQ domains.



Note:

Before performing this configuration command, users need to complete the related operations of **OLT QinQ domains**.

Applicable object

The GC4B and GC8B cards support this command.

Access method

Right-click a card in the **Object Tree** pane, and select **Config**→**PON Attach/Detach Domain** in the shortcut menu. Then the **PON Attach/Detach Domain** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the line card.	-	Read-only	-
PON No.	The PON port number of the line card.	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
Action	<ul style="list-style-type: none"> ◆ attach means binding the services of the PON port with an OLT QinQ domain. ◆ detach means unbinding the services of the PON port with a GPON OLT VLAN operation table. 	Its value includes Bind and Unbind .	Compulsory	Click the drop-down list to select attach or detach .
Domain name	The name of the OLT QinQ domain. The same PON port can be bound with up to 6 OLT QinQ domain.	Select from the domain names configured in the OLT QinQ domain configuration.	Compulsory	Click the drop-down list to select the domain name.

5.2.10 Suppressing Broadcast / Multicast / Unknown Packet of a PON Port

Command function

This command is used to configure and view broadcast / multicast / unknown packet suppression function of a PON port. Its purpose is to prevent generation of broadcast storm inside the system and improve the system performance.

Applicable object

The GC4B and GC8B cards support this command.

Access method

Right-click a card in the **Object Tree** pane, and select **Config**→**Packet Rate Control** in the shortcut menu. Then the **Packet Rate Control** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the line card.	-	Read-only	-
PON No.	The PON port number of the line card.	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
Packet Type	The packet type of the appointed PON port.	-	Read-only	-
Enable/Disable	Enable: enables the packet suppression function. Disable: disables the packet suppression function.	The options includes Enable and Disable .	Compulsory	Click the drop-down list to select Enable or Disable .
Speed (Packet/second)	The system will discard the packets exceeding the set speed control threshold.	The value range is 1 to 262142, with the unit being packet/s. The default value is 150 packet/s.	Optional. When the packet suppression function is enabled, this parameter is valid.	Double-click to enter the rate limit.

5.2.11 Constantly Emitting Light Detection Configuration

Command function

This command is used to configure the detection for the constantly emitting light status of the ONU under the line card.

Applicable object

The GC4B and GC8B cards support this command.

Access method

Right-click a card in the **Object Tree** pane, and select **Config**→**Constantly Emitting Light Detect Config** in the shortcut menu. Then the **Constantly Emitting Light Detect Config** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the line card.	-	Read-only	-
Detect Switch	Enable or disable the detection function for the constantly emitting light of the PON port.	Includes Enable and Disable .	Compulsory	Click the drop-down list to select Enable or Disable .
Detect Interval	The time interval of the detection for the constantly emitting light faults.	The value range is 5 to 3600, with the unit being second. The default value is 60 seconds.	Optional. When the detection is disabled, this parameter is invalid.	Double-click to enter the detection interval.
Fault Disable Type	The disabling mode used when the constantly emitting light fault exists in the ONU.	Includes: Auto Disable and Manual Disable .	Optional. When the detection is disabled, this parameter is invalid.	Click the drop-down list to select the fault disable type.

5.3 Control Command

5.3.1 Resetting

Command function

This command is used to reset the line card. Users can execute this command after the line interface card software is upgraded or a line interface card is faulty. After a line interface card is reset.



Caution:

This command will cause line card service interruption, so please operate with cautions.

Applicable object

The GC4B and GC8B cards support this command.

Access method

Right-click a card in the **Object Tree** pane, and select **System control**→**Reset** in the shortcut menu. Then the **Reset** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the line card.	-	Read-only	-

5.3.2 Resetting an ONU

Command function

This command is used to restart the appointed ONU. After an ONU is restarted, it will register to the OLT again.

Applicable object

The GC4B and GC8B cards support this command.

Access method

Right-click a card in the **Object Tree** pane, and select **System control**→**Reset ONU** in the shortcut menu. Then the **Reset ONU** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the line card.	-	Read-only	-
PON No.	The PON port number of the line card.	<ul style="list-style-type: none"> ◆ The value range of the GC4B card is 1 to 4. ◆ The value range of the GC8B card is 1 to 8. 	Compulsory	Click the drop-down list to select the PON port number.
ONU Authorized No.	The authorization number of the ONU.	The authorized ONU number under the PON port.	Compulsory	Click to enter the ONU Seq No. configuration window.

5.3.3 Deauthorizing an ONU

Command function

This command is used to deauthorize the appointed ONU.

Applicable object

The GC4B and GC8B cards support this command.

Access method

Right-click a card in the **Object Tree** pane, and select **System control** → **Deauthorize ONU** in the shortcut menu. Then the **Deauthorize ONU** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the line card.	-	Read-only	-
PON No.	The PON port number of the line card.	<ul style="list-style-type: none"> ◆ The value range of the GC4B card is 1 to 4. ◆ The value range of the GC8B card is 1 to 8. 	Compulsory	Double-click to enter the PON port number.
ONU No.	The authorization number of the ONU.	The value range is 1 to 128.	Compulsory	Double-click to enter the ONU number.

5.4 Status Review

5.4.1 Viewing ONU Type and Software / Hardware Version Number

Command function

This command is used to view the ONU type and software / hardware version of all registered ONUs under the PON port of the card. When an ONU is faulty or its software is upgraded, users can execute this command to verify the software / hardware version of the ONU.

Applicable object

The GC4B and GC8B cards support this command.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Get Information** → **ONU Information** in the shortcut menu. Then the **ONU Information** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the line card.	-	Read-only	-
PON No.	The PON port number of the line card.	<ul style="list-style-type: none"> ◆ The value range of the GC4B card is 1 to 4. ◆ The value range of the GC8B card is 1 to 8. 	Compulsory	Double-click to enter the PON port number.
ONU No.	The authorization number of the ONU.	-	Read-only	-
Configured Type	The ONU type configured in the ANM2000.	-	Read-only	-
Actual Type	The actual hardware type of the ONU.	-	Read-only	-
Software Version	The software number of the ONU.	-	Read-only	-
Hardware Version	The hardware number of the ONU.	-	Read-only	-

5.4.2 Viewing ONU Authorization List

Command function

This command is used to view information of authorized ONUs connected with the appointed PON port of the EC4B / EC8B card. The authorized ONUs include all online and offline ONUs.

Applicable object

The GC4B and GC8B cards support this command.

Access method

Right-click a card in the **Object Tree** pane, and select **Get Information** → **ONU Authcated Table** in the shortcut menu. Then the **ONU Authcated Table** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the line card.	-	Compulsory	Select from the pane of setting object on the left side.
PON No.	The PON port number of the line card.	-	Compulsory	Select from the pane of setting object on the left side.
ONU No.	The authorization number of the ONU.	-	Read-only	-
Physical SN	The MAC address of the ONU, with the format being XX-XX-XX-XX-XX-XX.	-	Read-only	-
Password	The password of the ONU	-	Read-only	-
LogicSN: LOID	This parameter is only valid for the EPON equipment currently.	-	Read-only	-
LogicSN: Password	This parameter is only valid for the EPON equipment currently.	-	Read-only	-
ONU Type	For various types of FiberHome GPON ONUs, this parameter refers to the type value, such as AN5506-04B; for ONUs of other vendors, this parameter value will be displayed as Others .	-	Read-only	-
Authentication Mode	The authentication mode of the ONU.	-	Read-only	-
Status	The current status of the ONU.	-	Read-only	-

5.4.3 Viewing Unauthorized ONU List

Command function

This command is used to view information of unauthorized ONUs connected with the appointed PON port of the card.

Applicable object

The GC4B and GC8B cards support this command.

Access method

Right-click a card in the **Object Tree** pane, and select **Get Information**→**ONU Unauthorized Table** in the shortcut menu. Then the **ONU Unauthorized Table** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the line card.	-	Compulsory	Select from the pane of setting object on the left side.
PON No.	The PON port number of the line card.	-	Compulsory	Select from the pane of setting object on the left side.
Physical SN	The MAC address of the ONU, with the format being XX-XX-XX-XX-XX-XX.	-	Read-only	-
Password	The password of the ONU	-	Read-only	-
LogicSN: LOID	This parameter is only valid for the EPON equipment currently.	-	Read-only	-
LogicSN: Password	This parameter is only valid for the EPON equipment currently.	-	Read-only	-

5.4.4 Viewing Registered ONU List

Command function

This command is used to view information of authorized and online ONUs connected with the appointed PON port of the card.

Applicable object

The GC4B and GC8B cards support this command.

Access method

Right-click a card in the **Object Tree** pane, and select **Get Information** → **Registered ONU List** in the shortcut menu. Then the **Registered ONU List** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the line card.	-	Compulsory	Select from the pane of setting object on the left side.
PON No.	The PON port number of the line card.	-	Compulsory	Select from the pane of setting object on the left side.
ONU No.	The authorization number of the ONU.	-	Read-only	-
Physical SN	The MAC address of the ONU, with the format being XX-XX-XX-XX-XX-XX.	-	Read-only	-
Password	The password of the ONU	-	Read-only	-
LogicSN: LOID	This parameter is only valid for the EPON equipment currently.	-	Read-only	-
LogicSN: Password	This parameter is only valid for the EPON equipment currently.	-	Read-only	-
ONU Type	For various types of FiberHome GPON ONUs, this parameter refers to the type value, such as AN5506-04B; for ONUs of other vendors, this parameter value will be displayed as Others .	-	Read-only	-

5.4.5 Viewing Port Loopback

Command function

This command is used to view the OAM loopback test function on the PON port of the card. The parameters to be viewed include the transmitted frame, the received frame, and the delay.

Applicable object

The GC4B and GC8B cards support this command.

Access method

Right-click a card in the **Object Tree** pane, and select **Get Information** → **Port loopback** in the shortcut menu. Then the **Port loopback** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the line card.	-	Read-only	-
PON No.	The PON port number of the line card.	<ul style="list-style-type: none"> ◆ The value range of the GC4B card is 1 to 4. ◆ The value range of the GC8B card is 1 to 8. 	Compulsory	Double-click to enter the PON port number.
Send Frame	The number of transmitted frames in the port loopback test.	-	Read-only	-
Frames Received OK	The number of received correct frames in the port loopback test.	-	Read-only	-
Frames Received Corrupted	The number of received incorrect frames in the port loopback test.	-	Read-only	-
MinDelay	The minimum delay from transmitting a packet to receiving it in the port loopback test.	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
MaxDelay	The maximum delay from transmitting a packet to receiving it in the port loopback test.	-	Read-only	-
Avg-Delay	The average delay from transmitting a packet to receiving it in the port loopback test.	-	Read-only	-

5.4.6 Viewing PON Port MAC Address Table

Command function

This command is used to view the MAC address information and VLAN value learned by the PON port.

Applicable object

The GC4B and GC8B cards support this command.

Access method

Right-click a card in the **Object Tree** pane, and select **Get Information**→**MAC Learning Table on PON** in the shortcut menu. Then the **MAC Learning Table on PON** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
PON No.	The PON port number of the line card.	-	Read-only	-
MAC Address	The MAC address learned by the PON port with the format being XX-XX-XX-XX-XX-XX.	-	Read-only	-
VLAN ID	The VLAN value learned by the PON port.	-	Read-only	-

5.4.7 Viewing Optical Module Parameters

Command function

This command is used to view the actual operating status of the PON port optical module and the ONU optical module.

Applicable object

The GC4B and GC8B cards support this command.

Access method

Right-click a card in the **Object Tree** pane, and select **Get Information** → **Opt Module Para Information** in the shortcut menu. Then the **Opt Module Para Information** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the line card.	-	Read-only	-
Port No.	The PON port number of the line card.	<ul style="list-style-type: none"> ◆ The value range of the GC4B card is 1 to 4. ◆ The value range of the GC8B card is 1 to 8. 	Compulsory	Click the drop-down list to select the PON port number.
Optical Module Type	The type of the optical module. Its value includes 10 and 20 (unit: km), indicating the optical fiber transmission distance from the OLT to the ONU.	-	Read-only	-
Temperature	The current temperature of the optical module. The unit is °C.	-	Read-only	-
Voltage	The current voltage of the optical module. The unit is V.	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
Bias Current	The current bias current of the optical module. The current bias current of the optical module.	-	Read-only	-
Transmitting optical power	The current Tx optical power of the optical module. The unit is dBm.	-	Read-only	-
ONU Authorized No.	The authorization number of the ONU.	-	Read-only	-
Receive OptPower	The actual received optical power of the OLT side from the ONU side. The unit is dBm.	-	Read-only	-

6 **Shortcut Menu Commands of the HU1A / HU2A / GU6F Card**

Real-time Performance

Configuration

Control Command

Status Review

6.1 Real-time Performance

6.1.1 Uplink Port Performance Statistics

Command function

This command is used to query the uplink port performance statistics of the uplink card.

Applicable object

The HU1A, HU2A and GU6F cards supports this command.

Access method

Right-click a card in the **Object Tree** pane, and select **Realtime Performance** → **Statistics on OLT End PON Port** in the shortcut menu. Then the **Statistics on Uplink Port** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Realtime Curve	The real time sampling curve of the uplink port performance of the uplink card.	-	Read-only	Select the uplink port to be queried in the logical window, and click the Start Collect button in the toolbar.
Performance Data	The real time sampling value of the uplink port performance of the uplink card.	-	Read-only	Select the uplink port to be queried in the logical window, click the Start Collect button in the toolbar, and click Performance Data in the tab that appears.

6.2 Configuration

6.2.1 Configuring Uplink Port Properties

Command function

This command is used to configure the related properties of the uplink port on an uplink card. The main parameters to be configured include Ethernet parameters, flow control, and priority authority.



Caution:

To enable the auto-negotiation function of the uplink port on an uplink card, users need to enable the auto-negotiation function of the Rx port on the uplink equipment under the OLT first.

Applicable object

The HU1A, HU2A and GU6F cards supports this command.

Access method

Right-click a card in the **Object Tree** pane, and select **Config**→**Uplink Port Properties** in the shortcut menu. Then the **Uplink Port Properties** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the uplink card.	-	Read-only	-
Uplink Port No.	List of the uplink ports.	-	Read-only	-
Port Type	The type of the uplink port.	-	Read-only	-
Enable Config	Enables / disables the uplink port.	-	Optional	Select or clear the check box to enable / disable the flow mirroring function.

Item	Description	Value Range / Requirement	Property	Configuration Method
Auto Negotiation	When the auto-negotiation function is enabled, the uplink port can negotiate with ports of other equipment sets on the maximum allowed transmission rate. Only electrical ports support the auto-negotiation function, and optical ports do not support this function.	Includes: Enable and Disable .	Optional. When the auto-negotiation function is disabled, this parameter is valid.	Click the drop-down list to select Enable or Disable.
Speed Config	Select the working rate of the uplink port.	The values include 10Mbps , 100Mbps or 1000Mbps .	Optional. When the port is enable and the auto-negotiation function is disabled, this parameter is valid.	Click the drop-down list to select the speed.
Duplex Config	Select the working mode of the uplink port.	Users can select the full duplex mode or the half duplex mode.	Optional. When the port is enable and the auto-negotiation function is disabled, this parameter is valid.	Click the drop-down list to select the dual mode.
Flow Control	Enables or disables the flow control function of the uplink port to perform congestion control.	-	Optional. When the auto-negotiation function is disabled, this parameter is valid.	Select or clear the check box to enable / disable the flow mirroring function.
MAC Address Learning	Enables or disables the service packet MAC address learning function of the uplink port.	-	Optional. When the auto-negotiation function is disabled, this parameter is valid.	Select or clear the check box to enable / disable the flow mirroring function.

Item	Description	Value Range / Requirement	Property	Configuration Method
Priority Enable	Enables or disables the priority authority function of the uplink port.	-	Optional. When the auto-negotiation function is disabled, this parameter is valid.	Select or clear the check box to enable / disable the flow mirroring function.
Priority Value	Sets the priority level of the uplink port.	The value range is 0 to 7.	Optional. When the port is 10G port and is enabled, this parameter is valid.	Double-click to enter the priority value.
WAN/LAN Mode	Configures the WAN / LAN mode of the 10 Gb port. ◆ When the 10 Gb optical port is connected with the WAN equipment (such as SDH), this parameter should be set to WAN. ◆ When the 10 Gb optical port is connected with the LAN equipment (such as Ethernet), this parameter should be set to LAN.	The options include WAN or LAN .	Optional. When the port is 10G port, this parameter is valid.	Click the drop-down list to select the WAN / LAN mode of the 10G port.
Interface Mode	Configures the interface mode of the uplink port. ◆ If the port acts as an optical port, users should select SerDes. ◆ If the port acts as an electrical port, users should select SGMII.	The options includes: SerDes and SGMII .	Optional. For the uplink ports 19:3, 19:4, 20:3, and 20:4, this parameter is valid.	Click the drop-down list to select the interface mode.

6.2.2 Configuring Port Performance Thresholds

Command function

This command is used to configure the performance-related alarm thresholds of the uplink port on an uplink card. The main performance parameters to be configured include CRC statistical value, undersized packets number, and uplink / downlink rate.



Note:

When the actual values of CRC statistical value, undersized packets number, and uplink / downlink rate of the uplink card exceeds the set alarm thresholds, the ANM2000 will report corresponding alarms via prompt information.

Applicable object

The HU1A, HU2A and GU6F cards supports this command.

Access method

Right-click a card in the **Object Tree** pane, and select **Config**→**Uplink Port Statistics Threshold** in the shortcut menu. Then the **Uplink Port Statistics Threshold** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the uplink card.	-	Read-only	-
Uplink No.	List of the uplink ports. Its value depends on the uplink card type.	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
Crc-Threshold (/sec)	When the CRC statistical value of the received packets by the uplink port exceeds the set threshold, a corresponding alarm will appear in the port performance statistics, and the packets exceeding the set threshold will be discarded.	The value range is 0 to 4294967294. The default value is 0, meaning that the threshold is not set.	Optional	Double-click to enter the Crc-Threshold.
Undersize-Frame Threshold (/sec)	A packet whose bytes number is less than 60 is called the undersized packet. When the undersized packets number of the received packets by the uplink port exceeds the set threshold, a corresponding alarm will appear in the port performance statistics, and the packets exceeding the set threshold will be discarded.	The value range is 0 to 4294967294. The default value is 0, meaning that the threshold is not set.	Optional	Double-click to enter the Undersize-Frame Threshold.

6.2.3 Configuring Port RSTP Parameters

Command function

This configuration command is used to set the RSTP priority parameters.



Note:

It is valid only when the RSTP function of an uplink port is enabled.

Applicable object

The HU1A, HU2A and GU6F cards supports this command.

Access method

Right-click a card in the **Object Tree** pane, and select **Config**→**Uplink Port RSTP** in the shortcut menu. Then the **Uplink Port RSTP** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the uplink card.	-	Read-only	-
Uplink No.	List of the uplink ports.	-	Read-only	-
Port Priority	A port with a smaller priority value has a higher priority. A port with a higher priority is preferred to act as the root port.	The value range is 0 to 240. The default value is 0.	Optional	Double-click to enter the port priority.
Port Path Cost	The port RSTP path cost. A port with a smaller path cost value has a lower path cost. A path with a lower cost is preferred to act as the root path.	The value range is 1 to 200000000. The default value is 0.	Optional	Double-click to enter the port path.

6.2.4 Enabling / Disabling VLAN Performance Statistics

Command function

The enabling / disabling VLAN performance statistics command is used to enable / disable the VLAN performance statistics function of an uplink port.



Note:

After the VLAN performance statistics function is enabled, users can select **Realtime Performance** to view the bandwidth utilization ratio of an uplink port in a certain VLAN.

Applicable object

The HU1A, HU2A and GU6F cards supports this command.

Access method

Right-click a card in the **Object Tree** pane, and select **Config**→**VLAN Performance Switch** in the shortcut menu. Then the **VLAN Performance Switch** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the uplink card.	-	Read-only	-
Port No.	List of the uplink ports.	-	Read-only	-
VLAN ID	The VLAN ID of a certain VLAN containing the port.	The value range is 1 to 4085 .	Compulsory	Double-click to enter the VLAN ID value.
Switch	Enables / disables the VLAN performance statistics function of the uplink port.	Includes: Enable and Disable .	Compulsory	Click the drop-down list to select Enable or Disable.

6.3 Control Command

6.3.1 Resetting a Card

Command function

This command is used to reset the uplink port, generally used in fault handling.



Caution:

This resetting card command can interrupt services. Please operate with cautions.

Applicable object

The HU1A, HU2A and GU6F cards supports this command.

Access method

Right-click a card in the **Object Tree** pane, and select **System control** → **Reset** in the shortcut menu. Then the **Reset** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the uplink card.	-	Read-only	-

6.4 Status Review

6.4.1 Viewing RSTP Bridge Information

Command function

This command is used to display the RSTP bridge information of the uplink card and monitor the status information of each bridge.



Note:

User can acquire the RSTP bridge information only if the RSTP function is enabled.

Applicable object

The HU1A, HU2A and GU6F cards supports this command.

Access method

Right-click a card in the **Object Tree** pane, and select **Get Information**→**RSTP Bridge Info** in the shortcut menu. Then the **RSTP Bridge Info** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
RSTP Bridge Info	If the uplink port has learn a MAC address but has not received the packet containing this MAC address during the maximum aging time, this MAC address will be deleted.	-	Read-only	-
Bridge Priority	The priority of the uplink card bridge, which is the important part of the bridge ID. The smaller the value is, the higher the priority level is.	-	Read-only	-
Bridge Mac Address	The MAC address of the uplink card bridge, which is the important part of the bridge ID.	-	Read-only	-
Bridge Hello Time (s)	The time interval of the transmission of the BPDU.	-	Read-only	-
Forward Delay	The delay time from the blocking or learning status of the port switches into the forwarding status.	-	Read-only	-
Force Version	The RSTP version. Display STP or RSTP.	-	Read-only	-
Root Bridge Priority	The priority of the root bridge selected according to the bridge ID. The root bridge can be either the uplink card bridge or the OLT uplink equipment bridge.	-	Read-only	-
Root Bridge Mac Address	The MAC address of the root bridge selected according to the bridge ID. The root bridge can be either the uplink card bridge or the OLT uplink equipment bridge.	-	Read-only	-
Root Port	The port number of the root bridge.	-	Read-only	-
Root Max Age (s)	If the root bridge has learned a MAC address but has not received the packet containing this MAC address during the maximum aging time, this MAC address will be deleted.	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
Root Hello Time (s)	The time interval of the transmission of the BPDU by the root bridge.	-	Read-only	-
Root Forward Delay (s)	The port status switch interval when selecting the root bridge. This delay prevents the bridge from transmitting and receiving data before the topology structure refresh is sent to the entire network.	-	Read-only	-

6.4.2 Viewing RSTP Port Information

Command function

This command is used to view the RSTP information of an appointed ONU port.

Applicable object

The HU1A, HU2A and GU6F cards supports this command.

Access method

Right-click a card in the **Object Tree** pane, and select **Get Information**→**RSTP Port Info** in the shortcut menu. Then the **RSTP Port Info** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the uplink card.	-	Read-only	-
Uplink No.	The port number of the uplink card.	<ul style="list-style-type: none"> ◆ The value range of the HU1A card is 1 to 5. ◆ The value range of the HU2A card is 1 to 4. ◆ The value range of the GU6F card is 1 to 6. 	Compul-sory	Click the drop-down list to select the uplink port number.

Item	Description	Value Range / Requirement	Property	Configuration Method
Port Priority	The priority of the port when the RSTP is enabled. A port with a lower priority value is preferred to act as the root port.	-	Read-only	-
Port Role	The role of the port.	-	Read-only	-
Port State	The working mode of the port.	-	Read-only	-
Port Path Cost	The path cost of the port when the RSTP is enabled.	-	Read-only	-
Designated Root Priority	The priority of the appointed root port.	-	Read-only	-
Designated Root Mac Address	The MAC address of the appointed root port.	-	Read-only	-
Designated Path Cost	The path cost of the appointed root port.	-	Read-only	-
Designated Port No.	The number of the appointed port.	-	Read-only	-
Designated Port Priority	The priority of the appointed port.	-	Read-only	-
Designated Bridge Priority	The priority of the appointed bridge.	-	Read-only	-
Designated Bridge MAC Address	The MAC address of the appointed bridge.	-	Read-only	-

6.4.3 Viewing Optical Module Parameters

Command function

This command is used to view the parameters of the optical module of the uplink card.

Applicable object

The HU1A, HU2A and GU6F cards supports this command.

Access method

Right-click a card in the **Object Tree** pane, and select **Get Information** → **Opt Module Para Information** in the shortcut menu. Then the **Opt Module Para Information** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the uplink card.	-	Read-only	-
Port No.	The optical port number of the uplink card.	<ul style="list-style-type: none"> ◆ The value range of the HU1A card is 1 to 5. ◆ The value range of the HU2A card is 1 to 4. ◆ The value range of the GU6F card is 1 to 6. 	Compulsory	Click the drop-down list to select the port number.
Optical Module Type	The optical module type, indicating the optical fiber transmission distance between from the OLT to the ONU.	-	Read-only	-
Temperature	The current temperature of the optical module.	-	Read-only	-
Voltage	The current voltage of the optical module.	-	Read-only	-
Bias Current	The current bias current of the optical module.	-	Read-only	-
Transmitting optical power	The actual Tx optical power of the optical module.	-	Read-only	-
Receive OptPower	The actual Rx optical power of the optical module.	-	Read-only	-

7 Shortcut Menu Commands of the CE1B / C155A Card

- Real-time Performance
- Configuration
- Control Command
- Status Review

7.1 Real-time Performance

7.1.1 Querying CPU / Memory Utilization

Command function

This command is used to query the CPU / memory utilization ratio of a card or ONU and help users understand the equipment operation status.

Applicable object

The CE1B and C155A cards support this command.

Access method

Right-click a card in the **Object Tree** pane, and select **Realtime Performance** → **CPU/memory Proportion** in the shortcut menu. Then the **CPU/memory Proportion** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Realtime Curve	The real time sampling curve of the CPU / memory utilization ratio of the card.	-	Read-only	Click the Start Collect button in the toolbar to start query.
Performance Data	The real time sampling value of the CPU / memory utilization ratio of the card.	-	Read-only	click the Start Collect button in the toolbar, and click Performance Data in the tab that appears.

7.2 Configuration

7.2.1 Performing E1 Loopback

Command function

This command is used to check the physical connection of the E1 cable and the internal status of the C155A card. When the TDM service is interrupted, users can use this command to analyze and isolate the fault.

- ◆ Internal loopback: Is used to test whether the line from the ONU E1 interface to the chip inside the CE1B / C155A card is faulty.
- ◆ External loopback: Is used to test whether the line from the chip inside the CE1B card to the the E1 interface of the uplink equipment is faulty; and is used to test whether the line from the E1 interface of the SDH equipment to the mapping chip inside the C155A card is faulty.



Note:

- ◆ The CE1B card provides 32 E1 interfaces, which are used to transmit the TDM service to the upper level equipment. The Ethernet packet from the ONU side is converted into the TDM traffic via the chip inside the CE1B card, and the transmission is completed via the E1 interface.
 - ◆ The C155A card provides one STM-1 interface, which is used to transmit the TDM service to the SDH equipment. After the Ethernet packet from the ONU side is converted into the TDM traffic, the C155A card will perform mapping, alignment, and multiplexing operations, so that 63 E1 signals will be multiplexed into the STM-1 frame and the transmission will be completed via the STM-1 interface.
-

Applicable object

The CE1B and C155A cards support this command.

Access method

Right-click a card in the **Object Tree** pane, and select **Config**→**E1 Loopback** in the shortcut menu. Then the **E1 Loopback** window will appear.

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the CE1B / C155A card.	-	Read-only	-
E1 No.	<ul style="list-style-type: none"> ◆ The CE1B card has four dedicated sockets for E1 interfaces, and each socket corresponds to eight E1 interfaces. So it supports 32 E1 interfaces, and the numbers are 1 to 32 respectively. ◆ One C155A STM-1 optical interface can contain 63 E1 signals, so the value of this parameter should be 1 to 63. 	-	Read-only	-
State	<p>Selects the loopback mode.</p> <p>If Cancel is selected, the system will not perform loopback test of E1 services, and the equipment will return to the normal operating status.</p>	<p>It has three values: DLB, LLB, and Cancel.</p>	Compulsory	Click the drop-down list to select loopback status.

7.2.2 Configuring System Clock Mode

Command function

This command is used to configure the clock obtaining mode of the local AN5116-06B. The five clock obtaining modes are described as follows:

- ◆ Internal: The clock is provided by the internal oscillator of the card.
- ◆ Exterior 1: The clock is received via the external clock interface on the front panel of the card.

- ◆ Exterior 2: The current CE1B card uses the clock of another CE1B / C155A / TIMA card via the backplane. If the equipment is configured with two CE1B / C155A / TIMA cards, and one card has obtained the system clock in other modes, the other card can implement clock synchronization via selecting Exterior 2.
- ◆ E1-Pick: The clock is extracted from the E1 line whose serial number is 1.
- ◆ OptLine-Pick: The clock is extracted from the optical port link.

According to the selected clock obtaining mode, users need to complete the corresponding physical connection.

- ◆ If **Exterior 1** is selected, users need to complete accessing of the clock from the external clock interface on the front panel of the card.
- ◆ If **Exterior 2** is selected, users need to ensure that another CE1B / C155A / TIMA card has obtained the clock.
- ◆ If **E1-Pick** is selected, users need to complete physical connection of the E1 line whose serial number is 1.

Applicable object

The CE1B and C155A cards support this command.

Access method

Right-click the CE1B / C155A card in the **Object Tree** pane, and select **Config**→**System Clock Mode** in the shortcut menu. Then the **System Clock Mode** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the CE1B / C155A card.	-	Read-only	-
Clock Source	The clock obtaining mode.	The CE1B card has four modes: internal , Exterior 1 , Exterior 2 , and E1-Pick . The C155A card has five modes: internal , Exterior 1 , Exterior 2 , E1-Pick , and OptLine-Pick .	Compulsory	Click the drop-down list to select the clock source.

7.2.3 Configuring Clock Recovery Mode

Command function

This command is used to configure the clock recovery mode.

The system supports four clock recovery modes:

◆ Adaptive clock recovery

The ONU and the OLT do not share the same synchronization reference source. The TDM service from the ONU is encapsulated into Ethernet packets and transmitted to the OLT, and the OLT recovers the clock according to the Ethernet packet arrival rate and occupying condition of the packet buffer area.

◆ Enhanced adaptive clock recovery

Its principles are the same as those of the adaptive clock recovery. But the sampling frequency of enhanced adaptive clock recovery is higher than that of adaptive clock recovery, and the recovered clock is more accurate.

◆ Differential clock recovery

The ONU and the OLT share the same synchronization reference source. During the TDM service encapsulation process on the ONU, the system will compare the TDM service clock with the public synchronization reference source; the differential value will be encapsulated into the Ethernet packet together with the TDM service and be sent to the OLT. After receiving the Ethernet packet, the OLT will decapsulate it and recover the clock differential value; after comparing the clock differential value with the public synchronization reference source, the OLT can determine the clock.

◆ Loopback clock recovery

The system uses the clock in the downlink TDM data from the uplink equipment as the transmitting clock directly.



Note:

If it is needed to modify the clock recovery mode, users must first delete all E1 service configurations in the E1 port service configuration window of an ONU.

Applicable object

The CE1B and C155A cards support this command.

Access method

Right-click the CE1B / C155A card in the **Object Tree** pane, and select **Config** → **Clock recovery Mode** in the shortcut menu. Then the **Clock recovery Mode** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the CE1B / C155A card.	-	Read-only	-
mode	The mode of the CE1B / C155A card recovering and extracting corresponding clock signals from the data from the ONU.	The parameter has four values: adaptive recover , differential recover , enhanced recover , and loopback recover . The default value is adaptive recover.	Compulsory	Click the drop-down list to select the clock recovery mode.

7.2.4 Performing Optical Interface Loopback

Command function

This command is used to check the physical connection of the E1 cable and the internal status of the C155A card. When the TDM service is interrupted, users can use this command to analyze and isolate the fault.

- ◆ Internal loopback: Is used to test whether the line from the ONU E1 interface to the STM-1 overhead and pointer processing chip inside the C155A card is faulty.
- ◆ External loopback: Is used to test whether the line from the E1 interface of the SDH equipment to the STM-1 overhead and pointer processing chip inside the C155A card is faulty.

Applicable object

The C155A card supports this command.

Access method

Right-click a card in the **Object Tree** pane, and select **Config**→**Optical port loopback** in the shortcut menu. Then the **Optical port loopback** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the C155A card.	-	Read-only	-
Port No.	The STM-1 optical interface number of the C155A card.	-	Read-only	-
State	Selects the loopback mode. If Cancel is selected, the system will not perform loopback test of E1 services, and the equipment will return to the normal operating status.	It has three values: DLB , LLB , and Cancel .	Compulsory	Click the drop-down list to select loopback status.

7.3 Control Command

7.3.1 Resetting

Command function

This command is used to reset the card.

Applicable object

The CE1B and C155A cards support this command.

Access method

Right-click a card in the **Object Tree** pane, and select **System control**→**Reset** in the shortcut menu. Then the **Reset** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the CE1B or the C155A card.	-	Read-only	-

7.4 Status Review

7.4.1 Viewing E1 Status

Command function

This command is used to view the current status of the E1 link.

Applicable object

The CE1B and C155A cards support this command.

Access method

Right-click a card in the **Object Tree** pane, and select **Get Information** → **E1 State** in the shortcut menu. Then the **E1 State** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the CE1B / C155A card.	-	Read-only	-
E1 No.	<ul style="list-style-type: none"> ◆ For the C155A card, the value of this parameter should be in the range of 1 to 63. ◆ For the CE1B card, the value of this parameter should be in the range of 1 to 32. 	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
Rx State	<p>The Rx side status of the E1 link.</p> <ul style="list-style-type: none">◆ non-activate: This E1 link is not occupied.◆ activating: This link has been created, but it does not work normally.◆ activate: This link has been created, and it works normally.	-	Read-only	-
Tx State	<p>The Tx side status of the E1 link.</p> <ul style="list-style-type: none">◆ non-activate: This E1 link is not occupied.◆ activating: This link has been created, but it does not work normally.◆ activate: This link has been created, and it works normally.	-	Read-only	-

8 Shortcut Menu Commands of the PUBA Card

Real-time Performance

Configuration

8.1 Real-time Performance

8.1.1 Querying CPU / Memory Utilization

Command function

This command is used to query the CPU / memory utilization ratio of a card or ONU and help users understand the equipment operation status.

Access method

Right-click the PUBA card in the **Object Tree** pane, and select **Realtime Performance**→**CPU/memory Proportion** in the shortcut menu. Then the **CPU/memory Proportion** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Realtime Curve	The real time sampling curve of the CPU / memory utilization ratio of the card.	-	Read-only	Click the Start Collect button in the toolbar to start query.
Performance Data	The real time sampling value of the CPU / memory utilization ratio of the card.	-	Read-only	click the Start Collect button in the toolbar, and click Performance Data in the tab that appears.

8.2 Configuration

8.2.1 Managing User Defined Alarms

Command function

This command is used to configure the user defined alarm names of 14 dry contacts.

Access method

Right-click the PUBA card in the **Object Tree** pane, and select **Config**→**Custom Alarm Manage** in the shortcut menu to enter the **Custom Alarm Manage** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Name	Displays the equipment name.	-	Read-only	-
Default Alarm Name	<p>The default alarm name defined by the ANM2000. Its value includes User-defined-alarm-1 to User-defined-alarm-14.</p> <ul style="list-style-type: none"> ◆ User-defined-alarm-1 to User-defined-alarm-7 correspond to the dry contact alarms on the 2nd to 8th wires in the connection cables connected with interfaces DC1 to 7. ◆ User-defined-alarm-8 to User-defined-alarm-14 correspond to the dry contact alarms on the 2nd to 8th wires in the connection cables connected with interfaces DC8 to 14. 	-	Read-only	-
Alarm English Name	The actual name of the alarm.	Includes FIRE-ALM, SMOKE, FAN-TEMP-OVER, TEMP-Down , etc.	Compulsory	Click the drop-down list to select the alarm english name.

8.2.2 Configuring Customized Alarms

Command function

This command is used to configure the customized alarms of the PUBA card. The PUBA card supports alarms of 14 dry contacts.

Access method

Right-click the PUBA card in the **Object Tree** pane, and select **Config→PUBA User Defined Alarm Config** in the shortcut menu to enter the **PUBA User Defined Alarm Config** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Interface No.	The serial number of the dry contact. The 1 to 7 correspond to the 2nd to 8th wires in the connection cables connected with interfaces DC1 to 7, and 8 to 14 correspond to the 2nd to 8th wires in the connection cables connected with interfaces DC8 to 14.	The value range is 1 to 14.	Compulsory	Double-click to enter the serial number of the dry contact.
Alarm Conditions	The alarm report condition.	Includes low and high .	Compulsory	Click the drop-down list to select the alarm report condition.

9 Shortcut Menu Commands of the FAN Card

Configuration

9.1 Configuration

9.1.1 Fan Parameter Configuration

Command function

The fan parameter configuration command is used to configure the relationships between the temperature and the rotation speed of the fan, so that the fan can rotate in a proper speed.



Note:

This command is valid for all FAN cards of the equipment at the same time.

Access method

Right-click the FAN card in the **Object Tree** pane, and select **Config**→**fan parameter config** in the shortcut menu to open the **fan parameter config** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Start temperature	The start temperature of the fan. When the temperature is higher than the start temperature, the fan starts running.	The value range is 0 to 60, with the unit being °C. The default value is 10°C.	Compulsory	Double-click to enter the fan starting temperature.
Temperature Step	When the temperature increases by one step, the fan rotation speed will increase for one level accordingly, until the fan rotation speed reaches the highest level.	The value range is 1 to 30, with the unit being °C. The default value is 5°C.	Compulsory	Double-click to enter the temperature step.
Start Speed	The start rotation speed when the fan starts running.	Its value includes speed level 0 to speed level 7. Speed level 0 indicates the fan stops running. The higher the level, the higher the running speed.	Compulsory	Click the drop-down list to select the start speed.

10 Shortcut Menu Commands of the EPON Terminal

- Managing User Defined Alarms
- Deauthorizing an ONU
- Real Time Performance
- Configuration
- Control Command
- Get Information Command
- Deleting ONU from Network Management Database
- Obtaining ONU Information
- Refreshing an ONU
- Displaying ONU Subscribers
- Hiding ONU Port Panel

10.1 Managing User Defined Alarms

Command function

The user defined alarm management command is used to configure the user defined alarm names of the ONU dry contact.

Applicable object

The AN5006-04, the AN5006-07B, and the HG220 all support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Custom Alarm Manage** in the shortcut menu. Then the **Custom Alarm Manage** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Equipment name	The displayed equipment name.	-	Read-only	-
Default Alarm Name	The default alarm name defined by the ANM2000.	-	Read-only	-
Alarm English Name	The actual name of the alarm.		Compulsory	Click the drop-down list to select the alarm english name.

10.2 Deauthorizing an ONU

Command function

The deauthorizing ONU command is used to deauthorize an authorized ONU.



Caution:

This command can cause loss of configuration data on the ONU and interrupt services on the ONU.

Applicable object

The AN5006-04, the AN5006-07B, and the HG220 all support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Deauthorize ONU** in the shortcut menu. Then the **Deauthorize ONU** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	The number of the PON port connected with the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-

10.3 Real Time Performance

10.3.1 Uplink / Downlink Rate

Command function

The querying uplink / downlink rate command is used to query the uplink / downlink rate of an ONU.

Applicable object

The AN5006-04, the AN5006-07B, and the HG220 all support this command.

Access method

Click the EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Realtime Performance**→**Up/Down Rate** in the shortcut menu. Then the **Up/Down Rate** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Realtime Curve	The real time sampling curve of the uplink / downlink rate of the ONU.	-	Read-only	Select the PON port or LAN port to be queried in the object tree pane, and click the Start Collect button in the toolbar.
Performance Data	The real time sampling value of the uplink / downlink rate of the ONU.	-	Read-only	Select the PON port or LAN port to be queried in the object tree pane, and click the Start Collect button in the toolbar, and click Performance Data in the tab that appears.

10.3.2 CPU / Memory Utilization Ratio

Command function

The querying CPU / memory utilization ratio command is used to query the CPU / memory utilization ratio of an EPON terminal. Via this command, users can know the equipment running status.



Note:

Before querying the CPU / memory utilization ratio of a card or ONU, users need to enable the **CPU / memory utilization ratio collection** function in the **Performance Group** tab of the EPON terminal.

Applicable object

The AN5006-07B supports this command.

Access method

Click the EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Realtime Performance**→**CPU/memory Proportion** in the shortcut menu. Then the **CPU/memory Proportion** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Realtime Curve	The real time sampling curve of the CPU / memory utilization ratio.	-	Read-only	Select the ONU to be queried in the object tree pane, and click the Start Collect button in the toolbar.
Performance Data	The real time sampling value of the CPU / memory utilization ratio.	-	Read-only	Select the ONU to be queried in the object tree pane, and click the Start Collect button in the toolbar, and click Performance Data in the tab that appears.

10.4 Configuration

10.4.1 Configuring Management VLAN of an ONU

Command function

The ONU management VLAN configuration command is used to set the parameters related to the management VLAN of an ONU.

Applicable object

The HG220 supports this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**ONU manage VLAN** in the shortcut menu. Then the **ONU manage VLAN** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	The number of the PON port connected with the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
SN	The number of the management VLAN. It is generated automatically.	-	Read-only	-
ManageID	The ID of the management VLAN.	The value range: 1 to 4.	Compulsory	Double-click to enter the ID of the management VLAN.
Name	The name of the management VLAN.	The maximum length is 16 characters.	Compulsory	Double-click to enter the name of the management VLAN.
Port No.	The uplink port of the ONU.	Its values include All , PON , GE1 and GE2 .	Compulsory	Click the drop-down list to select the port number.
Tag/Untag	The tagging property of the management VLAN.	Its values include: untag and tag .	Compulsory	Click the drop-down list to select the tagging property.
Manage SVLAN Tpid	The TPID of the management SVLAN.	The value range: 1 to 65534. The default value is 33024.	Compulsory	Double-click to enter the TPID of the management SVLAN.
Manage SVLAN Id	The ID of the management SVLAN.	The value range: 1 to 4085.	Compulsory	Double-click to enter the ID of the management SVLAN.

Item	Description	Value Range / Requirement	Property	Configuration Method
Manage SVLAN CoS	The priority of the management SVLAN.	The value range: 0 to 7.	Compulsory	Double-click to enter the priority of the management SVLAN.
Manage CVLAN Tpid	The TPID of the management CVLAN.	The value range: 1 to 65534.	Compulsory	Double-click to enter the TPID of the management CVLAN.
Manage CVLAN Id	The ID of the management CVLAN.	The value range: 1 to 4085.	Compulsory	Double-click to enter the ID of the management CVLAN.
Manage CVLAN CoS	The priority of the management CVLAN.	The value range: 0 to 7.	Compulsory	Double-click to enter the priority of the management CVLAN.
Ip addr	The IP address of the in-band network management port on the ONU.	The general Internet IP address.	Compulsory	Double-click to enter the IP address.
Mask	The mask of the in-band network management port on the ONU.	-	Compulsory	Click the drop-down list to select the mask.
Gateway	The gateway of the in-band network management port on the ONU.	The general Internet gateway address.	Compulsory	Double-click to enter the gateway address.

10.4.2 Replacing an ONU

Command function

When a certain ONU is faulty, users can replace the faulty ONU with an ONU of the same type. The ONU replacement command is used to enable the new ONU to take charge of all services on the old ONU.

Access method

Right-click the HSWA card in the **Object Tree** pane, and select **Config**→**ONU Replace** in the shortcut menu. Then the **ONU Replace** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the service interface card connected with the ONU to be replaced.	The value range is 1 to 8, or 11 to 18.	Compulsory	Click the drop-down list to select the slot number.
PON Port No.	The PON port number corresponding to the ONU to be replaced.	The value range: 1 to 8.	Compulsory	Click the drop-down list to select the PON port number.
Onu No.	The authorization number of the ONU to be replaced. The new ONU will use the authorization number of the replaced ONU.	The value range: 1 to 64.	Compulsory	Double-click to enter the ONU port number.
OldPhyicsID	The physical identifier of the ONU to be replaced.	The maximum length is 12 characters.	Compulsory	Double-click to enter the original physical identifier.
NewPhyicsID	The physical identifier of the new ONU.	The maximum length is 12 characters.	Compulsory	Double-click to enter the new physical identifier.

10.4.3 Binding / Unbinding an ONU with a Domain

Command function

The binding / unbinding ONU with domain command is used to bind the appointed ONU with a configured QinQ domain. After the binding operation is executed, this ONU will control the service flow according to the rules defined in this QinQ domain. This command also can be used to unbind an ONU with a certain QinQ domain, so as to cancel the binding relationship between them.

Applicable object

The AN5006-04, the AN5006-07B, and the HG220 all support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**ONU Attach/Detach Domain** in the shortcut menu. Then the **ONU Attach/Detach Domain** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	The number of the PON port connected with the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Action	Performs the binding / unbinding operation. <ul style="list-style-type: none"> ◆ Attach means binding the ONU with the QinQ domain configured on the OLT. ◆ Detach means unbinding the ONU with the appointed QinQ domain. 	The options include Attach and Detach .	Compulsory	Click the drop-down list to select to attach or detach.
Domainname	The name of the OLT QinQ domain.	-	Compulsory. Select among the domain names configured in the OLT QinQ domain window.	Click the drop-down list to select the domain name.

10.4.4 ONU NGN Configuration

10.4.4.1 Configuring Voice Media Stream

Command function

The voice media stream configuration command is used to configure the relate parameters of the voice media stream, including **Voice RTP Service Name**, **RTP Config**, **SVLAN Tpid**, **SVLAN Id**, **SVLAN Cos**, etc.

Applicable object

The AN5006-04, the AN5006-07B, and the HG220 all support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**ONU NGN Config**→**Voice RTP Config** in the shortcut menu. Then the **Voice RTP Config** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	The number of the PON port connected with the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Voice RTP Service Name	The name of the voice media stream service.	-	Compulsory. Select among the configured names in the Local End Service VLAN window.	Click the drop-down list to select the voice media stream service name.

Item	Description	Value Range / Requirement	Property	Configuration Method
RTP Config	Enables / disables the RTP configuration function.	The options include enable and disable .	Compulsory	Click the drop-down list to select to enable or disable.
SVLAN Tpid	The TPID of the service VLAN.	The value range: 1 to 65534.	Optional. When RTP Config is set to Enable , this parameter is valid.	Double-click to enter the TPID of the service VLAN.
SVLAN Id	The service VLAN ID, also called SVLAN ID.	The value range: 1 to 4085, or 4088.	Optional. When RTP Config is set to Enable , this parameter is valid.	Double-click to enter the service VLAN ID.
SVLAN Cos	The priority of the service VLAN.	The value range: 0 to 7.	Optional. When RTP Config is set to Enable , this parameter is valid.	Double-click to enter the priority of the service VLAN.
CVLAN Tpid	The TPID of the customer VLAN.	The value range: 1 to 65534.	Optional. When RTP Config is set to Enable , this parameter is valid.	Double-click to enter the TPID of the customer VLAN.
CVLAN Id	The customer VLAN ID, also called CVLAN ID.	The value range: 1 to 4085, or 4088.	Optional. When RTP Config is set to Enable , this parameter is valid.	Double-click to enter the customer VLAN ID.
CVLAN Cos	The priority of the customer VLAN.	The value range: 0 to 7.	Optional. When RTP Config is set to Enable , this parameter is valid.	Double-click to enter the priority of the customer VLAN.
RTP IPaddr	The destination IP address of the RTP voice media stream.	The general Internet IP address.	Optional. When RTP Config is set to Enable , this parameter is valid.	Double-click to enter the RTP IP address.
RTP Mask	The address mask of the RTP stream.	-	Optional. When RTP Config is set to Enable , this parameter is valid.	Click the drop-down list to select the RTP mask.
RTP Gateway	The gateway address of the RTP stream.	The general Internet gateway address.	Optional. When RTP Config is set to Enable , this parameter is valid.	Double-click to enter the RTP gateway.

10.4.4.2 Configuring POS Telephone Number

Command function

The POS telephone number configuration command is used to configure the POS telephone number.

Applicable object

The AN5006-04, the AN5006-07B, and the HG220 all support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**ONU NGN Config**→**POS Phone Number** in the shortcut menu. Then the **POS Phone Number** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	The number of the PON port connected with the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
POS Phone Number	The POS telephone number.	The maximum length is 20 characters, and the allowed characters set is 0123456789abcdABCD*#.	Compulsory	Double-click to enter the POS telephone number.
POS Type	The POS type, used for interconnection between different POS services.	The value range is Type A to Type H.	Compulsory	Click the drop-down list to select the POS type.

10.4.4.3 Configuring Intelligent Public Telephone Number

Command function

The intelligent public telephone number configuration command is used to configure the intelligent public telephone number.

Applicable object

The AN5006-04, the AN5006-07B, and the HG220 all support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**ONU NGN Config**→**IPT Phone Number** in the shortcut menu. Then the **IPT Phone Number** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	The number of the PON port connected with the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
IPT Phone Number	The intelligent public telephone number.	The maximum length is 20 characters, and the allowed characters set is 0123456789abcdABCD*#.	Compulsory	Double-click to enter the POS telephone number.
IPT Type	The intelligent public telephone type, used for interconnection between different intelligent public telephone services.	The value range is Type A to Type H.	Compulsory	Click the drop-down list to select the intelligent public telephone type.

10.4.5 Performing Loop Test of a Port

Command function

The port loop test command is used to enable / disable the loop test function of an ONU port; in addition, it can be used to set the time interval of loop test. After the loop test function of a certain ONU port is enabled, users can test the link status.

Applicable object

The AN5006-04, the AN5006-07B, and the HG220 all support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**Port Loop Detect** in the shortcut menu. Then the **Port Loop Detect** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	The number of the PON port connected with the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
ONU Port No.	The number of the ONU port.	-	Compulsory	Double-click to enter the ONU port number.
UNI Loop Detect Management	Enables / disables the loop test function.	The options include enable and disable .	Compulsory	Click the drop-down list to select to enable or disable.
Detect Port Loop Time (s)	The time interval of loop test.	The value range: 10 to 3600.	Optional. This parameter is valid only when the loop test function is enabled.	Double-click to enter the time interval of loop test.

10.4.6 Configuring Voice MD5 Authentication

Command function

The voice MD5 authentication configuration command is used to enable / disable the MD5 authentication function. In addition, this command can configure the related parameters of the MD5 authentication, including MG identifier, public key, base g, and prime p. When the H.248 gateway control protocol is used, users can execute this configuration command.

Applicable object

The AN5006-07B supports this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**Voice MD5 Authentication** in the shortcut menu. Then the **Voice MD5 Authentication** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	The number of the PON port connected with the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Auth Switch	Enables / disables the MD5 authentication function.	Users can select to open the authentication or close the authentication.	Compulsory	Click the drop-down list to select the authentication switch.

Item	Description	Value Range / Requirement	Property	Configuration Method
MG ID	The MG digital identifier.	The maximum length is 32 English characters.	Optional. When the authentication function is enabled, this parameter is valid.	Double-click to enter the MG digital identifier.
Shared Key	The MD5 public key.	The maximum length is 32 English characters.	Optional. When the authentication function is enabled, this parameter is valid.	Double-click to enter the public key.
Exchange Base Number g	The exchange base number of the MD5 authentication algorithm.	Users can type up to 16 characters. The characters that can be typed include 0 to 9 , a to f , A to F .	Optional. When the authentication function is enabled, this parameter is valid.	Double-click to enter the exchange base number g.
Exchange Prime Number p	The exchange prime number of the MD5 authentication algorithm.	Users can type up to 256 characters. The characters that can be typed include 0 to 9 , a to f , A to F .	Optional. When the authentication function is enabled, this parameter is valid.	Double-click to enter the exchange prime number p.

10.4.7 Configuring ONU Bandwidth

Command function

The ONU bandwidth configuration command is used to configure the maximum allowed uplink / downlink bandwidth of an ONU.

Applicable object

The AN5006-04, the AN5006-07B, and the HG220 all support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**ONU Bandwidth** in the shortcut menu. Then the **ONU Bandwidth** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	The number of the PON port connected with the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Upstream Bandwidth (kbit/s)	The maximum uplink bandwidth of the ONU.	The value range: 256 to 1000000. The unit is kbit/s.	Compulsory	Double-click to enter the maximum uplink bandwidth of the ONU.
Downstream Bandwidth (kbit/s)	The maximum downlink bandwidth of the ONU.	The value range: 256 to 1000000. The unit is kbit/s.	Compulsory	Double-click to enter the maximum downlink bandwidth of the ONU.
ProfileBindingInfo	The binding / unbinding status of the bandwidth profile.	-	Read-only	-
ProfileName	The name of the bound bandwidth profile.	-	Read-only	-

10.4.8 Enabling / Disabling Performance Classification

Command function

The enabling / disabling performance classification command is used to enable / disable the performance collection function of an ONU. The performance parameters to be collected include port performance statistics, optical module parameters, environment monitoring parameters, and CPU / memory utilization ratio.

Applicable object

The AN5006-04, the AN5006-07B, and the HG220 all support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**ONU Perf Sort Switch** in the shortcut menu. Then the **ONU Perf Sort Switch** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	The number of the PON port connected with the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Perf Code	The performance parameter name of the ONU.	-	Read-only	-
Switch	Enables / disables the performance collection function of various performance parameters.	The options include enable and disable .	Compulsory	Click the drop-down list to select to enable or disable.

10.4.9 Configuring Data Service on a Port

Command function

The data port configuration command is used to configure the parameters related to the data service on each FE port of an ONU.

Applicable object

The AN5006-04, the AN5006-07B, and the HG220 all support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**Port Service Config** in the shortcut menu. Then select the **Data Port Config** tab from the window that appears.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Port No.	The number of the LAN port.	-	Compulsory	Select in the data port list pane at the left part.
Enable/Disable Port	Enables / disables the LAN port. When a port is enabled, users can configure the data service of this port.	The options include enable and disable . The default setting is enable .	Compulsory	Select or cancel the selection via clicking the check box.

Item	Description	Value Range / Requirement	Property	Configuration Method
Port Auto Negotiation	<p>Enables / disables the port auto negotiation function.</p> <ul style="list-style-type: none"> ◆ When the auto negotiation function of a port is enabled, this port will match its rate and duplex mode with other ports automatically. ◆ When the auto negotiation function of a port is disabled, users need to set its rate and duplex mode. 	The options include auto negotiation and non-auto negotiation . The default setting is auto negotiation .	Compulsory	Select or cancel the selection via clicking the check box.
Port Speed	The rate of the LAN port.	The value range includes 10M , 100M , and 1000M .	Optional When the port auto negotiation function is disabled, this port is valid.	Click the drop-down list to select 10M, 100M, or 1000M.
Duplex	The duplex mode of the LAN port.	Its value includes Full-duplex and Half-duplex .	Optional When the port auto negotiation function is disabled, this port is valid.	Click the drop-down list to select Full-duplex or Half-duplex.
Flow Control Enable/Disable	Enables / disables the flow control function of the LAN port.	The options include enabling and disabling . The default setting is disabling .	Compulsory	Select or cancel the selection via clicking the check box.
TLS	<p>Whether uses the TLS enabling switch.</p> <ul style="list-style-type: none"> ◆ When the TLS is enabled, you can set an outer VLAN for different port services. ◆ When the TLS is disabled, you can set the VLAN for only one port service. 	The options include TLS and non-TLS .	Compulsory	Click the drop-down list to select TLS or non-TLS.

Item	Description	Value Range / Requirement	Property	Configuration Method
Service Classification	Configures the VLAN range of the data that are transmitted transparently. If the CVLAN ID is null, the system will transmit VLANs according to the service classification setting. If the service classification is also null, the system will transmit all VLANs transparently.	-	Optional. If the CVLAN ID is null, users can use this parameter to set the VLAN range of the data that are transmitted transparently.	Click the Service Classification button in the Services Configuration window, and perform configuration in the Rule Define window that appears.
Service Type	The type of the data service.	Users can select unicast or multicast .	Compulsory	Click the drop-down list to select the service type.
VLAN mode	The VLAN mode of the data service. When this parameter is set to tag, the ONU will add a VLAN tag for the data. When this parameter is set to Transparent, the ONU will not process the data and transmit them transparently.	The options include tag and Transparent .	Compulsory	Click the drop-down list to select the VLAN type.
TPID	The TPID type of the VLAN.	The value ranges from 1 to 65534. The default value is 33024.	Compulsory	Click to enter the TPID.
CVLAN ID	The inner VLAN ID. ◆ In tag mode, users should type the inner VLAN ID assigned by the ONU. ◆ In Transparent mode, users should type the inner VLAN ID assigned by the home gateway.	The value range: 1 to 4085, or null.	Optional. The parameter is not configurable under the full transparent transmission mode.	Click to enter the CVLAN ID.
Priority level or COS	The service priority.	The value range: 0 to 7.	Compulsory	Click the drop-down list to select the priority level or COS.

Item	Description	Value Range / Requirement	Property	Configuration Method
Translated VID	The post-translation VLAN ID.	-	Optional. This parameter is only valid when the translation function is enabled.	Click to enter the post-translation VLAN ID.
Choose QinQ Profile	The name of the QinQ profile. The QinQ profile is used when the SVLAN is added at the ONU side.	Select among the profile names configured in the QinQ profile window.	Optional. This parameter is only valid when the QinQ function is enabled.	Click the Choose QinQ Profile button, and select a profile in the window that appears.
Service Name	The name of the local VLAN corresponding to the service.	Select among the configured service names in the Local End Service VLAN window.	Optional. This parameter is only valid when the QinQ function is enabled.	Click the drop-down list to select the service name.
VLAN ID	The SVLAN ID.	Select among the configured VLAN IDs in the Local End Service VLAN window.	Optional. This parameter is only valid when the QinQ function is enabled.	Click to enter the VLAN ID.
Service Upstream Minimum Guaranteed Bandwidth (kbit/s)	The minimum uplink bandwidth of the service.	The default value is 640 kbit/s.	Compulsory	Click to enter the minimum uplink bandwidth of the service.
Service Upstream Maximum Allowed Bandwidth (kbit/s)	The maximum uplink bandwidth of the service.	The default value is 100000 kbit/s.	Compulsory	Click to enter the maximum uplink bandwidth of the service.
Service Downstream (kbit/s)	The downlink bandwidth of the service.	The default value is 100000 kbit/s.	Compulsory	Click enter the downlink bandwidth of the service.

10.4.10 Configuring Voice Service on a Port

Command function

The voice port configuration command is used to configure the parameters related to the voice service on each voice port of an ONU.

Applicable object

The AN5006-04, the AN5006-07B, and the HG220 all support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**Port Service Config** in the shortcut menu. Then select the **Voice Config** tab from the window that appears.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Port No.	The number of the voice port whose service is being configured.	-	Compulsory	Select in the voice port list pane at the left part.
Phone Number	The telephone number corresponding to the port.	Its value should be the same as the telephone number configured in the NGN Configuration window.	Compulsory	Click the drop-down list to select the telephone number.
Signal VLAN ID	The CVLAN ID. In single-tagged VLAN mode and QinQ mode, this parameter should both be set to the inner CVLAN ID value.	The value range: 1 to 4085.	Compulsory	Click to enter the signal VLAN ID.
Voice Code Mode	The encoding and decoding rule of the voice service.	Its value includes G.711A , G.711U , G.723 and G.729 .	Compulsory	Click the drop-down list to select the voice code mode.

Item	Description	Value Range / Requirement	Property	Configuration Method
Fax Mode	The transmission mode of the fax service.	Its value includes transparent and T.38 .	Compulsory	Click the drop-down list to select the fax mode.
DTMF Mode	The transmission mode of the DTMF signal.	Its value includes transparent and RFC2833 .	Compulsory	Click the drop-down list to select the DTMF mode.
Fax Control Mode	The control mode of the fax data.	Its value includes PassThrough , SS , and Auto VBD .	Compulsory	Click the drop-down list to select the fax control mode.
Echo Cancel	Enables / disables the echo suppression function. After the echo suppression function is enabled, the echo in the call process can be deleted.	-	Compulsory	Select or cancel the selection via clicking the check box.
SilenceSp	Enables / disables the silence compression function. Users can select the SilenceSp check box to enable the silence compression function. The purpose is to reduce the mute frames in the line and save bandwidth.	-	Compulsory	Select or cancel the selection via clicking the check box.
Input Gain	The input gain of the voice stream.	The value ranges from -32 to 32. The default value is 0.	Compulsory	Click to enter the input gain.
Output Gain	The output gain of the voice stream.	The value ranges from -32 to 32. The default value is 0.	Compulsory	Click to enter the output gain.
SVLAN State	Enables / disables the QinQ function. Selecting this item means to enable the QinQ function, and users can configure the SVLAN and priority.	-	Compulsory	Select or cancel the selection via clicking the check box.

Item	Description	Value Range / Requirement	Property	Configuration Method
SVLAN ID	The SVLAN ID of the voice service.	-	Optional. This parameter is valid only when the SVLAN is enabled.	Click to enter the SVLAN ID.
Outer COS	The priority of the outer VLAN.	The value range: 0 to 7.	Optional. This parameter is valid only when the SVLAN is enabled.	Click the drop-down list to select the outer COS.
Inner COS	The priority of the inner VLAN.	The value range: 0 to 7.	Optional. This parameter is valid only when the SVLAN is enabled.	Click the drop-down list to select the inner COS.

10.4.11 Configuring CATV Service on a Port

Command function

The CATV port configuration command is used to configure the parameters related to the CATV service on each CATV port of an ONU.

Applicable object

The AN5006-04 and the AN5006-07B support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**Port Service Config** in the shortcut menu. Then select the **CATV Config** tab from the window that appears.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
CATV Enable/Disable	Enables / disables the CATV service.	-	Compulsory	Select or cancel the selection via clicking the check box.

10.4.12 Configuring TDM Service on a Port

Command function

The TDM port configuration command is used to configure the parameters related to the TDM service on each E1 port of an ONU.

Applicable object

The AN5006-06A supports this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**Port Service Config** in the shortcut menu. Then select the **E1 Config** tab from the window that appears.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Port No.	The number of the current E1 port.	-	Read-only	-
TDM Slot No	The slot number of the TDM service card.	The value range is 1 to 8, 11 to 18.	Compulsory	Click the drop-down list to select the TDM card slot number.
TDM E1 No	The E1 timeslot number of the local OLT.	The value range: 1 to 32.	Compulsory	Click to enter the E1 timeslot number of the local OLT.

Item	Description	Value Range / Requirement	Property	Configuration Method
Remote end jitter buffer	The maximum space for saving the E1 packets received by the TDM card.	The unit is 125us. The default setting is 32 E1 packets of 125us.	Compulsory	Click to enter the remote end jitter buffer.
Local end jitter buffer	The maximum space for saving the E1 packets received by the ONU card.	The unit is 125us. The default setting is 32 E1 packets of 125us.	Compulsory	Click to enter the local end jitter buffer.

10.4.13 Configuring Optical Line Protection

Command function

The optical line protection configuration command is used to enable / disable the optical line protection function of an ONU. If the optical line protection function is enabled and the protection optical line is connected correctly, when the working optical line has faults, the ONU can switch to the protection optical line rapidly, and the services carried by the ONU will not be interrupted. This improves the reliability of system running.

Applicable object

The AN5006-07B supports this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**Optical Line Protection** in the shortcut menu. Then the **Optical Line Protection** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
ONU Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	The number of the PON port connected with the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Protect Switch Enable	Enables / disables the optical line protection function.	The options include enable and disable .	Compulsory	Click the drop-down list to select to enable or disable.

10.4.14 Configuring Optical Power Monitor Function

Command function

The optical power monitor configuration command is used to enable / disable the optical power monitor function of an ONU. If the ONU has faults, enabling the optical power monitor to measure the Rx and Tx optical powers of the ONU, so as to isolate the fault.

Applicable object

The AN5006-04, the AN5006-07B, and the HG220 all support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**ONU Alarm Threshold** in the shortcut menu. Then the **ONU Alarm Threshold** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	The number of the PON port connected with the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Enable/Disable	Enables / disables the optical power monitor function.	The options include enable and disable .	Compulsory	Click the drop-down list to select to enable or disable.

10.4.15 Enabling RSTP

Command function

The RSTP configuration command is used to enable / disable the RSTP function of an ONU. Enabling the RSTP function can avoid generation of network loop inside the LAN, so as to solve the **broadcast storm** problem of the looped Ethernet network.

Applicable object

The AN5006-07B and the HG220 support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**RSTP** in the shortcut menu. Then the **RSTP Enable** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	The number of the PON port connected with the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
RSTP Enable	Enables / disables the RSTP function.	The options include enable and disable .	Compulsory	Click the drop-down list to select to enable or disable.

10.4.16 Configuring WAN-Connected Service

Command function

The WAN-connected service configuration command is used to configure the WAN-connected service and set the parameters such as WAN connection mode.

Applicable object

The HG220 supports this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**WAN Service** in the shortcut menu. Then the **WAN Service** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	The number of the PON port connected with the ONU.	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
Onu No.	The authorization number of the ONU to be replaced.	-	Read-only	-
WAN Index	It is generated automatically by the equipment according to the generation sequence of the WAN connection. The index value increases in turn.	-	Read-only	-
Wan_Name	The name of the WAN connection. The generation rule is number_key word_bridge or route mode_PVC / VLAN information.	-	Read-only	-
Wan_Mode	The WAN connection mode.	Its value includes TR069 , INTERNET , TR069_ INTERNET and Other .	Compulsory	Click the drop-down list to select the WAN connection mode.
Wan_Conn_Type	The WAN connection type.	Its value includes Route and Bridge .	Compulsory	Click the drop-down list to select the WAN connection type.
Wan_Vlan_Id	Its value should use the CVLAN ID value configured in the Services Configuration dialog box of the LAN port.	The value range: 1 to 4085, or null. The default value is null.	Compulsory	Double-click to enter the VLAN ID of the WAN connection.
Wan_COS	The 802.1p priority of the WAN connection.	The value range: 0 to 7, or null. The default value is null.	Compulsory	Double-click to enter the 802.1p priority of the WAN connection.
Wan_NAT_Enable	Enables / disables the NAT function.	The options include enabling and disabling . The default setting is enabling.	Optional. This parameter is not configurable when the WAN connection mode is TR069 .	Click the drop-down list to select to enable or disable.

Item	Description	Value Range / Requirement	Property	Configuration Method
Wan_D_S_P	The mode of the WAN connection obtaining the IP address.	Its value includes DHCP, Static, and PPPOE.	Compulsory	Click the drop-down list to select the WAN connection address obtaining method.
Wan_Ip_Address	When Wan_D_S_P is set to Static , it means the static IP address.	The general Internet IP address.	Optional. When Wan_D_S_P is set to Static , this parameter is valid.	Double-click to enter the static IP address of the WAN connection.
Wan_Ip_Subnet	When Wan_D_S_P is set to Static , it means the subnet mask.	-	Optional. When Wan_D_S_P is set to Static , this parameter is valid.	Click the drop-down list to select the subnet mask.
Wan_Gateway	When Wan_D_S_P is set to Static , it means the default gateway.	The general Internet gateway address.	Optional. When Wan_D_S_P is set to Static , this parameter is valid.	Double-click to enter the default gateway of the WAN connection.
Wan_Master_DNS	When Wan_D_S_P is set to Static , it means the master DNS.	-	Optional. When Wan_D_S_P is set to Static , this parameter is valid.	Double-click to enter the master DNS of the WAN connection.
Wan_Slave_DNS	When Wan_D_S_P is set to Static , it means the slave DNS.	-	Optional. When Wan_D_S_P is set to Static , this parameter is valid.	Double-click to enter the slave DNS of the WAN connection.
Wan_PPPOE_Proxy	Enables / disables the PPPoE proxy function.	The options include enabling and disabling . The default setting is disabling.	Optional. When Wan_D_S_P is set to PPPOE , this parameter is valid.	Click the drop-down list to select to enable or disable.

Item	Description	Value Range / Requirement	Property	Configuration Method
Wan_PPPOE_Username	When Wan_D_S_P is set to PPPOE , it means the user name of the connection.	The maximum length is 32 characters.	Optional. When Wan_D_S_P is set to PPPOE , this parameter is valid.	Double-click to enter the user name of the PPPoE connection.
Wan_PPPOE_Password	When Wan_D_S_P is set to PPPOE , it means the password of the connection.	The maximum length is 32 characters.	Optional. When Wan_D_S_P is set to PPPOE , this parameter is valid.	Double-click to enter the password of the PPPoE connection.
Wan_PPPOE_Name	When Wan_D_S_P is set to PPPOE , it means the name of the PPPoE service.	The maximum length is 32 characters.	Optional. When Wan_D_S_P is set to PPPOE , this parameter is valid.	Double-click to enter the name of the PPPoE service.
Wan_PPPOE_Mode	When Wan_D_S_P is set to PPPOE , it means the connecting mode.	The options include automatic connection and connection with traffic .	Optional. When Wan_D_S_P is set to PPPOE , this parameter is valid.	Click the drop-down list to select the PPPoE mode.
Wan_Qos_Enable	Enables / disables the QoS function of the WAN connection.	The options include enabling and disabling . The default setting is disabling.	Compulsory	Click the drop-down list to select to enable or disable.

10.4.17 Configuring Binding Relationship with WAN

Command function

The WAN binding relationship configuration command is used to bind the appointed port of an ONU with the configured WAN connection service profile.

Applicable object

The HG220 supports this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**WAN Binding** in the shortcut menu. Then the **WAN Binding** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	The number of the PON port connected with the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Wan_Name	The name of the WAN connection.	-	Compulsory. Select the WAN connection names configured in the WAN Service window.	Click the drop-down list to select the WAN connection name.
LAN_Port	Sets the ONU port that the configured WAN connection service profile is to be bound with.	The value includes cable service ports FE1 to FE4 and radio ports SSID1 to SSID4 .	Compulsory	Click to enter the configuration GUI.

10.4.18 Configuring Encryption

Command function

The encryption configuration command is used to perform encryption setting of the ONU data. In the PON system, the data are broadcasted to various ONUs in the downlink direction, and each ONU can receive all downlink data. To prohibit user information from being stolen, the system must transmit all downlink data frames in encryption mode.

The AN5116-06B uses the AES algorithm to perform encryption. The ONU generates the key and modifies it regularly, and each ONU uses its dedicated key. Via this operation, the privacy of the downlink data can be guaranteed.

Applicable object

The AN5006-04, the AN5006-07B, and the HG220 all support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**Encryption** in the shortcut menu. Then the **Encryption** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	The number of the PON port connected with the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
Encryption	<p>Enables / disables the encryption function.</p> <ul style="list-style-type: none"> ◆ When this parameter is set to Enable, the system will perform encryption of the downlink data to the ONU. ◆ When this parameter is set to Disable, the system will not use the encryption function. 	The options include enabling and disabling the encryption.	Compulsory	Click the drop-down list to select to enable or disable the encryption.
Encryption Refresh Time (s)	The time interval to modify the encryption key value of the downlink data.	The value range is 1 to 65534; the unit is second; and the default value is 10 seconds.	Optional. When the encryption function is enabled, this parameter is valid.	Double-click to enter the time interval to modify the encryption key value of the downlink data.

10.4.19 Configuring Port Isolation

Command function

The port isolation configuration command is used to enable or disable the port isolation function of an ONU. After the port isolation function of an ONU is enabled, the communications between its ports are disabled, and the collision domains can be isolated.

Applicable object

The AN5006-04, the AN5006-07B, and the HG220 all support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**Port Isolation** in the shortcut menu. Then the **Port Isolation** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
State	<p>Enables / disables the port isolation function.</p> <ul style="list-style-type: none"> ◆ Enable: enables the ONU port isolation function, the ONU ports cannot communicate with each other. ◆ Disable: disables the ONU port isolation function, the ONU ports can communicate with each other. 	The options include Enable and Disable . The default setting is Enable .	Compulsory	Click the drop-down list to select to enable or disable.

10.4.20 Configuring Performance Threshold of a LAN Port

Command function

The LAN port performance threshold configuration command is used to set the CRC error detection threshold of each LAN port on an ONU. When the detected CRC error exceeds the set threshold value, a corresponding alarm will occur and be reported to the ANM2000.

Applicable object

The AN5006-04, the AN5006-07B, and the HG220 all support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**LAN Port Perf Threshold** in the shortcut menu. Then the **LAN Port Perf Threshold** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	The number of the PON port connected with the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Port No.	The LAN port sequence of the ONU.	-	Read-only	-
Up Crc-Threshold (/sec)	The uplink CRC error statistics threshold of the LAN port. Here the CRC check is used.	The value ranges between 0 and 4294967294.	Compulsory	Double-click to enter the parameter value.
Down Crc-Threshold (/sec)	The downlink CRC error statistics threshold of the LAN port. Here the CRC check is used.	The value ranges between 0 and 4294967294.	Compulsory	Double-click to enter the parameter value.

10.4.21 Configuring VLAN Translation Mode

Command function

The VLAN translation mode configuration command is used to set the VLAN translation mode of an ONU. The VLAN translation function is described as follows: When the VLAN tag added to the service by the subscriber terminal is not in the valid range assigned by the operator, users can enable the translation function to strip the old tag and add a new valid tag.

Applicable object

The AN5006-04, the AN5006-07B, and the HG220 all support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**Translation VLAN Mode** in the shortcut menu. Then the **Translation VLAN Mode** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	The number of the PON port connected with the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Switch	<p>The VLAN translation mode.</p> <ul style="list-style-type: none"> ◆ Convergence: N: 1 VLAN translation. In this mode, multiple uplink VLANs are aggregated into a unique network side VLAN ID, and they are reversely mapped into the corresponding multiple VLANs in the downlink direction. ◆ Not-Convergence: 1: 1 VLAN translation. In this mode, the system strips the invalid VLAN tag of the uplink data, and adds the valid tag. ◆ Hybrid: the mixed mode of N:1 VLAN translation and 1:1 VLAN translation. 	The options include convergence , not-convergence and hybrid .	Compulsory	Click the drop-down list to select the convergence, not-convergence or hybrid mode.

10.4.22 Configuring ONU Ethernet Switch Queue Scheduling Algorithm

Command function

The ONU Ethernet switch queue scheduling algorithm configuration command is used to set the Ethernet switch queue scheduling algorithm of an ONU. Via executing this command, users can configure the scheduling algorithm used by each priority queue of the ONU and the corresponding weight.

Applicable object

The AN5006-07B supports this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**Queue Schedule** in the shortcut menu. Then the **Queue Schedule** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
ONU Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	The number of the PON port connected with the ONU.	-	Read-only	-
ONU Authorized No.	The authorization number of the ONU.	-	Read-only	-
Mode	<p>The mode used by the scheduling algorithm.</p> <ul style="list-style-type: none"> ◆ SP: Ensures that higher-priority services are always processed prior to lower-priority services. ◆ WRR: Is a weight round robin queue scheduling mechanism. In this mode, the system first processes higher-priority services, but when the system processes higher-priority services, lower-priority services are not blocked completely and are processed by a certain proportion at the same time. ◆ hybrid: a mixed algorithm including strict priority and weight priority. 	The options include: SP , WRR and hybrid .	Compulsory	Click the drop-down list to select the mode.
Queue Priority	The number of the priority queue.	-	Read-only.	-

Item	Description	Value Range / Requirement	Property	Configuration Method
Queue Schedule Method	The selected scheduling algorithm.	-	Optional. The parameter is valid when the mode is hybrid.	Click the drop-down list to select the weighted priority level algorithm or the strict-priority queue algorithm.
Weight	The service processing bandwidth assignment proportion. The higher the weight value of a service is, the more bandwidth it occupies for processing.	The value range: 1 to 55.	Optional. The parameter is not configurable when the mode is strict-priority queue algorithm.	Double-click to enter the weight.

10.4.23 Controlling Port MAC Addresses Number

Command function

The port MAC addresses number control command is used to control MAC addresses number on the PON port and FE port of an ONU. Under each port, only MAC addresses of the assigned number can be online so that the number of PCs sharing this port at the same time is restricted. The purpose of this operation is to control the traffic in the network and avoid blocking.

Applicable object

The AN5006-04, the AN5006-07B, and the HG220 all support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config** → **Port MAC-Learning Limit** in the shortcut menu. Then the **Config Port MAC Limit** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	The number of the PON port connected with the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Port No.	The number of the PON interface and LAN port of the ONU.	-	Read-only	-
Enable/Disable	Enables / disables the port MAC addresses number control function.	The options include enabling and disabling .	Compulsory	Click the drop-down list to select to enable or disable.
Mac Number	Sets the maximum allowed number of MAC addresses under each port. For a PON port, this parameter refers to the maximum allowed number of online MAC addresses on the entire ONU. For a LAN port, this parameter refers to the maximum allowed number of online MAC addresses under this port.	The value range: 0 to 8191. The default value is 64.	Optional. When Enable/Disable is set to Enable, this parameter is valid.	Double-click to enter the parameter value.

10.4.24 Binding an ONU with a DBA Profile

Command function

The binding ONU with DBA profile command is used to bind an ONU with a configured DBA profile. After a certain ONU is bound with a DBA profile, the system will assign bandwidth for this ONU according to the rules defined in this DBA profile.

Applicable object

The AN5006-04B, the AN5006-07B, and the HG220 all support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**Attach DBA Profile** in the shortcut menu. Then the **Attach DBA Profile** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	The number of the PON port connected with the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Profile name	The name of the DBA profile.	-	Compulsory. Select among the configured profile names in the DBA configuration profile window.	Click the drop-down list to select the DBA profile name.

10.4.25 Binding a Packet Suppression Profile

Command function

The packet suppression profile binding command is used to bind a certain LAN port of the ONU with a configured packet suppression profile. For a port bound with the packet suppression profile, its rate will be controlled according to rules defined in the profile.

Applicable object

The AN5006-04, the AN5006-07B, and the HG220 all support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**Packets Rate Control Profile Attach** in the shortcut menu. Then the **Packets Rate Control Profile Attach** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	The number of the PON port connected with the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Port No.	The LAN port number of the ONU.	-	Read-only	-
Profile Id	The name of the packet suppression profile.	-	Compulsory. Select among the profile names configured in the Packet suppression profile window.	Click the drop-down list to select the profile name.

10.4.26 Configuring User Defined Alarms

Command function

The user defined alarm configuration command is used to enable the low-level alarm access function of the ONU. When a certain access point detects the low level status, a low-level alarm will occur and be reported to the ANM2000.

Applicable object

The AN5006-04, the AN5006-07B, and the HG220 all support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**User Defined Alarm Config** in the shortcut menu. Then the **User Defined Alarm Config** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	The number of the PON port connected with the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Interface Number	The interface number of the ONU alarm access point that can be enabled currently. <ul style="list-style-type: none"> ◆ For the FTTH ONU, up to two alarm interfaces can be enabled. ◆ For the FTTB ONU, up to five alarm interfaces can be enabled. 	The value range: 1 to 5.	Compulsory	Double-click to enter the interface number.
Alarm Conditions	The report condition of the access point alarm. When the access point detects the low level status, a low-level alarm will occur and be reported to the ANM2000.	-	Read-only	-

10.4.27 Configuring Port ACL Rules

Command function

The port ACL rule configuration command is used to configure the ACL rules (access control list rules) of an ONU LAN port. The LAN port will control the data stream according to the defined rules.

Applicable object

The AN5006-04 and the AN5006-07B support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**Port Rules** in the shortcut menu. Then select the **LAN Port ACL Rule** tab from the window that appears.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Port No.	The number of each LAN port on the ONU.	-	Compulsory	Select in the data port list pane at the left part.
Action	The operation to the data meeting the data stream control rules. <ul style="list-style-type: none"> ◆ Forward: Forwards the data meeting the data stream control rules. ◆ Deny: Discards the data meeting the data stream control rules. 	Its value includes Forward and Deny .	Compulsory	Click the drop-down list to select to forward or deny.
Rule Define	The data stream control rules of the LAN port.	Users can select rules such as Based on SA MAC, Based on DA MAC, and Based on DA Type of IP.	Compulsory	Click to enter the configuration GUI.

10.4.28 Configuring Port QoS Rules

Command function

The port QoS rule configuration command is used to configure the QoS rules of an ONU LAN port. The LAN port will control the data stream according to the defined rules.

Applicable object

The AN5006-04 and the AN5006-07B support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**Port Rules** in the shortcut menu. Then select the **LAN Port ACL Rule** tab from the window that appears. Click the **FE Port QoS Rule** tab.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Port No.	The number of each LAN port on the ONU.	-	Read-only	-
Precedence	The priority of the QoS control rule of the data stream.	The value range: 1 to 12.	Compulsory	Double-click to enter the priority of the QoS control rule of the data stream.
Queue Mapped	The number of the priority queue.	The value range: 1 to 4.	Compulsory	Click the drop-down list to select the mapped queue.
Priority	The priority of the data stream on the LAN port.	The value range is 1 to 7, or disabling.	Compulsory	Click the drop-down list to select the parameter value.
Rule Define	The data stream control rules of the LAN port.	Users can select rules such as Based on SA MAC, Based on DA MAC, and Based on DA Type of IP.	Compulsory	Click to enter the configuration GUI.

10.4.29 Configuring Port Flow Rate Control Rules

Command function

The port flow rate control rule configuration command is used to configure the flow rate control rules of an ONU LAN port.

Applicable object

The AN5006-07B supports this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**Port Rules** in the shortcut menu. Then select the **LAN Port ACL Rule** tab from the window that appears. Click the **LAN Port Stream Rate Limiting** tab.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Port No.	The number of each LAN port on the ONU.	-	Read-only	-
US Policing Enable/Disable	Enables / disables the uplink rate control function.	The options include enabling and disabling .	Compulsory	Click the drop-down list to select to enable or disable.
US Policing CIR (kbit/s)	The minimum guaranteed value of the uplink rate on this port.	The value should be a multiple of 64. The unit is kbit/s.	Optional. When the uplink rate control function is enabled, this parameter is valid.	Double-click to enter the guaranteed value of the uplink rate.
US CBS (Byte)	The extra rate that the uplink stream of the port provides for the burst traffic.	The value should be a multiple of 64. The unit is kbit/s.	Optional. When the uplink rate control function is enabled, this parameter is valid.	Double-click to enter the uplink burst size.
US EBS (Byte)	The extra guaranteed rate that the uplink stream of the port provides when the burst traffic is over-large.	-	Optional. When the uplink rate control function is enabled, this parameter is valid.	Double-click to enter the uplink excess burst size.
DS Policing Enable/Disable	Enables / disables the downlink rate control function.	The options include enabling and disabling .	Compulsory	Click the drop-down list to select to enable or disable.
DS Policing CIR (kbit/s)	The guaranteed value of the downlink rate on this LAN port.	The unit is kbit/s.	Optional. When the downlink rate control function is enabled, this parameter is valid.	Double-click to enter the guaranteed value of the downlink rate on this port.

Item	Description	Value Range / Requirement	Property	Configuration Method
DS PIR (kbit/s)	The maximum value of the downlink cell rate.	The unit is kbit/s.	Optional. When the downlink rate control function is enabled, this parameter is valid.	Double-click to enter the maximum value of the downlink cell rate.
Rule Define	The data stream control rules of the LAN port.	Users can select rules such as Based on SA MAC, Based on DA MAC, and Based on DA Type of IP.	Compulsory	Click to enter the configuration GUI.

10.4.30 Configuring ONU Optical Power Compensation

Command function

The ONU optical power compensation configuration command is used to compensate the optical power of an ONU, so as to ensure that the optical power value is in the proper range.

Applicable object

The AN5006-04, the AN5006-07B, and the HG220 all support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**ONU Optical Compensation** in the shortcut menu. Then the **ONU Optical Compensation** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	The number of the PON port connected with the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Tx Adjust (dBm)	The Tx optical power adjustment value of the ONU.	The value ranges between -100.00 and 100.00, and the unit is dBm.	Compulsory	Double-click to enter the Tx optical power adjustment value.
Rx Adjust (dBm)	The Rx optical power adjustment value of the ONU.	The value ranges between -100.00 and 100.00, and the unit is dBm.	Compulsory	Double-click to enter the Rx optical power adjustment value.
OLT Rx Adjust (dBm)	The Rx optical power adjustment value of the OLT.	The value ranges between -100.00 and 100.00, and the unit is dBm.	Compulsory	Double-click to enter the Rx optical power adjustment value of the OLT.

10.4.31 Configuring Bandwidth of the Highest-Priority Service

Command function

The highest-priority service bandwidth configuration command is used to set the bandwidth of the highest-priority service on an ONU.

Applicable object

The AN5006-04, the AN5006-07B, and the HG220 all support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**High-Pri Services Bandwidth** in the shortcut menu. Then the **High-Pri Services Bandwidth** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
ONU Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	The number of the PON port connected with the ONU.	-	Read-only	-
ONU Authorized No.	The authorization number of the ONU.	-	Read-only	-
Bandwidth	The bandwidth of the highest-priority service on the ONU.	The value range: 0 to 1000000. The unit is kbit/s.	Compulsory	Double-click to enter the bandwidth of the highest-priority service.

10.5 Control Command

10.5.1 Resetting an ONU

Command function

The resetting ONU command is used to restart the appointed ONU.

Applicable object

The AN5006-04, the AN5006-07B, and the HG220 all support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **System control**→**Reset ONU** in the shortcut menu. Then the **Reset ONU** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU to be replaced.	-	Read-only	-

10.5.2 Refreshing Firmware

Command function

The refreshing firmware command is used to refresh the firmware of an ONU. After completing the firmware version upgrade operation, users can execute this command to refresh the firmware.

Applicable object

The AN5006-04, the AN5006-07B, and the HG220 all support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **System control**→**Restore ONU** in the shortcut menu. Then the **Restore ONU** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU to be replaced.	-	Read-only	-

10.5.3 Registering / Logging Out to an MGC

Command function

The command is used to manually control an MG to register on or log out from an MGC.

Applicable object

The AN5006-04 and the AN5006-07B support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **System control** → **MGC Register/Unregister** in the shortcut menu. Then the **MGC Register/Unregister** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	The number of the PON port connected with the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
Register/Unregister	Register means to register an MC to the MGC. Unregister refers to log out the MG from the MGC.	The options include Register and Unregister .	Compulsory	Click the drop-down list to select to register or log out.
MGC IP	The MGC IP address that should be connected to.	The general Internet IP address.	Compulsory	Double-click to enter the MGC IP address.

10.5.4 Registering / Logging Out a NGN Subscriber

Command function

The NGN subscriber registering / logging out command is used to register / log out a user port to the MGC manually.

Applicable object

The AN5006-04 and the AN5006-07B support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **System control** → **NGN User Register/Unregister** in the shortcut menu. Then the **NGN User Register/Unregister** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	The number of the PON port connected with the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
Port No.	The port number of the NGN subscriber.	The value range: 1 to 64.	Compulsory	Double-click to enter the subscriber port number.
Register/Unregister	Register means to register a subscriber port to the MGC. Unregister means to log out the subscriber port from the MGC.	The options include Register and Unregister .	Compulsory	Click the drop-down list to select to register or log out.

10.5.5 Performing Forced Protection Switching of an ONU

Command function

When the working optical line has faults, users can execute the forced protection switching command to switch the service to the protection optical line without interrupting the carried service.

Applicable object

The AN5006-10B supports this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **System control** → **Force Switch To Standby** in the shortcut menu. Then the **Force Switch To Standby** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU to be replaced.	-	Read-only	-

10.5.6 Disabling a Remote Optical Module

Command function

The remote optical module disabling command is used to enable or disable the PON port of the ONU.

Applicable object

The AN5006-04, the AN5006-07B, and the HG220 all support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **System control**→**Remote Optical Module Off** in the shortcut menu. Then the **reset ONU PON Port** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
PON Switch	Enables or disables the PON port of the ONU.	The options include on and off . The default setting is on .	Compulsory	Click the drop-down list to select to enable or disable.

10.6 Get Information Command

10.6.1 Viewing RSTP Bridge Information

Command function

The viewing RSTP bridge information command is used to view the RSTP bridge information of an ONU.

Applicable object

The AN5006-07B supports this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get Information** → **RSTP Bridge Info** in the shortcut menu. Then the **RSTP Bridge Info** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Bridge Max Age (s)	The maximum aging time of the RSTP bridge.	-	Read-only	-
Bridge Priority	The priority of the bridge when the RSTP function is enabled. A bridge with a smaller priority value has a higher priority to be selected as the root bridge.	-	Read-only	-
Bridge Mac Address	The MAC address of the RSTP bridge.	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
Bridge Hello Time (s)	The time interval of two successive Hello packets received by the RSTP bridge.	-	Read-only	-
Forward Delay	The forward delay time of the RSTP bridge.	-	Read-only	-
Force Version	The RSTP version.	-	Read-only	-
Root Bridge Priority	The priority of the root bridge.	-	Read-only	-
Root Bridge Mac Address	The MAC address of the root bridge.	-	Read-only	-
Root Port	The port number of the root bridge.	-	Read-only	-
Root Max Age (s)	The maximum aging time of the root bridge.	-	Read-only	-
Root Hello Time (s)	The time interval of two successive Hello packets received by the root bridge.	-	Read-only	-
Root Forward Delay (s)	The forward delay time of the root bridge.	-	Read-only	-

10.6.2 Viewing RSTP Port Information

Command function

The viewing RSTP port information command is used to view the RSTP information of an appointed ONU port.

Applicable object

The AN5006-07B supports this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get Information** → **RSTP Port Info** in the shortcut menu. Then the **RSTP Port Info** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
ONU Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
ONU No.	The authorization number of the ONU.	-	Read-only	-
Port No.	The port number of the ONU.	-	Read-only	-
Port Priority	The priority of the port when the RSTP is enabled. A port with a lower priority value is preferred to act as the root port.	-	Read-only	-
Port Role	The role of the port. Its value includes: Selectable, Backup, Root, Appointed, not joining RSTP and Unknown .	-	Read-only	-
Port State	The operating mode of the port. Its value includes: Disabled, Discarded, Learning, Forwarding, Not Joining and Unknown .	-	Read-only	-
Port Path Cost	The path cost of the port when the RSTP is enabled.	-	Read-only	-
Designated Root Priority	The priority of the appointed root port.	-	Read-only	-
Designated Root Mac Address	The MAC address of the appointed root port.	-	Read-only	-
Designated Path Cost	The path cost of the appointed root port.	-	Read-only	-
Designated Port No.	The number of the appointed port. It is determined by the port number on the opposite end equipment.	-	Read-only	-
Designated Port Priority	The priority of the appointed port.	-	Read-only	-
Designated Bridge Priority	The priority of the appointed bridge.	-	Read-only	-
Designated Bridge MAC Address	The MAC address of the appointed bridge.	-	Read-only	-

10.6.3 Viewing Optical Module Parameters Information

Command function

The viewing optical module parameters command is used to view optical module status parameters of an ONU, including optical module type, optical module temperature, optical module voltage, bias current, Tx and Rx optical power.

Applicable object

The AN5006-04, the AN5006-07B, and the HG220 all support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get Information** → **OptModule Para Information** in the shortcut menu. Then the **OptModule Para Information** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Optical module type (KM)	At present the 20 km optical module is used typically.	-	Read-only	-
Temperature (C)	The temperature of the current optical module on the ONU.	-	Read-only	-
Voltage (V)	The voltage of the current optical module on the ONU.	-	Read-only	-
Current (mA)	The bias current of the current optical module on the ONU.	-	Read-only	-
Tx power (Dbm)	The Tx optical power of the current optical module on the ONU.	-	Read-only	-
Rx power (Dbm)	The Rx optical power of the current optical module on the ONU.	-	Read-only	-

10.6.4 Viewing PON Port Operating Status

Command function

The viewing PON port operating status command is used to view the PON port operating status of an ONU.

Applicable object

The AN5006-04, the AN5006-07B, and the HG220 all support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get Information** → **PonPort Working State** in the shortcut menu. Then the **PonPort Working State** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Active PON Number	The number of the current working PON port on the ONU.	-	Read-only	-

10.6.5 Querying ONU Capability

Command function

The querying ONU capability command is used to query the capability parameters of an ONU.

Applicable object

The AN5006-04, the AN5006-07B, and the HG220 all support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get Information** → **ONU Ability** in the shortcut menu. Then the **ONU Ability** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Port No.	The number of the ONU port.	-	Read-only	-
FirmWare	The version number of the ONU firmware.	-	Read-only	-
ONU Vendor ID1	The equipment vendor ID1.	-	Read-only	-
ONU Chipset ID	The ID of the chip.	-	Read-only	-
ONU Version	The version number of the ONU.	-	Read-only	-
ONU Chip Date	The production date of the ONU chip.	-	Read-only	-
ONU Vendor ID2	The equipment vendor ID2.	-	Read-only	-
ONU Model	The ONU model.	-	Read-only	-
ONU MAC Address	The MAC address of the ONU.	-	Read-only	-
Hardware Version	The hardware version number.	-	Read-only	-
Software Version	The software version number.	-	Read-only	-
ONU Type	The equipment type of the ONU.	-	Read-only	-
Multi LLID	Whether the ONU supports Multiple LLIDs.	-	Read-only	-
Protection Type	The optical link protection type supported by the ONU.	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
Num of PON IF	The number of uplink PON ports supported by the ONU.	-	Read-only	-
Num of Slot	The number of service slots of an ONU which can accommodate cards.	-	Read-only	-
Capabilities Ver	The capabilities version.	-	Read-only	-
ONU Upstream Queue Number	The uplink queues number of the ONU.	-	Read-only	-
ONU Upstream Max Queue Number	The maximum queues number of the ONU uplink ports.	-	Read-only	-
ONU Downstream Queue Number	The downlink queues number of the ONU.	-	Read-only	-
ONU Downstream Max Queue Number	The maximum queues number of the ONU downlink ports.	-	Read-only	-
ONU Backup Battery	The standby battery status of the ONU.	-	Read-only	-
IPv6 Supported	Whether IPv6 is supported.	-	Read-only	-
ONUPowerSupplyControl	The power supply control capability of the ONU.	-	Read-only	-
ONUSpeedCapability	The rate capability of the ONU.	-	Read-only	-
Interface Type	The type of the ONU interface.	-	Read-only	-
Num of Port	The ports number of a certain interface type.	-	Read-only	-
PortBitMapFlag	The PortBitMap flag.	-	Read-only	-
PortBitMap	The port distribution map of the ONU.	-	Read-only	-

10.6.6 Viewing Equipment Information

Command function

The viewing equipment information command is used to view the information of the HG220.

Applicable object

The HG220 supports this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get Information** → **Device Information** in the shortcut menu. Then the **Device Information** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
DI-Model Name	The ID information of the equipment.	-	Read-only	-
DI-Manufacturer OUI	The OUI of the manufacturer.	-	Read-only	-
DI-Hardware Version	The hardware version number.	-	Read-only	-
DI-Software Version	The software version number.	-	Read-only	-
DI-Serial Number	The serial number of the equipment.	-	Read-only	-

10.6.7 Viewing Wi-Fi Status Information

Command function

The viewing WiFi status information command is used to view the enabling status and WPS Wi-Fi protection setting status of the radio interface of an ONU.

Applicable object

The HG220 supports this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get Information** → **WIFI Information** in the shortcut menu. Then the **WIFI Information** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
WPS-Status	The Wi-Fi protection setting session status.	-	Read-only	-
WPS-Overlap	The Wi-Fi protection setting session triggering status.	-	Read-only	-
WLAN-Enable	The enabling status of the Wi-Fi radio interface.	-	Read-only	-

10.6.8 Viewing WAN Connection Information

Command function

The viewing WAN connection information command is used to view the WAN connection status statistical information.

Applicable object

The HG220 supports this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get Information** → **WAN Information Statistics** in the shortcut menu. Then the **WAN Information Statistics** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Wan NO	The index number of the WAN connection.	-	Read-only	-
Wan_Name	The name of the WAN connection.	-	Read-only	-
Wan_Vlan_ID	The VLAN ID of the WAN connection.	-	Read-only	-
Wan_COS	The 802.1p priority of the WAN connection.	-	Read-only	-
Wan_D_S_P	The IP address obtaining mode of the WAN connection.	-	Read-only	-
Wan_Qos_Enable	Indicates whether enables the QoS function for the WAN connection.	-	Read-only	-
Wan_Status	The current connection status of the WAN network.	-	Read-only	-
Wan_Ip_Address	The static IP address of the WAN connection.	-	Read-only	-
Wan_Ip_Subnet	The subnet mask of the WAN connection.	-	Read-only	-
Wan_Gateway	The default gateway address of the WAN connection.	-	Read-only	-
Wan_Master_DNS	The master DNS server IP address provided by the ISP.	-	Read-only	-
Wan_Slave_DNS	The slave DNS server IP address provided by the ISP.	-	Read-only	-

10.6.9 Obtaining ONU Port MAC Address

Command function

The obtaining ONU port MAC address command is used to view the MAC address learned by an ONU port.

Applicable object

The AN5006-04, the AN5006-07B, and the HG220 all support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get Information**→**ONU Port MAC** in the shortcut menu. Then the **ONU Port MAC** window will appear.



Note:

For the AN5006-07B, the command is **MAC - Learning Table On Port**. Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get Information**→**MAC - Learning Table On Port** in the shortcut menu. Then the **Query ONU MAC** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Port No.	The port number of the ONU.	-	Read-only	-
MAC Number	The number of MAC addresses learned by the ONU port currently.	-	Read-only	-
MAC	The MAC address learned by the ONU port currently.	-	Read-only	-
VLAN ID	The VLAN ID of a MAC address.	-	Read-only	-

10.6.10 Querying ONU Status Information

Command function

The querying ONU status command is used to query the status information of the ONU.

Applicable object

The AN5006-04, the AN5006-07B, and the HG220 all support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get Information** → **ONU State Information** in the shortcut menu. Then the **ONU State Information** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	The number of the PON port connected with the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Last Off Time	The last time the ONU is off the network.	-	Read-only	-

10.6.11 Viewing Port Status Information

Command function

The viewing port status information command is used to view the status information of various ONU ports, including connection status, flow control status, and port physical status.

Applicable object

The AN5006-04, the AN5006-07B, and the HG220 all support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get Information** → **port info** in the shortcut menu. Then the **port info** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Port No.	The number of the ONU port.	-	Read-only	-
LINK Status	The connection status of the port.	-	Read-only	-
Flow Control	The enabling status of the flow control function on the port.	-	Read-only	-
Phy Admin State	The enabling / disabling status of the port.	-	Read-only	-
AutNeg Admin State	The enabling status of the auto negotiation function on the port.	-	Read-only	-
Speed (Mbit/s)	The rate of the port.	-	Read-only	-
Duplex	The duplex mode of the port.	-	Read-only	-
Loopback Status	The loopback status of the port.	-	Read-only	-

10.6.12 Viewing ONU Port Connected Equipment Type

Command function

The viewing ONU port connected equipment type command is used to view the type of the equipment set connected with the appointed port of an ONU. The type of the equipment set can be home gateway, computer, or no connection.

Applicable object

The AN5006-04 and the AN5006-07B both support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get Information** → **Ports, Connected Device Type** in the shortcut menu. Then the **Ports, Connected Device Type** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Port No.	The port number of the ONU.	-	Read-only	-
State	The type of the equipment set connected with the port of the ONU.	-	Read-only	-

10.6.13 Viewing ONU Ranging Value

Command function

The viewing ONU ranging value command is used to view the ranging value between the ONU and the OLT.

Applicable object

The AN5006-04, the AN5006-07B, and the HG220 all support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get Information** → **ONU RTT Value** in the shortcut menu. Then the **ONU RTT Value** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
RTT Value (m)	The measured logical distance between the ONU and the OLT.	-	Read-only	-

10.6.14 Line Test

10.6.14.1 Testing POTS Port External Line Status

Command function

The testing POTS port external line status command is used to view the external voice line status of an ONU. When the voice line has faults, users can execute this command to perform line diagnosis.

Applicable object

The AN5006-04 and the AN5006-07B both support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get Information** → **Line Test** in the shortcut menu. Then select the **POTS Outline Test** tab in the window that appears.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
POTS Port No.	The number of the POTS port to be tested.	The value range varies with the ONU POTS port quantity.	Compulsory	Double-click to enter the POTS port number.
TestType	<p>Selects the external line test mode of the POTS port.</p> <ul style="list-style-type: none"> ◆ When Force Test is selected, no matter the subscriber is in conversation, this test will be performed. During the test, the conversation will be interrupted. ◆ When No Force Test is selected, the test will be performed when the subscriber is not in a conversation. 	The options include Force Test and No Force Test .	Compulsory	Click the drop-down list to select the test type.
TestState	The test status. Its value includes waiting , in test and test complete .	-	Read-only	-
Refused Reason	The reason of the test being refused.	-	Read-only	-
Port State	The status of the port.	-	Read-only	-
A -> ground DC Voltage (V)	The DC voltage of telephone line A, with the earth as the reference.	-	Read-only	-
B -> ground DC Voltage (V)	The DC voltage of telephone line B, with the earth as the reference.	-	Read-only	-
A ->B DC Voltage (V)	The DC voltage between telephone lines A and B.	-	Read-only	-
A -> ground insulation resistance (Ω)	The impedance of telephone line A, with the earth as the reference.	-	Read-only	-
B -> ground insulation resistance (Ω)	The impedance of telephone line B, with the earth as the reference.	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
A -> B insulation resistance (Ω)	The impedance between telephone lines A and B.	-	Read-only	-
A -> B polarity reversal insulation resistance (Ω)	The polarity reversal resistance.	-	Read-only	-
A -> ground capacitance (PF)	The capacitance of telephone line A, with the earth as the reference.	-	Read-only	-
B -> ground capacitance (PF)	The capacitance of telephone line B, with the earth as the reference.	-	Read-only	-
A -> B capacitance (PF)	The capacitance between telephone lines A and B.	-	Read-only	-
A -> ground AC Voltage (V)	The AC voltage of telephone line A, with the earth as the reference.	-	Read-only	-
B-> ground AC Voltage (V)	The AC voltage of telephone line B, with the earth as the reference.	-	Read-only	-
A -> B AC Voltage (V)	The AC voltage between telephone lines A and B.	-	Read-only	-
A -> B loop resistance (Ω)	The total resistance of the AB loop.	-	Read-only	-

10.6.14.2 Testing POTS Port Internal Line Status

Command function

The testing POTS port internal line status command is used to view the internal voice line status of an ONU. When the voice line has faults, users can execute this command to perform line diagnosis.

Applicable object

The AN5006-04 and the AN5006-07B both support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get Information** → **Line Test** in the shortcut menu. Then select the **POTS Inline Test** tab in the window that appears.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
ONU Authorized No.	The authorization number of the ONU.	-	Read-only	-
POTS Port No.	The number of the POTS port to be tested.	The value range varies with the ONU POTS port quantity.	Compulsory	Double-click to enter the POTS port number.
TestType	<p>Selects the external line test mode of the POTS port.</p> <ul style="list-style-type: none"> ◆ When Force Test is selected, no matter the subscriber is in conversation, this test will be performed. During the test, the conversation will be interrupted. ◆ When No Force Test is selected, the test will be performed when the subscriber is not in a conversation. 	The options include Force Test and No Force Test .	Compulsory	Click the drop-down list to select the test type.
TestState	The test status. Its value includes waiting, in test, or test complete .	-	Read-only	-
SignalToneState	The current dial tone status.	-	Read-only	-
FeederVoltageState	The current status of the telephone feed voltage value.	-	Read-only	-
Loop current State	Whether the loop current of the ONU voice port is normal.	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
Loop current (A)	The current value in the loop formed after off-hook.	-	Read-only	-
Feeder voltage (V)	The telephone feed voltage value.	-	Read-only	-
Signal tone level (DB)	The dial tone level value.	-	Read-only	-
Signal tone frequency (HZ)	The dial tone frequency value.	-	Read-only	-
Ringing current voltage (V)	The ringing current voltage value.	-	Read-only	-
Ringing Current Voltage State	The ringing current voltage status.	-	Read-only	-

10.6.15 NGN Information

10.6.15.1 Viewing NGN Statistical Information

Command function

The viewing NGN statistical information command is used to view the voice statistical information of an IAD. When the voice line has faults, users can execute this command to perform line diagnosis.

Applicable object

The AN5006-04, the AN5006-07B, and the HG220 all support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get Information** → **NGN Statistic Info** in the shortcut menu. Then the **NGN Statistic Info** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
ReceivedNGNReqPackets	The number of the request packets received by the ONU from the softswitch platform or other MGs.	-	Read-only	-
SendNGNReqPackets	The number of the request packets sent by the ONU to the softswitch platform or other MGs.	-	Read-only	-
ReceivedNGNRespPackets	The number of the response packets received by the ONU from the softswitch platform or other MGs.	-	Read-only	-
SendNGNRespPackets	The number of the response packets sent by the ONU to the softswitch platform or other MGs. The number of the request packets sent by the ONU to the softswitch platform or other MGs.	-	Read-only	-
ReceivedRTPPackets	The number of the RTP voice packets received by the ONU from the media server or other MGs.	-	Read-only	-
SendRTPPackets	The number of the RTP voice packets sent by the ONU to the media server or other MGs.	-	Read-only	-
ReceivedRTPBytes	The number of the RTP voice bytes received by the ONU from the media server or other MGs.	-	Read-only	-
SendRTPBytes	The number of the RTP voice bytes sent by the ONU to the media server or other MGs.	-	Read-only	-
PacketLoss (%)	The packet loss rate of the ONU sending and receiving voice packets.	-	Read-only	-
NetworkAvgDelay (ms)	The network average delay of the ONU sending voice packets.	-	Read-only	-
RTPAvgJitterBuffer (ms)	The average jitter delay of the ONU sending and receiving voice packets.	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
Bandwidth Usage (kbit/s)	The bandwidth occupied by the voice service on the ONU.	-	Read-only	-
LostSigPackets	The lost signaling packets number of the ONU sending and receiving voice packets.	-	Read-only	-
RetransmitPackets	The retransmitted signaling packets number of the ONU sending and receiving voice packets.	-	Read-only	-
WrongSigPackets	The error signaling packets number of the ONU sending and receiving voice packets.	-	Read-only	-
UnknownSigPackets	The unknown signaling packets number of the ONU sending and receiving voice packets.	-	Read-only	-

10.6.15.2 Viewing NGN Port Statistical Information

Command function

The viewing NGN port statistical information command is used to view the voice statistical information of an ONU POTS port. When the voice line has faults, users can execute this command to perform diagnosis.

Applicable object

The AN5006-04, the AN5006-07B, and the HG220 all support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get Information** → **NGN Statistic Info** in the shortcut menu. Then the **NGN Statistic Info** window will appear. Click the **NGN Port Statistic Info** tab.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
ONU Port No.	The number of the ONU voice port.	The value range varies with the ONU POTS port quantity.	Compulsory	Double-click to enter the voice port number.
ReceivedRTP-Packets	The number of the RTP voice packets received by the ONU from the media server or other MGs.	-	Read-only	-
SendRTPPackets	The number of the RTP voice packets sent by the ONU to the media server or other MGs.	-	Read-only	-
ReceivedRTP-Bytes	The number of the RTP voice bytes received by the ONU from the media server or other MGs.	-	Read-only	-
SendRTPBytes	The number of the RTP voice bytes sent by the ONU to the media server or other MGs.	-	Read-only	-
RTPJitterBuffer (ms)	The average jitter delay of the ONU sending and receiving voice packets.	-	Read-only	-
Lastest Call Begin Time	The start time of the latest call.	-	Read-only	-
Lastest Call End Time	The end time of the latest call.	-	Read-only	-
Last Call Duration (s)	The current call duration.	-	Read-only	-
Total Call Times	The call times of a subscriber.	-	Read-only	-
Total Call Duration (s)	The total call duration of a subscriber.	-	Read-only	-
UpstreamRate (kbit/s)	The uplink rate.	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
Downstream-Rate (kbit/s)	The downlink rate.	-	Read-only	-
AvgNetworkDelay (ms)	The network average delay of the ONU sending voice packets.	-	Read-only	-
PacketLoss (%)	The packet loss rate of the ONU sending and receiving voice packets.	-	Read-only	-

10.6.15.3 Viewing NGN Resource Status

Command function

The viewing NGN resource status command is used to view the subscriber status of an ONU POTS port and the corresponding RTP resource information.

Applicable object

The AN5006-04, the AN5006-07B, and the HG220 all support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get Information** → **NGN Statistic Info** in the shortcut menu. Then the **NGN Statistic Info** window will appear. Click the **NGN Resource State** tab.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
POTS No.	The POTS port number of the ONU.	-	Read-only	-
Telephone No.	The telephone number configured at the POTS port.	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
Reg Status	The registration status of the POTS port.	-	Read-only	-
Termination ID	The ID number of the termination point.	-	Read-only	-
RTP Name	The RTP resource name.	-	Read-only	-
RTP Port	The RTP port number.	-	Read-only	-

10.6.15.4 Viewing NGN RTP Resource Configuration

Command function

The viewing NGN resource configuration command is used to view the RTP resource configuration information of an ONU.

Applicable object

The AN5006-04, the AN5006-07B, and the HG220 all support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get Information** → **NGN Statistic Info** in the shortcut menu. Then the **NGN Statistic Info** window will appear. Click the **NGN RTP Resource** tab.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
RTP Resource Name	The RTP resource name. The first 128 entries will be displayed.	-	Read-only	-

10.6.16 Querying MG Configuration

Command function

The querying MG configuration command is used to query the configuration information of the MG.

Applicable object

The AN5006-04, the AN5006-07B, and the HG220 all support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get Information** → **MG Configuration Report** in the shortcut menu. Then the **MG Configuration Report** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
ONU Authorized No.	The authorization number of the ONU.	-	Read-only	-
MGID	The ID of the MG.	-	Read-only	-
ProtocolType	The type of the softswitch platform protocol.	-	Read-only	-
EID	The gateway domain name.	-	Read-only	-
First MGCIP	The IP address of the active softswitch platform.	-	Read-only	-
Second MGCIP	The IP address of the standby softswitch platform.	-	Read-only	-
First SIP Server	The IP address of the SIP active register server.	-	Read-only	-
Second SIP Server	The IP address of the SIP standby register server.	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
First SIP-Proxy Server	The IP address of the SIP active proxy server.	-	Read-only	-
Second SIP-Proxy Server	The IP address of the SIP standby proxy server.	-	Read-only	-
Signal Svlan Tpid	The signaling SVLAN TPID.	-	Read-only	-
Signal Svlan ID	The signaling SVLAN ID.	-	Read-only	-
Svlan COS	The signaling SVLAN priority.	-	Read-only	-
Signal Cvlan Tpid	The signaling CVLAN TPID.	-	Read-only	-
Signal Cvlan ID	The signaling CVLAN ID.	-	Read-only	-
Cvlan COS	The signaling CVLAN priority.	-	Read-only	-
RTP Svlan Tpid	The media stream SVLAN TPID.	-	Read-only	-
RTP Svlan ID	The media stream SVLAN ID.	-	Read-only	-
RTP Svlan COS	The media stream SVLAN priority.	-	Read-only	-
RTP Cvlan Tpid	The media stream CVLAN TPID.	-	Read-only	-
RTP Cvlan ID	The media stream CVLAN ID.	-	Read-only	-
RTP Cvlan COS	The media stream CVLAN priority.	-	Read-only	-
IP Mode	The IP address obtaining mode.	-	Read-only	-
Signal IP	The signaling IP address.	-	Read-only	-
Signal gateway	The signaling gateway address.	-	Read-only	-
RTP IP	The media stream IP address.	-	Read-only	-
RTP gateway	The media gateway address.	-	Read-only	-
PPPoE name	The user name for obtaining the IP address in PPPoE mode.	-	Read-only	-
PPPoE password	The password for obtaining the IP address in PPPoE mode.	-	Read-only	-
Keep Alive	The enabling status of the heartbeat function.	-	Read-only	-
Alive Interval	The heartbeat interval.	-	Read-only	-
Alive Times	The heartbeat test times.	-	Read-only	-

10.6.17 Querying Parameter Configuration of Fax / Modem Service

Command function

The fax / modem service parameter configuration query command is used to query the related parameters of the fax / modem service of an ONU.

Applicable object

The AN5006-04, the AN5006-07B, and the HG220 all support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get Information** → **GET FAX/Modem Configuration** in the shortcut menu. Then the **GET FAX/Modem Configuration** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
ONU Authorized No.	The authorization number of the ONU.	-	Read-only	-
Port No.	The number of the ONU port.	The value range varies with the ONU type.	Compulsory	Double-click to enter the port number.
VoiceT38Enable	The transmission mode of the fax service.	-	Read-only	-
VoiceFax/Modem-Control	The control mode of the fax data.	-	Read-only	-

10.6.18 Querying ONU POTS Port Status

Command function

The querying ONU POTS port status command is used to query the current status of an ONU POTS port.

Applicable object

The AN5006-04, the AN5006-07B, and the HG220 all support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get Information** → **NGN User Port Status** in the shortcut menu. Then the **NGN User Port Status** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
ONU Authorized No.	The authorization number of the ONU.	-	Read-only	-
Port No.	The number of the ONU port.	The value range varies with the ONU type.	Compulsory	Double-click to enter the port number.
Port Status	The current status of the subscriber port.	-	Read-only	-
Termination ID	The ID of the termination point.	-	Read-only	-
RTP Name	The RTP resource name.	-	Read-only	-
RTP Port	The RTP port number.	-	Read-only	-
iadPortServiceState	The current status of the subscriber port service.	-	Read-only	-
iadPortServiceCo-decMode	The coding / decoding mode of the port.	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
Echo Cancel	The echo suppression function enabling status.	-	Read-only	-
Reversed Polarity	The polarity reversal signal enabling status.	-	Read-only	-
Rx Gain (dB)	The Rx gain.	-	Read-only	-
Tx Gain (dB)	The Tx gain.	-	Read-only	-
SIP Telephone	The SIP telephone number.	-	Read-only	-
SIPUSERNAME	The user name corresponding to the SIP subscriber port.	-	Read-only	-
SIPUSERPWD	The password corresponding to the SIP subscriber port.	-	Read-only	-

10.6.19 Performing Emulation Command

Command function

The emulation command is used to detect the operating status of an ONU POTS port via the incoming or outgoing call emulation test.

Applicable object

The AN5006-04, the AN5006-07B, and the HG220 all support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get Information** → **Simulation Command** in the shortcut menu. Then the **Simulation Command** window will appear.

Parameter

- ◆ Incoming call simulation begin

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Port No.	The number of the ONU port.	-	Read-only	-
Timeout	The time-out duration of the incoming call test.	The value ranges between 60 and 300, and the unit is second.	Compulsory	Double-click to enter the time-out duration.
State	The current test status.	The status includes the following items: test started and test not started .	Read-only	-

◆ Incoming call simulation query

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Port No.	The number of the ONU port.	-	Read-only	-
State	The current status of the port.	-	Read-only	-

◆ Incoming call simulation end

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Port No.	The number of the ONU port.	-	Read-only	-
State	The current status of the port.	-	Read-only	-
Conclusion	The test result of the incoming call simulation test.	-	Read-only	-
Fail Reason	The reason of test failure.	-	Read-only	-

◆ Outgoing call simulation begin

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Port No.	The number of the ONU port.	-	Read-only	-
Tel	The outgoing telephone number.	-	Compulsory	Double-click to enter the POS telephone number.
Timeout	The time-out duration of the outgoing call test.	The value ranges between 60 and 300, and the unit is second.	Compulsory	Double-click to enter the time-out duration.
State	The current test status.	-	Read-only	-

◆ Outgoing call simulation query

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Port No.	The number of the ONU port.	-	Read-only	-
State	The current status of the port.	-	Read-only	-

◆ Outgoing call simulation end

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Port No.	The number of the ONU port.	-	Read-only	-
State	The current status of the port.	-	Read-only	-
DIALNUMBER	The dialed telephone number.	-	Read-only	-
TARGETNUMBER	The telephone number reported to the softswitch platform.	-	Read-only	-
FAILEDSIG	The signaling indication for test failure.	-	Read-only	-
Conclusion	The test conclusion of the outgoing call emulation.	-	Read-only	-
Fail Reason	The reason of test failure.	-	Read-only	-

10.7 Deleting ONU from Network Management Database

Command function

The command is used to delete the broken or off-line ONUs from the network management database.



Caution:

The command will delete the ONU and the services it carries from the network management database. Please perform with care.

Applicable object

The AN5006-04, the AN5006-07B, and the HG220 all support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Delete ONU from Database** in the shortcut menu.

10.8 Obtaining ONU Information

Command function

The ONU information obtaining command is used to manually obtain the ONU information, including: physical address, password, logical SN and logical SN password.

Applicable object

The AN5006-04, the AN5006-07B, and the HG220 all support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get ONU Information** in the shortcut menu.

10.9 Refreshing an ONU

Command function

The refreshing command is used to refresh the status information of an ONU.

Applicable object

The AN5006-04, the AN5006-07B, and the HG220 all support this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Refresh** in the shortcut menu to execute this command.

10.10 Displaying ONU Subscribers

Command function

The displaying ONU subscriber command is used to expand and display information on ONU subscribers in the ONU list tab; information on ONU subscribers includes the number of the PON port connected with each ONU, the slot number of the card containing each PON port, the authorization number of each ONU, etc.

Applicable object

The AN5006-04, the AN5006-07B, and the HG220 all support this command.

Access method

1. Click an EPON interface card in the **Object Tree** pane, right-click a certain ONU in the ONU list tab at the right of the GUI, and select **Display ONU User** in the shortcut menu. In the ONU list tab, an expand icon will appear in the left of each ONU; users can click this expand icon to expand and display information on this ONU.
2. After the ONU subscriber information is displayed, right-click a certain ONU in the ONU list tab, and the **Hide ONU User** command will appear in the shortcut menu. Click **Hide ONU User** to hide the ONU-related subscriber information.

10.11 Hiding ONU Port Panel

Command function

The hiding ONU port panel command is used to hide the port panel of the designated ONU on the ANM2000 GUI.

Applicable object

The AN5006-04, the AN5006-07B, and the HG220 all support this command.

Access method

1. Click an EPON interface card in the **Object Tree** pane, right-click the designated ONU in the ONU list tab at the right of the GUI, and select **Hide ONU Port Panel** in the shortcut menu. After the previous operations, the port panel of the designated ONU will not be displayed on the ANM2000 GUI.
2. After the ONU port panel is hidden, right-click the designated ONU, and the **Display ONU Port Panel** command will appear in the shortcut menu. Click **Display ONU Port Panel** to display the ONU port panel on the ANM2000 GUI.

11 Shortcut Menu Command of the GPON Terminal

- Deauthorizing an ONU
- Real Time Performance
- Configuration
- Control Command
- Get Information Command
- Deleting ONU from Network Management Database
- Obtaining ONU Information
- Refreshing an ONU
- Displaying ONU Subscribers
- Hiding ONU Port Panel

11.1 Deauthorizing an ONU

Command function

The deauthorizing ONU command is used to deauthorize an authorized ONU.



Caution:

This command can cause loss of configuration data on the ONU and interrupt services on the ONU.

Applicable object

The AN5506-04B, the AN5506-10B1, and the HG260 all support this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Deauthorize ONU** in the shortcut menu. Then the **Deauthorize ONU** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU to be deauthorized.	-	Read-only	-
PON Port No.	The slot number of the PON interface card connected with the ONU to be deauthorized.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-

11.2 Real Time Performance

11.2.1 Uplink / Downlink Rate

Command function

The querying uplink / downlink rate command is used to query the uplink / downlink rate of an ONU.

Applicable object

The AN5506-04B, the AN5506-10B1, and the HG260 all support this command.

Access method

Click the GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Realtime Performance**→**Up/Down Rate** in the shortcut menu. Then the **Up/Down Rate** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Realtime Curve	The real time sampling curve of the uplink / downlink rate of the ONU.	-	Read-only	Select the ONU to be queried in the object tree pane, and click the Start Collect button in the toolbar to start the query.
Performance Data	The real time sampling value of the uplink / downlink rate of the ONU.	The values include: object, time, performance type, performance value and unit .	Read-only	Select the ONU to be queried in the object tree pane, and click the Start Collect button in the toolbar, and click Performance Data in the tab that appears.

11.2.2 CPU / Memory Utilization Ratio

Command function

The querying CPU / memory utilization ratio command is used to query the CPU / memory utilization ratio of an ONU. Via this command, users can know the equipment running status.

Applicable object

The AN5506-04B, the AN5506-10B1, and the HG260 all support this command.

Access method

Click the GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Realtime Performance**→**CPU/memory Proportion** in the shortcut menu. Then the **CPU/memory Proportion** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Realtime Curve	The real time sampling curve of the CPU / memory utilization ratio.	-	Read-only	Click the Start Collect button in the toolbar to query.
Performance Data	The real time sampling value of the CPU / memory utilization ratio.	The values include: object, time, performance type, performance value and unit .	Read-only	Click the Start Collect button in the toolbar, and click Performance Data in the tab that appears.

11.3 Configuration

11.3.1 Replacing an ONU

Command function

When a certain ONU is faulty, users can replace the faulty ONU with an ONU of the same type. The ONU replacement command is used to enable the new ONU to take charge of all services on the old ONU.

Applicable object

The AN5506-04B, the AN5506-10B1, and the HG260 all support this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**ONU Replace** in the shortcut menu. Then the **ONU Replace** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the service interface card connected with the ONU to be replaced.	-	Read-only	-
PON Port No.	The PON port number of the service interface card connected with the ONU to be replaced.	-	Read-only	-
Onu No.	The authorization number of the ONU to be replaced. The new ONU will use the authorization number of the replaced ONU.	-	Read-only	-
OldPhyicsID	The physical identifier of the ONU to be replaced.	The maximum length is 12 characters.	Compulsory	Double-click to enter the original physical identifier.
NewPhyicsID	The physical identifier of the new ONU.	The maximum length is 12 characters.	Compulsory	Double-click to enter the new physical identifier.

11.3.2 Binding / Unbinding an ONU with a Domain

Command function

The binding / unbinding ONU with domain command is used to bind the appointed ONU with a configured QinQ domain. After the binding operation is executed, this ONU will control the service flow according to the rules defined in this QinQ domain. This command also can be used to unbind an ONU with a certain QinQ domain, so as to cancel the binding relationship between them.

Applicable object

The AN5506-04B, the AN5506-10B1, and the HG260 all support this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**ONU Attach/Detach Domain** in the shortcut menu. Then the **ONU Attach/Detach Domain** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the service interface card connected with the ONU.	-	Read-only	-
PON Port No.	The PON port number of the service interface card connected with the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
Action	Attaches to or detaches from the OLT QinQ domain.	The options include attach and detach . <ul style="list-style-type: none"> ◆ Attach means binding the ONU with the QinQ domain configured on the OLT. ◆ Detach means unbinding the ONU with the appointed QinQ domain. 	Compulsory	Click the drop-down list to select to attach or detach.
Domainname	The name of the OLT QinQ domain.	Select among the domain names configured in the Configure OLT QinQ domain window.	Compulsory	Click the drop-down list to select the domain name.

11.3.3 Configuring GPON Service Bandwidth

Command function

The GPON service bandwidth configuration command is used to configure bandwidth of various services on the ONU. The service types include broadband data service, IPTV service, voice service, TDM service, and integrated service.

Applicable object

The AN5506-04B, the AN5506-10B1, and the HG260 all support this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**GPON Service Bandwidth Config** in the shortcut menu. Then the **GPON Service Bandwidth Config** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Service Type	The service type.	<p>The value includes data, IPTV, voip, TDM, Integrate Service and serial port service.</p> <ul style="list-style-type: none"> ◆ data: the unicast data service. ◆ IPTV: the multicast service. ◆ voip: the NGN voice service. ◆ TDM: the TDM service. ◆ Integrate Service : the management data or unicast data service. ◆ serial port service: The power ONU AN5506-04P1 service. 	Compulsory	Click the drop-down list to select the service type.
Fixed bandwidth	The fixed bandwidth assigned to the designated uplink service on the ONU. Even if the designated uplink service does not use the fixed bandwidth resource, other services cannot occupy it either.	The value range is 16 to 128000; the unit is kbyte/s; and the default value is 16 kbyte/s.	Compulsory	Double-click to enter the fixed bandwidth.

Item	Description	Value Range / Requirement	Property	Configuration Method
Assured bandwidth	The guaranteed bandwidth that the designated uplink service on the ONU can obtain. If the designated uplink service does not occupy the guaranteed bandwidth resource totally, other services can use it.	The value range is 0, 32 or 128000; the unit is kbyte/s; and the default value is 0.	Compulsory	Double-click to enter the assured bandwidth.
Maximum bandwidth	The maximum bandwidth of an ONU's uplink service. The sum of the fixed bandwidth value and the assured bandwidth value should not be larger than the maximum bandwidth value.	The value range is 16 to 128000; the unit is kbyte/s; and the default value is 64 kbyte/s.	Compulsory	Double-click to enter the maximum bandwidth.

11.3.4 Configuring Management Channel

Command function

The command is used to configure the management channel of the TR069. The ACS server manages the ONU equipment via the management channel.

Applicable object

The HG260 supports this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**Non-OMCI Manage Path Config** in the shortcut menu to open the **Non-OMCI Manage Path Config** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the service interface card connected with the ONU.	-	Read-only	-
PON Port No.	The PON port number of the service interface card connected with the ONU.	-	Read-only	-
ONU No.	The authorization number of the ONU.	-	Read-only	-
Port No.	The port number of the ONU.	The value range: 0 to 65534. The default setting is number 1 port.	Compulsory	Double-click to enter the port number.
Port Type	Select the VEIP port.	-	Compulsory	Click the drop-down list to select the port type.
Management Channel Enable	Enables or disables the non-OMCI management channel.	The options include enable and Disable . The default setting is Disable .	Compulsory	Click the drop-down list to select to enable or disable.
Management Model	Select the TR069 management channel.	-	Optional. When the non-OMCI management channel is enabled, the parameter is valid.	Click the drop-down list to select the management model.
Manage Vlan Item	The configured item number of the management VLANs.	The value range: 0 to 65534. The default value is 1.	Optional. When the non-OMCI management channel is enabled, the parameter is valid.	Double-click to enter the name of the management VLAN item number.
Manage ID	The ID of the management VLAN.	The value range: 0 to 65534. The default value is 1.	Optional. When the non-OMCI management channel is enabled, the parameter is valid.	Double-click to enter the ID of the management VLAN.

Item	Description	Value Range / Requirement	Property	Configuration Method
Name	The name of the management VLAN.	The name is composed of number, character and underline. It should be started with the character and should not be blank. The maximum length is 16 characters.	Optional. When the non-OMCI management channel is enabled, the parameter is valid.	Double-click to enter the name of the management VLAN.
DSP	The obtaining method of the IP address.	The options include DHCP and static . The default value is DHCP .	Optional. When the non-OMCI management channel is enabled, the parameter is valid.	Click the drop-down list to select DHCP or static.
IP Address	The IP address when the DSP item is set to static .	The general Internet IP address.	Optional. When the non-OMCI management channel is enabled and the IP obtaining mode is static, the parameter is valid.	Double-click to enter the static IP address.
Gateway Address	The gateway address when the DSP item is set to static .	The general Internet IP address.	Optional. When the non-OMCI management channel is enabled and the IP obtaining mode is static, the parameter is valid.	Double-click to enter the gateway address.
Primary DNS	The primary DNS when the DSP item is set to static .	The general Internet IP address.	Optional. When the non-OMCI management channel is enabled and the IP obtaining mode is static, the parameter is valid.	Double-click to enter the primary DNS.
Secondary DNS	The secondary DNS when the DSP item is set to static .	The general Internet IP address.	Optional. When the non-OMCI management channel is enabled and the IP obtaining mode is static, the parameter is valid.	Double-click to enter the secondary DNS.

Item	Description	Value Range / Requirement	Property	Configuration Method
IP Protocol	The network management protocol used by the management channel.	The options include TCP and UDP . The default setting is UDP.	Optional. When the non-OMCI management channel is enabled, the parameter is valid.	Click the drop-down list to select TCP or UDP.
Network Port	The network port number corresponding to the network protocol.	The value range: 0 to 65535.	Optional. When the non-OMCI management channel is enabled, the parameter is valid.	Double-click to enter the network port number.
ToS/DSCP	The DSCP priority level.	The value range: 0 to 63. The default value is 0.	Optional. When the non-OMCI management channel is enabled, the parameter is valid.	Double-click to enter the priority level value.
Tag/Untag	The tagging property of the management VLAN.	The options include tag and untag . The default setting is untag .	Optional. When the non-OMCI management channel is enabled, the parameter is valid.	Click the drop-down list to select tag or untag.
Manage Svlan Tpid	The TPID of the management SVLAN.	The value range: 1 to 65534. The default value is 33024.	Optional. When the non-OMCI management channel is enabled, the parameter is valid.	Double-click to enter the TPID of the management Svlan.
Manage Svlan Id	The management SVLAN ID.	The value range: 1 to 4085.	Optional. When the non-OMCI management channel is enabled, the parameter is valid.	Double-click to enter the ID of the management Svlan.
Manage Svlan Cos	The priority of the management SVLAN.	The value range: 0 to 7.	Optional. When the non-OMCI management channel is enabled, the parameter is valid.	Click the drop-down list to select the management Svlan priority.
Manage Cvlan Tpid	The TPID of the management CVLAN.	The value range: 1 to 65534.	Optional. When the non-OMCI management channel is enabled, the parameter is valid.	Double-click to enter the TPID of the management Cvlan.

Item	Description	Value Range / Requirement	Property	Configuration Method
Manage Cvlan Id	The management CVLAN ID.	The value range: 1 to 4085.	Optional. When the non-OMCI management channel is enabled, the parameter is valid.	Double-click to enter the ID of the management Cvlan.
Manage Cvlan Cos	The priority of the management CVLAN.	The value range: 0 to 7.	Optional. When the non-OMCI management channel is enabled, the parameter is valid.	Click the drop-down list to select the management Cvlan priority.

11.3.5 Configuring VEIP Data Service

Command function

The VEIP data service configuration command is used to configure the VEIP data service parameters, including: service VLAN, service priority and flow classification rule.

Applicable object

The HG260 supports this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**VEIP data service config** in the shortcut menu to open the **VEIP data service config** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the service interface card connected with the ONU.	-	Read-only	-
PON Port No.	The PON port number of the service interface card connected with the ONU.	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
ONU No.	The authorization number of the ONU.	-	Read-only	-
Port No.	The FE port number of the ONU.	The value range: 0 to 65534. The default setting is number 1 port.	Compulsory	Double-click to enter the port number.
Service ID	The configured data service serial number.	The value range: 1 to 16.	Compulsory	Double-click to enter the parameter value.
CTPID	The TPID value. The TPID value of both the inner tag and outer tag uses 0x8100 determined by the protocol.	The value range: 0 to 65534. The default value is 33024.	Compulsory	Double-click to enter the CTPID.
CVLAN ID	The ID of the inner CVLAN.	The value ranges from 1 to 4085. The default value is null. The value should be within the service VLAN range of the service.	Compulsory	Double-click to enter the CVLAN ID.
CCOS	The inner CVLAN priority.	The value ranges from 0 to 7. The default value is null.	Compulsory	Double-click to enter the priority level value.
TTPID	The TPID value. The TPID value of both the inner tag and outer tag uses 0x8100 determined by the protocol.	The value range: 0 to 65534. The default value is 33024.	Optional. When the Translation State of the bound Service Model Profile is enabled, the parameter is configurable.	Double-click to enter the TTPID.
TVID	The post-translation VLAN ID.	The value ranges from 1 to 4085. The default value is null. The value should be within the local VLAN range of the service.	Optional. When the Translation State of the bound Service Model Profile is enabled, the parameter is configurable.	Double-click to enter the translation VLAN ID.

Item	Description	Value Range / Requirement	Property	Configuration Method
TCOS	The priority of the translation VLAN.	The value ranges from 0 to 7. The default value is null.	Optional. When the Translation State of the bound Service Model Profile is enabled, the parameter is configurable.	Double-click to enter the priority level value.
QinQ Profile Name	The name of the QinQ profile.	Select among the profile names configured in the QinQ profile window.	Optional. When the QinQ State of the bound Service Model Profile is enabled, the parameter is configurable.	Click the drop-down list to select the QinQ profile name.
SVLAN Name	The service name in the service VLAN configuration.	Select among the configured service names in the Local End Service VLAN window.	Optional. If the SVLAN profile is bound, this parameter is not configurable.	Click the drop-down list to select the parameter value.
STPID	The TPID value. The TPID value of both the inner tag and outer tag uses 0x8100 determined by the protocol.	The value range: 0 to 65534. The default value is 33024.	Optional. If the SVLAN profile is bound, this parameter is not configurable.	Double-click to enter the STPID.
SVID	The outer VLAN ID.	The value ranges from 1 to 4085. The default value is null. The value should be within the local VLAN range of the service.	Optional. If the SVLAN profile is bound, this parameter is not configurable.	Double-click to enter the SVLAN ID.
SCOS	The outer SVLAN priority.	The value ranges from 0 to 7. The default value is null.	Optional. If the SVLAN profile is bound, this parameter is not configurable.	Double-click to enter the priority level value.
TLS Enable	Only one TLS data service can be configured under one VEIP port.	The options include TLS Disable and TLS Enable . The default value is TLS Disable .	Compulsory	Click the drop-down list to select the parameter value.

Item	Description	Value Range / Requirement	Property	Configuration Method
Service Model Profile	Binds the service model profile.	Select the profile name that is configured in the Service Model Profile window.	Compulsory	Click the drop-down list to select the service model profile.
SVLAN Profile	Binds the SVLAN profile.	Select the profile name that is configured in the SVLAN Profile window.	Optional. When the QinQ State of the bound Service Model Profile is enabled, the parameter is configurable.	Click the drop-down list to select the SVLAN profile.
Stream Rule Profile	Binds the flow classification rule profile.	Select among the rule names configured in the Flow Classification Rule window.	Optional	Click the drop-down list to select the flow rule profile.

11.3.6 Configuring Data Service on a Port

Command function

The data port configuration command is used to configure the parameters related to the data service on each FE port of an ONU.

Applicable object

The AN5506-04B, the AN5506-10B1, and the HG260 all support this command.

Access method

1. Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**Service Config** in the shortcut menu. Then select the **Data Port Config** tab from the window that appears.

2. Click the **Add** button in the **Data Port Config** window to make the **Services Configuration** window appear. In the window, users can configure the parameters related to the data service on the ONU, including the service classification, the service type, etc.

Parameter

◆ Data service parameter of the AN5506-04B

Item	Description	Value Range / Requirement	Property	Configuration Method
Port No.	The number of the LAN port.	-	Compulsory	Select in the data port list pane at the left part.
Enable/Disable Port	Enables / disables the LAN port. When a port is enabled, users can configure the data service of this port.	The options include enabling and disabling . The default setting is enabling .	Compulsory	Select or cancel the selection via clicking the check box.
Port Auto Negotiation	Enables / disables the port auto negotiation function. ◆ When the auto negotiation function of a port is enabled, this port will match its rate and duplex mode with other ports automatically. ◆ When the non-auto negotiation function of a port is disabled, users need to set its rate and duplex mode.	The options include auto negotiation and non-auto negotiation . The default setting is auto negotiation .	Compulsory	Select or cancel the selection via clicking the check box.
Port Speed	The rate of the LAN port.	The value range includes 10M , 100M , and 1000M .	Optional. When the port auto negotiation function is disabled, this port is valid.	Click the drop-down list to select 10M, 100M, or 1000M.

Item	Description	Value Range / Requirement	Property	Configuration Method
Duplex	The duplex mode of the LAN port.	Its value includes Full-duplex and Half-duplex .	Optional. When the port auto negotiation function is disabled, this port is valid.	Click the drop-down list to select Full-duplex or Half-duplex.
Flow Control Enable/Disable	Enables / disables the flow control function of the LAN port.	The options include enable and disable . The default setting is disable .	Compulsory	Select or cancel the selection via clicking the check box.
Speed Limit Enable/Disable	Enables / disables the rate control function of the LAN port. ◆ Selecting the button box means enabling the rate control function. ◆ Clearing the button box means disabling the rate control function.	The options include enable and disable . The default setting is disable .	Compulsory	Select or cancel the selection via clicking the check box.
Speed Limit Up	The maximum rate of the uplink data on the LAN port.	The unit is kbit/s.	Optional. When the rate control function of the port is enabled, this parameter is valid.	Click to enter the maximum rate of the uplink data on the LAN port.
Speed Limit Down	The maximum rate of the downlink data on the FE port.	The unit is kbit/s.	Optional. When the rate control function of the port is enabled, this parameter is valid.	Click to enter the maximum rate of the downlink data on the LAN port.
Service Type	The service type.	Users can select unicast or multicast .	Compulsory	Click the drop-down list to select the service type.
Tag	The tagging mode of the LAN port.	Its value includes Untag , Tag and TLS .	Compulsory	Click the drop-down list to select the tagging mode.

Item	Description	Value Range / Requirement	Property	Configuration Method
CVLAN Mode	<p>The VLAN mode of the data service.</p> <ul style="list-style-type: none"> ◆ When this parameter is set to Tag, the ONU will add a VLAN tag for the data. ◆ When this parameter is set to transparent, the ONU does not process the data and transmits them transparently. ◆ When this parameter is set to translation, the equipment will translate the old tag from the ONU into the new VLAN tag. 	The options include Tag , transparent and translation .	Compulsory	Click the drop-down list to select the CVLAN mode.
COS	The Ethernet priority of the LAN port.	The value ranges from 0 to 7.	Optional. When CVLAN Mode is set to Tag, this parameter is valid.	Click the drop-down list to select the Ethernet priority.
CVLAN ID	The inner VLAN ID.	The value ranges between 1 and 4085, or be null.	Compulsory	Click to enter the CVLAN ID.
VLAN ID	The VLAN tag of the LAN port.	The value range: 1 to 4085.	Optional. When the tagging mode is set to Tag, this parameter is valid.	Click to enter the VLAN ID.
Priority or COS	The priority of the data service on the port.	The value range: 0 to 7.	Compulsory	Click the drop-down list to select the inner PON priority level or COS.

Item	Description	Value Range / Requirement	Property	Configuration Method
Downlink encryption enable switch	Enables / disables the downlink data encryption function of the port. <ul style="list-style-type: none"> ◆ Selecting the button box means enabling the encryption function. ◆ Clearing the button box means disabling the encryption function. 	The options include enable and disable . The default setting is disable .	Compulsory	Select or cancel the selection via clicking the check box.
QinQ State	Enables / disables the QinQ function of the port. <ul style="list-style-type: none"> ◆ Selecting the button box means enabling the QinQ function. ◆ Clearing the button box means disabling the QinQ function. 	-	Compulsory	Select or cancel the selection via clicking the check box.
SVLAN ID	The local VLAN ID.	-	Optional. This parameter is valid only when the QinQ function is enabled.	Click to enter the SVLAN ID.
Service name	The name of the local VLAN corresponding to the service.	-	Optional. This parameter is valid only when the QinQ function is enabled.	Click the drop-down list to select the service name.
Priority or COS	The inter-PON priority of the data service.	-	Optional. This parameter is valid only when the QinQ function is enabled.	Click the drop-down list to select the inner PON priority level or COS.

◆ Data service parameter of the AN5506-10B

Item	Description	Value Range / Requirement	Property	Configuration Method
Port No.	The number of the LAN port.	-	Read-only	-
Enable/Disable Port	Enables / disables the LAN port. When a port is enabled, users can configure the data service of this port.	The options include enable and disable . The default setting is enable .	Compulsory	Select or cancel the selection via clicking the check box.
Port Auto Negotiation	Enables / disables the port auto negotiation function. ◆ When the auto negotiation function of a port is enabled, this port will match its rate and duplex mode with other ports automatically. ◆ When the auto negotiation function of a port is disabled, users need to set its rate and duplex mode.	The options include auto negotiation and non-auto negotiation . The default setting is auto negotiation .	Compulsory	Select or cancel the selection via clicking the check box.
Port Speed	The rate of the LAN port.	The value range includes 10M , 100M , and 1000M .	Optional. When the port auto negotiation function is disabled, this port is valid.	Click the drop-down list to select the port rate.
Duplex	The duplex mode of the LAN port. Its value includes Full-duplex and Half-duplex.	-	Optional. When the port auto negotiation function is disabled, this port is valid.	Click the drop-down list to select the duplex mode.
Flow Control Enable/Disable	Enables / disables the flow control function of the LAN port. ◆ Selecting the button box means enabling the flow control function. ◆ Clearing the button box means disabling the flow control function.	The options include enable and disable . The default setting is disable .	Compulsory	Select or cancel the selection via clicking the check box.

Item	Description	Value Range / Requirement	Property	Configuration Method
TLS	<p>Whether uses the TLS enabling switch.</p> <ul style="list-style-type: none"> ◆ When the TLS is enabled, you can set an outer VLAN for different port services. ◆ When the TLS is disabled, you can set the VLAN for only one port service. 	The options include disable .	Compulsory	Click the drop-down list to select to enable or disable.
Service Classification	<p>Configures the VLAN range of the data that are transmitted transparently.</p> <p>If the CVLAN ID is null, the system will transmit VLANs according to the service classification setting. If the service classification is also null, the system will transmit all VLANs transparently.</p>	-	Optional. If the CVLAN ID is null, users can use this parameter to set the VLAN range of the data that are transmitted transparently.	Click the Service Classification button in the Services Configuration window, and perform configuration in the Rule Define window that appears.
Service Type	The type of the data service.	Users can select unicast or multicast . unicast means the common data service, and multicast means the IPTV service.	Compulsory	Click the drop-down list to select the service type.
VLAN mode	<p>The VLAN mode of the data service.</p> <ul style="list-style-type: none"> ◆ When this parameter is set to tag, the ONU will add a VLAN tag for the data. ◆ When this parameter is set to Transparent, the ONU does not process the data and transmits them transparently. 	The options include tag and Transparent .	Compulsory	Click the drop-down list to select the VLAN type.
TPID	<p>The TPID type of the VLAN.</p> <p>The default value is 33024.</p>	The value range: 1 to 65534.	Compulsory	Click to enter the TPID.

Item	Description	Value Range / Requirement	Property	Configuration Method
CVLAN ID	The inner VLAN ID. <ul style="list-style-type: none"> ◆ In tag mode, users should type the inner VLAN ID assigned by the ONU. ◆ In Transparent mode, users should type the inner VLAN ID assigned by the home gateway. 	The value ranges between 1 and 4085, or be null.	Compulsory	Click to enter the CVLAN ID.
Priority level or COS	The service priority.	The value range: 0 to 7.	Compulsory	Click the drop-down list to select the priority level or COS.
Translation enabling status.	Enables / disables the translation function.	The options include enable and disable .	Optional. This parameter is valid only when the VLAN mode is transparent.	Select or cancel the selection via clicking the check box.
Translated VID	The post-translation VLAN ID.	-	Optional. This parameter is only valid when the translation function is enabled.	Click to enter the post-translation VLAN ID.
QinQ State	Enables / disables the QinQ function of the port.	The options include enable and disable .	Compulsory	Select or cancel the selection via clicking the check box.
Choose QinQ Profile	The name of the QinQ profile.	-	Optional. This parameter is only valid when the QinQ function is enabled.	Click the Choose QinQ Profile button, and select a profile in the window that appears.
Service Name	The name of the service VLAN corresponding to the service.	-	Optional. This parameter is only valid when the QinQ function is enabled.	Click the drop-down list to select the service name.

Item	Description	Value Range / Requirement	Property	Configuration Method
VLAN ID	The SVLAN ID, also called service VLAN ID.	-	Optional. This parameter is only valid when the QinQ function is enabled.	Click to enter the VLAN ID.
Service Upstream Minimum Guaranteed Bandwidth (kbit/s)	The minimum uplink bandwidth of the service.	The default value is 640 kbit/s.	Compulsory	Click to enter the minimum uplink bandwidth of the service.
Service Upstream Maximum Allowed Bandwidth (kbit/s)	The maximum uplink bandwidth of the service.	The default value is 100000 kbit/s.	Compulsory	Click to enter the maximum uplink bandwidth of the service.
Service Downstream (kbit/s)	The downlink bandwidth of the service.	The default value is 100000 kbit/s.	Compulsory	Click enter the downlink bandwidth of the service.

11.3.7 Configuring Voice Service on a Port

Command function

The voice port configuration command is used to configure the parameters related to the voice service on each voice port of an ONU.

Applicable object

The AN5506-04B, the AN5506-10B1, and the HG260 all support this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**Service Config** in the shortcut menu. Then select the **Voice Config** tab from the **Data Port Config** window that appears.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Port No.	The number of the voice port whose service is being configured.	-	Read-only	-
Tel	The telephone number corresponding to the port.	Its value should be the same as the telephone number configured in the NGN Configuration window.	Compulsory	Click the drop-down list to select the telephone number.
Signal VLAN ID	The CVLAN ID. In single-tagged VLAN mode and QinQ mode, this parameter should both be set to the inner CVLAN ID value.	The value range: 1 to 4085.	Compulsory	Click to enter the signal VLAN ID.
Voice Code Mode	The encoding and decoding rule of the voice service.	Its value includes G.711A , G.711U , G.723 and G.729 .	Compulsory	Click the drop-down list to select the voice code mode.
VoiceT38Enable	The transmission mode of the fax service.	Its value includes transparent and T.38 .	Compulsory	Click the drop-down list to select the fax mode.
DTMF Mode	The transmission mode of the DTMF signal.	Its value includes transparent and RFC2833 .	Compulsory	Click the drop-down list to select the DTMF mode.
Fax Control Mode	The control mode of the fax data.	Its value includes PassThrough , SS , and Auto VBD .	Compulsory	Click the drop-down list to select the fax control mode.

Item	Description	Value Range / Requirement	Property	Configuration Method
Echo Cancel	Enables / disables the echo suppression function. After the echo suppression function is enabled, the echo in the call process can be deleted.	-	Compulsory	Select or cancel the selection via clicking the check box.
SilenceSp	Enables / disables the silence compression function. Users can select the SilenceSp check box to enable the silence compression function. The purpose is to reduce the mute frames in the line and save bandwidth.	-	Compulsory	Select or cancel the selection via clicking the check box.
Input Gain	The input gain of the voice stream.	The value ranges from -32 to 32. The default value is 0.	Compulsory	Click to enter the input gain.
Output Gain	The output gain of the voice stream.	The value ranges from -32 to 32. The default value is 0.	Compulsory	Click to enter the output gain.
SVLAN State	Enables / disables the QinQ function. Selecting this item means to enable the QinQ function, and users can configure the SVLAN and priority.	-	Compulsory	Select or cancel the selection via clicking the check box.
SVLAN ID	The SVLAN ID of the voice service.	-	Optional. This parameter is valid only when the SVLAN is enabled.	Click to enter the SVLAN ID.

Item	Description	Value Range / Requirement	Property	Configuration Method
Outer COS	The priority of the outer VLAN.	The value range: 0 to 7.	Optional. This parameter is valid only when the SVLAN is enabled.	Click the drop-down list to select the outer COS.
Inner COS	The priority of the inner VLAN.	The value range: 0 to 7.	Optional. This parameter is valid only when the SVLAN is enabled.	Click the drop-down list to select the inner COS.

11.3.8 Configuring CATV Service on a Port

Command function

The CATV port configuration command is used to configure the parameters related to the CATV service on CATV ports of an ONU.

Applicable object

The AN5506-04C1 supports this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**Service Config** in the shortcut menu. Then select the **CATV Config** tab from the **Data Port Config** window that appears.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
CATV Enable/Disable	Enables / disables the CATV service.	The options include enable and disable .	Compulsory	Select or cancel the selection via clicking the check box.

11.3.9 Configuring Multicast Service on an ONU

Command function

The ONU multicast service configuration command is used to configure the downlink multicast data stream VLAN and uplink / downlink multicast protocol message VLAN passing through an ONU.

Applicable object

The AN5506-04B supports this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**ONU IGMP Config** in the shortcut menu to open the **ONU IGMP Config** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the interface card on which the ONU locates.	The value range is 1 to 8, or 11 to 18.	Compulsory	Double-click to enter the slot number.
PON Port No.	Number of the PON port that connects to the ONU.	The value range: 1 to 8.	Compulsory	Double-click to enter the PON port number.
Onu No.	The authorization number of the ONU.	The value range: 1 to 64.	Compulsory	Double-click to enter the ONU number.
Port No.	The FE port number of the ONU.	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
IGMP VLAN Mode	<p>The VLAN mode of the downlink multicast data stream.</p> <ul style="list-style-type: none"> ◆ UNTAG: Means that the downlink multicast data stream passing through this ONU port is untagged. ◆ TAG: Means that the downlink multicast data stream passing through this ONU port is tagged with the appointed VLAN tag. 	Its values include: UNTAG and TAG .	Compulsory	Click the drop-down list to select the multicast data VLAN mode.
IGMP VLAN	The VLAN ID of the downlink multicast data stream. It means that this ONU port only receives the downlink multicast data stream with the appointed VLAN ID.	The value range: 1 to 4085.	Compulsory	Double-click to enter the VLAN ID of the multicast data.
IGMP COS	The VLAN priority of the downlink multicast data stream. 0 means the lowest priority, and 7 means the highest priority.	The value range: 0 to 7.	Compulsory	Double-click to enter the VLAN COS of the multicast data.

Item	Description	Value Range / Requirement	Property	Configuration Method
IGMP Protocol VLAN Mode	<p>The VLAN mode of the uplink / downlink multicast protocol message passing through the ONU port.</p> <ul style="list-style-type: none"> ◆ TRANSPARENT indicates that the uplink / downlink multicast protocol message is transmitted transparently. ◆ TAG indicates that a VLAN tag is added to the uplink / downlink multicast protocol message. ◆ RETAG indicates that the system replaces the VLAN tag of the uplink / downlink multicast protocol message with a new VLAN tag. ◆ REMOVE indicates that the system strips the VLAN tag of the uplink / downlink multicast protocol message. 	Its value includes TRANSPARENT, TAG, RETAG and REMOVE .	Compulsory	Click the drop-down list to select the multicast protocol VLAN mode.
IGMP Up Protocol VLAN	The VLAN ID of the uplink multicast protocol message.	The value range: 1 to 4085.	Optional. If IGMP Protocol VLAN Mode is set to TRANSPARENT or REMOVE , this parameter is valid.	Double-click to enter the VLAN of the uplink multicast protocol.
IGMP Up Protocol COS	The VLAN priority of the uplink multicast protocol message. 0 means the lowest priority, and 7 means the highest priority.	The value range: 0 to 7.	Optional. If IGMP Protocol VLAN Mode is set to TRANSPARENT or REMOVE , this parameter is valid.	Double-click to enter the VLAN COS of the uplink multicast protocol.

Item	Description	Value Range / Requirement	Property	Configuration Method
IGMP Down Protocol VLAN	The VLAN ID of the downlink multicast protocol message.	The value range: 1 to 4085.	Optional. If IGMP Protocol VLAN Mode is set to TRANSPARENT or TAG , this parameter is valid.	Double-click to enter the VLAN of the downlink multicast protocol.
IGMP Down Protocol COS	The VLAN priority of the downlink multicast protocol message. 0 means the lowest priority, and 7 means the highest priority.	The value range: 0 to 7.	Optional. If IGMP Protocol VLAN Mode is set to TRANSPARENT or TAG , this parameter is valid.	Double-click to enter the VLAN COS of the downlink multicast protocol.

11.3.10 ONU NGN Configuration

11.3.10.1 Configuring Voice Media Stream

Command function

The voice media stream configuration command is used to configure the related parameters of the voice media stream.

Applicable object

The AN5506-04B and the AN5506-10B1 both support this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**ONU NGN Config**→**Voice RTP Config** in the shortcut menu. Then the **Voice RTP Config** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The number of the slot that offers the PON interface connected with the ONU.	-	Read-only	-
PON Port No.	The number of the PON port connected with the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Voice RTP Service Name	The name of the voice media stream service.	Select among the configured VLAN names in the Configure Local End Service VLAN window.	Compulsory	Click the drop-down list to select the voice media stream service name.
RTP Config	Enables / disables the RTP configuration function.	The options include enabling and disabling .	Compulsory	Click the drop-down list to select to enable or disable.
SVLAN Tpid	The TPID of the service VLAN.	The value range: 1 to 65534.	Optional. When RTP Config is set to Enable , this parameter is valid.	Double-click to enter the TPID of the service VLAN.
SVLAN Id	The service VLAN ID, also called SVLAN ID.	The value range: 1 to 4085, or 4088.	Optional. When RTP Config is set to Enable , this parameter is valid.	Double-click to enter the service VLAN ID.
SVLAN Cos	The priority of the service VLAN.	The value range: 0 to 7.	Optional. When RTP Config is set to Enable , this parameter is valid.	Double-click to enter the service Cos.
CVLAN Tpid	The TPID of the customer VLAN.	The value range: 1 to 65534.	Optional. When RTP Config is set to Enable , this parameter is valid.	Double-click to enter the TPID of the customer VLAN.

Item	Description	Value Range / Requirement	Property	Configuration Method
CVLAN Id	The customer VLAN ID, also called CVLAN ID.	The value range: 1 to 4085, or 4088.	Optional. When RTP Config is set to Enable , this parameter is valid.	Double-click to enter the customer VLAN ID.
CVLAN Cos	The priority of the customer VLAN.	The value range: 0 to 7.	Optional. When RTP Config is set to Enable , this parameter is valid.	Double-click to enter the customer Cos.
RTP IPaddr	The destination IP address of the RTP voice media stream.	-	Optional. When RTP Config is set to Enable , this parameter is valid.	Double-click to enter the RTP IP address.
RTP Mask	The address mask of the RTP stream.	-	Optional. When RTP Config is set to Enable , this parameter is valid.	Click the drop-down list to select the RTP mask.
RTP Gateway	The gateway address of the RTP stream.	-	Optional. When RTP Config is set to Enable , this parameter is valid.	Double-click to enter the RTP gateway.

11.3.10.2 Configuring POS Telephone Number

Command function

The POS telephone number configuration command is used to configure the POS telephone number.

Applicable object

The AN5506-04B and the AN5506-10B1 both support this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**ONU NGN Config**→**POS Phone Number** in the shortcut menu. Then the **POS Phone Number** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Tel	The POS telephone number.	The maximum length is 20 characters, and the allowed characters set is 0123456789.	Compulsory	Double-click to enter the POS telephone number.
POS Type	The POS processing mode, including eight values.	The options include: Type A , Type B , Type C , Type D , Type E , Type F , Type G or Type H .	Compulsory	Click the drop-down list to select the POS type.

11.3.10.3 Configuring Intelligent Public Telephone Number

Command function

The intelligent public telephone number configuration command is used to configure the intelligent public telephone number.

Applicable object

The AN5506-04B and the AN5506-10B1 both support this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**ONU NGN Config**→**IPT Phone Number** in the shortcut menu. Then the **IPT Phone Number** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Tel	The intelligent public telephone number.	The maximum length is 20 characters, and the allowed characters set is 0123456789.	Compulsory	Double-click to enter the POS telephone number.
IPT Type	The intelligent public telephone processing mode, including eight values.	The options include: Type A , Type B , Type C , Type D , Type E , Type F , Type G or Type H .	Compulsory	Click the drop-down list to select the intelligent public telephone type.

11.3.11 Configuring Wi-Fi Service

Command function

The Wi-Fi service configuration command is used to configure the Wi-Fi service parameters, so as to achieve wireless access.

Applicable object

The HG260 supports this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**WiFi Service Config** in the shortcut menu to open the **WiFi Service Config** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
IGD-WLAN-APModuleEnable	Enables or disables the Wi-Fi service.	The options include enable and disable . The default setting is disable .	Compulsory	Click the drop-down list to select to enable or disable.
IGD-WLAN-COUNTRY	The wireless communication standard used by the Wi-Fi service.	Its value includes ETSI and ATSI . The default value is ETSI .	Optional. The parameter is valid after the Wi-Fi function is enabled.	Click the drop-down list to select ETSI or ATSI .
IGD-WLAN-CHANNEL	The number of the wireless channel occupied by the service.	The value range: 0 to 13. The default setting is channel 0.	Optional. The parameter is valid after the Wi-Fi function is enabled.	Double-click to enter the wireless channel number.
IGD-WLAN-STANDARD	Selects the type of the wireless communication standard.	Its value includes 802.11b , 802.11g , 802.11b/g , 802.11n and 802.11bgn . The default value is 802.11bgn .	Optional. The parameter is valid after the Wi-Fi function is enabled.	Click the drop-down list to select the wireless standard.
IGD-WLAN-POWER (dBm)	The output power of the equipment.	The value ranges between 0 and 20, and the unit is dBm. The default value is 20dBm.	Optional. The parameter is valid after the Wi-Fi function is enabled.	Double-click to enter the parameter value.
SSID No.	The SSID number.	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
IGD-WLAN-SSID	The SSID (service set identifier), meaning the name of the WLAN.	The maximum length is 32 characters.	Optional. The parameter is not configurable after the Wi-Fi function is disabled.	Double-click to enter the SSID.
IGD-WLAN-ENABLE	Enables or disables the SSID function.	The options include enable and disable . The default value is enable .	Optional. The parameter is not configurable after the Wi-Fi function is disabled.	Click the drop-down list to select to enable or disable the SSID.
IGD-WLAN-SSIDHide	Selects whether the SSID is hidden. If the SSID is hidden, a subscriber cannot find the SSID via his / her PC, but can access the wireless network via configuring the SSID manually.	Its value includes Non-hide and Hide . The default value is Non-hide .	Optional. The parameter is valid after the Wi-Fi function and the SSID are enabled.	Click the drop-down list to select whether to hide SSID.
IGD-WLAN-AuthMode	The WLAN authentication mode.	Its value includes OPEN , SHARED , WPAPSK , and WPA2PSK . The default value is WPAPSK .	Optional. The parameter is valid after the Wi-Fi function and the SSID are enabled.	Click the drop-down list to select the WLAN authentication mode.

Item	Description	Value Range / Requirement	Property	Configuration Method
IGD-WLAN-Encrypt	The WPA encryption type.	<p>The options include: NONE, WEP, TKIP, AES or TKIPAES. The default value is TKIP.</p> <ul style="list-style-type: none"> ◆ When the WLAN authentication mode is OPEN, this parameter can be set to NONE and WEP. ◆ When the WLAN authentication mode is SHARED, this parameter can only be set to WEP. ◆ When the WLAN authentication mode is WPAPSK, this parameter can be set to TKIP, AES, and TKIPAES. ◆ When the WLAN authentication mode is WPA2PSK, this parameter can be set to TKIP, AES, and TKIPAES. 	<p>Optional. Select the option according to the WLAN authentication mode. The parameter is valid after the Wi-Fi function and the SSID are enabled.</p>	<p>Click the drop-down list to select the WLAN encryption type.</p>

Item	Description	Value Range / Requirement	Property	Configuration Method
IGD-WLAN-PresharedKey	The authentication password set by the user.	The maximum length is 64 characters.	Optional. The parameter is valid when the Wi-Fi function and the SSID are enabled and the authentication mode is WPAPSK or WPA2PSK.	Double-click to enter the authentication password.
IGD-WLAN-WPAREKey Interval (s)	The time interval to refresh the authentication password.	The value ranges between 0 and 4194303, and the unit is second. The default value is 86400 seconds.	Optional. The parameter is valid when the Wi-Fi function and the SSID are enabled and the authentication mode is WPAPSK or WPA2PSK.	Double-click to enter the refresh interval.
RADIUS-Server	The IP address of the RADIUS server.	The general Internet IP address.	Read-only	-
RADIUS-Port	The port number of the RADIUS server.	-	Read-only	-
RADIUS-Key	The password of the RADIUS server.	-	Read-only	-
IGD-WLAN-WEPEncryption-Level (bit)	The length of the key when the WEP encryption is used.	The options include 40bit or 104bit . The default setting is 40bit .	Optional. The parameter is valid when the Wi-Fi function and the SSID are enabled and the encryption mode is WEP.	Click the drop-down list to select the WEP key length.
IGD-WLAN-WEPEncryption-Key Index	Select one among the four configured network keys.	The value range: 1 to 4. The default setting is 1.	Optional. The parameter is valid when the Wi-Fi function and the SSID are enabled and the encryption mode is WEP.	Double-click to enter the key index.

Item	Description	Value Range / Requirement	Property	Configuration Method
WLAN-WEPKey 1	The configured network key 1.	The maximum length is 32 characters.	Optional. The parameter is valid when the Wi-Fi function and the SSID are enabled and the encryption mode is WEP.	Double-click to enter the key value.
WLAN-WEPKey 2	The configured network key 2.	The maximum length is 32 characters.	Optional. The parameter is valid when the Wi-Fi function and the SSID are enabled and the encryption mode is WEP.	Double-click to enter the key value.
WLAN-WEPKey 3	The configured network key 3.	The maximum length is 32 characters.	Optional. The parameter is valid when the Wi-Fi function and the SSID are enabled and the encryption mode is WEP.	Double-click to enter the key value.
WLAN-WEPKey 4	The configured network key 4.	The maximum length is 32 characters.	Optional. The parameter is valid when the Wi-Fi function and the SSID are enabled and the encryption mode is WEP.	Double-click to enter the key value.

11.3.12 Configuring TL1 Interface WAN-Connected Service

Command function

The TL1 interface WAN-connected service configuration command is used to configure the WAN-connected service of the TL1 interface and set parameters such as WAN connection mode.

Applicable object

The HG260 supports this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**TL1 Interface WAN Service** in the shortcut menu. Then the **WAN Service** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Wan NO	It is generated automatically by the equipment according to the generation sequence of the WAN connection. The index value increases in turn.	-	Read-only	-
Wan_Name	The name of the WAN connection. The generation rule is number_key word_bridge or route mode_PVC / VLAN information.	-	Read-only	-
Wan_Mode	The WAN connection mode.	Its value includes TR069 , INTERNET , TR069_ INTERNET and Other .	Compulsory	Click the drop-down list to select the WAN connection mode.
Wan_Conn_Type	The WAN connection type.	Its value includes Route and Bridge .	Compulsory	Click the drop-down list to select the WAN connection type.

Item	Description	Value Range / Requirement	Property	Configuration Method
Wan_Vlan_ID	Its value should use the CVLAN ID value configured in the Services Configuration dialog box in the Data Port Config window.	The value range: 1 to 4085, or null. The default value is null.	Compulsory	Double-click to enter the VLAN ID of the WAN connection.
Wan_COS	The 802.1p priority of the WAN connection.	The value range: 0 to 7, or null. The default value is null.	Compulsory	Double-click to enter the 802.1p priority of the WAN connection.
Wan_NAT_Enable	Enables / disables the NAT function.	The options include enable and disable . The default setting is enable .	Compulsory	Click the drop-down list to select the parameter value.
Wan_D_S_P	The mode of the WAN connection obtaining the IP address.	Its value includes DHCP , Static , and PPPOE .	Compulsory	Click the drop-down list to select the WAN connection address obtaining method.
Wan_Ip_Address	When Wan_D_S_P is set to Static, it means the static IP address.	-	Optional. When Wan_D_S_P is set to Static, this parameter is valid.	Double-click to enter the static IP address of the WAN connection.
Wan_Ip_Subnet	When Wan_D_S_P is set to Static, it means the subnet mask.	-	Optional. When Wan_D_S_P is set to Static, this parameter is valid.	Click the drop-down list to select the subnet mask of the WAN connection.
Wan_Gateway	When Wan_D_S_P is set to Static, it means the default gateway.	-	Optional. When Wan_D_S_P is set to Static, this parameter is valid.	Double-click to enter the default gateway of the WAN connection.
Wan_Master_DNS	When Wan_D_S_P is set to Static, it means the master DNS.	-	Optional. When Wan_D_S_P is set to Static, this parameter is valid.	Double-click to enter the master DNS of the WAN connection.

Item	Description	Value Range / Requirement	Property	Configuration Method
Wan_Slave_DNS	When Wan_D_S_P is set to Static, it means the slave DNS.	-	Optional. When Wan_D_S_P is set to Static, this parameter is valid.	Double-click to enter the slave DNS of the WAN connection.
Wan_PPPOE_Proxy	Enables / disables the PPPoE proxy function.	The options include enable and disable . The default setting is disable .	Optional. When Wan_D_S_P is set to PPPOE, this parameter is valid.	Click the drop-down list to select the parameter value.
Wan_PPPOE_Username	When Wan_D_S_P is set to PPPOE, it means the user name of the connection.	The maximum length is 32 characters.	Optional. When Wan_D_S_P is set to PPPOE, this parameter is valid.	Double-click to enter the user name of the PPPoE connection.
Wan_PPPOE_Password	When Wan_D_S_P is set to PPPOE, it means the password of the connection.	The maximum length is 32 characters.	Optional. When Wan_D_S_P is set to PPPOE, this parameter is valid.	Double-click to enter the password of the PPPoE connection.
Wan_PPPOE_NAME	When Wan_D_S_P is set to PPPOE, it means the name of the PPPoE service.	The maximum length is 32 characters.	Optional. When Wan_D_S_P is set to PPPOE, this parameter is valid.	Double-click to enter the name of the PPPoE service.
Wan_PPPOE_MODE	When Wan_D_S_P is set to PPPOE, it means the connecting mode.	The options include automatic connection and connection with traffic .	Optional. When Wan_D_S_P is set to PPPOE, this parameter is valid.	Click the drop-down list to select the PPPOE mode.
Wan_Qos_Enable	Enables / disables the QoS function of the WAN connection.	The options include enable and disable . The default setting is disable .	Compulsory	Click the drop-down list to select the parameter value.

Item	Description	Value Range / Requirement	Property	Configuration Method
LAN1 to LAN4, SSID1 to SSID4	Sets the ONU port that the configured WAN connection service profile is to be bound with. The value includes cable service ports LAN1 to LAN4 and radio ports SSID1 to SSID4.	The value includes cable service ports FE1 to FE4 and radio ports SSID1 to SSID4 .	Compulsory	Select the corresponding port.
VLAN mode	The VLAN operation mode.	Its value includes tag and transparent .	Compulsory	Click the drop-down list to select the VLAN mode.
Translation State	Enables / disables the translation function.	The options include enable and disable .	Optional. This parameter is valid only when the VLAN mode is transparent.	Click the drop-down list to select to enable or disable.
Translation Value	The post-translation VLAN ID.	The value range: 1 to 4085.	Optional. When VLAN mode is set to transparent and Translation State is set to Enable, this parameter is valid.	Double-click to enter the VLAN ID.
COS	The translation priority.	The value range: 0 to 7.	Optional. When VLAN mode is set to transparent and Translation State is set to Enable, this parameter is valid.	Click the drop-down list to select the inner PON priority level or COS.

11.3.13 Configuring ONU Port Loopback

Command function

The ONU port loopback configuration command is used to enable the loopback function of an ONU port. The loopback direction is from the appointed port of the ONU to the OLT side.

Applicable object

The AN5506-04B, the AN5506-10B1, and the HG260 all support this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**ONU Port Loopback** in the shortcut menu. Then the **Port loopback** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Port No.	The PON port number and FE port number of the ONU.	-	Read-only	-
Loopback Status	The loopback status of the PON port or FE port of the ONU.	Its value includes Loopback and Disable . The default value is Disable .	Compulsory	Click the drop-down list to select the loopback status.

11.3.14 Configuring Port Isolation

Command function

The port isolation configuration command is used to enable or disable the port isolation function of an ONU. After the port isolation function of an ONU is enabled, the communications between its ports are disabled, and the collision domains can be isolated.

Applicable object

The AN5506-04B, the AN5506-10B1, and the HG260 all support this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**Port Isolation** in the shortcut menu. Then the **Port Isolation** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
Onu No.	The authorization number of the ONU.	-	Read-only	-
State	Enables / disables the port isolation function.	<p>The options include enabling and disabling. The default setting is enabling.</p> <ul style="list-style-type: none"> ◆ Enable: enables the ONU port isolation function, the ONU ports cannot communicate with each other. ◆ Disable: disables the ONU port isolation function, the ONU ports can communicate with each other. 	Compulsory	Click the drop-down list to select to enable or disable.

11.3.15 Configuring Control of ONU Fan

Command function

The ONU fan control configuration command is used to start or stop the running of the ONU fan, so as to effectively decrease the operation temperature of the ONU

Applicable object

The AN5506-10B1 supports this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**ONU Fan Control** in the shortcut menu. Then the **ONU Fan Control** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Fan start temperature	The control temperature to turn on the fan.	The value range is 15 to 60, with the unit being °C. The default value is 35°C.	Compulsory	Double-click to enter the fan starting temperature.
Fan stop temperature	The control temperature to turn off the fan.	The value range is 5 to 60, with the unit being °C. The default value is 25°C.	Compulsory	Double-click to enter the fan stopping temperature.

11.3.16 Controlling Port MAC Addresses Number

Command function

The port MAC addresses number control command is used to control MAC addresses number on the FE port of an ONU. Under each FE port, the number of PCs sharing this port at the same time is restricted. The purpose of this operation is to control the traffic in the network and avoid blocking.

Applicable object

The AN5506-04B, the AN5506-10B1, and the HG260 all support this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**Port MAC-Learning Limit** in the shortcut menu. Then the **Config Port MAC Limit** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Port No.	The FE port number of the ONU.	-	Read-only	-
Mac Number	The maximum allowed number of MAC addresses under the FE port.	The value ranges from 0 to 254. The default value is 0.	Compulsory	Double-click to enter the parameter value.

11.3.17 Configuring Performance Threshold of a FE Port

Command function

The FE port performance threshold configuration command is used to set the CRC error detection threshold of each LAN port on an ONU. When the detected CRC error exceeds the set threshold value, a corresponding alarm will occur and be reported to the ANM2000.

Applicable object

The AN5506-04B, the AN5506-10B1, and the HG260 all support this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**LAN Port Perf Threshold** in the shortcut menu. Then the **LAN Port Perf Threshold** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Port No.	The LAN port number of the ONU.	-	Read-only	-
Up Crc-Threshold (/sec)	The uplink CRC error statistics threshold of the FE port.	The value range is 0 to 4294967294; and the default value is 0.	Compulsory	Double-click to enter the parameter value.
Down Crc-Threshold (/sec)	The downlink CRC error statistics threshold of the FE port.	The value range is 0 to 4294967294; and the default value is 0.	Compulsory	Double-click to enter the parameter value.

11.3.18 Enabling / Disabling Performance Classification

Command function

The enabling / disabling performance classification command is used to enable / disable the performance collection function of an ONU. The performance parameters to be collected include port performance statistics, optical module parameters, and CPU / memory utilization ratio.



Note:

After completing performance collection, users need to disable the performance collection function in a timely manner. The purpose is to save system resource and ensure normal running of the system.

Applicable object

The AN5506-04B, the AN5506-10B1, and the HG260 all support this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**ONU Perf Sort Switch** in the shortcut menu. Then the **ONU Perf Sort Switch** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Perf Code	The performance collection item of the ONU.	Its value includes Port Perf Statistic, Optical Detect, and CPU/Memory Usage.	Read-only	-
Switch	Enables / disables the performance collection function.	The options include enable and disable . The default setting is disable .	Compulsory	Click the drop-down list to select to enable or disable.

11.3.19 Configuring Optical Power Monitor Function

Command function

The optical power monitor configuration command is used to enable / disable the optical power monitor function of an ONU. If the ONU has faults, enabling the optical power monitor to measure the Rx and Tx optical powers of the ONU, so as to isolate the fault.

Applicable object

The AN5506-04B, the AN5506-10B1, and the HG260 all support this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**ONU Alarm Threshold** in the shortcut menu. Then the **ONU Alarm Threshold** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Enable/Disable	Enables / disables the optical power monitor function.	The options include enable and disable .	Compulsory	Click the drop-down list to select to enable or disable.

11.3.20 Configuring GEMPort Mapping Mode

Command function

The GEMPort mapping mode configuration command is used to configure the GEMPort mapping mode.

Applicable object

The AN5506-04B, the AN5506-10B1, and the HG260 all support this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**GEMPort mapping mode** in the shortcut menu. Then the **GEMPort mapping mode** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
GEMPort mapping mode	The GEMPort mapping mode.	The value includes Ethernet Priority, VLAN ID, and Ethernet Priority+ VLAN ID, and auto . The default setting is auto .	Compulsory	Click the drop-down list to select the GEMPort mapping mode.
Inner protocol identifier	The inner TPID.	The value ranges from 0 to 65534. The default value is 33024.	Compulsory	Double-click to enter the inner TPID.
Outer protocol identifier	The outer TPID.	The value ranges from 0 to 65534. The default value is 33024.	Compulsory	Double-click to enter the outer TPID.
LAN port mapping mode	The mapping mode of the port.	The options include Each Port Mapped to One Bridge and Several Ports Mapped to One Bridge .	Compulsory	Click the drop-down list to select the port mapping mode.

11.3.21 Enabling / Disabling RSTP

Command function

The enabling / disabling RSTP command is used to enable or disable the RSTP function of the ONU. Enabling the RSTP function can avoid generation of network loop inside the LAN, so as to solve the **broadcast storm** problem of the looped Ethernet network.

Applicable object

The AN5506-10B1 supports this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**RSTP Switch** in the shortcut menu. Then the **RSTP Switch** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The number of the slot that offers the PON interface connected with the ONU.	-	Read-only	-
PON Port No.	The number of the PON port connected with the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
RSTP Enable	Enables / disables the RSTP function.	The options include enable and disable .	Compulsory	Click the drop-down list to select to enable or disable.

11.3.22 Binding a Packet Suppression Profile

Command function

The packet suppression profile binding command is used to bind a certain FE port of the ONU with a configured packet suppression profile. For a port bound with the packet suppression profile, its rate will be controlled according to rules defined in the profile.

Applicable object

The AN5506-10B1 supports this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**Packets Rate Control Profile Attach** in the shortcut menu. Then the **Packets Rate Control Profile Attach** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The number of the slot that offers the PON interface connected with the ONU.	-	Read-only	-
PON Port No.	The number of the PON port connected with the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Port No.	The FE port serial number of the ONU.	-	Read-only	-
Profile Id	The name of the packet suppression profile. Before selecting the packet suppression profile name in the drop-down list, you should complete the packet suppression profile configuration on the HSWA card.	Select among the profile names configured in the Packet suppression profile window.	Compulsory	Click the drop-down list to select the profile name.

11.3.23 Performing Loop Test of a Port

Command function

The port loop test command is used to enable / disable the loop test function of an ONU port; in addition, it can be used to set the time interval of loop test. After the loop test function of a certain ONU port is enabled, users can test the link status.

Applicable object

The AN5506-04B, the AN5506-10B1, and the HG260 all support this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**Port Loop Detect** in the shortcut menu. Then the **Port Loop Detect** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
ONU Port No.	The FE port number of the ONU.	-	Read-only	-
UNI Loop Detect Management	Enables / disables the loop test function.	The options include enable and disable . The default setting is disable .	Compulsory	Click the drop-down list to select to enable or disable.
Detect Port Loop Time (s)	The time interval of loop test.	The value ranges from 10 to 3600. The default value is 20.	Optional. This parameter is valid only when the loop test function is enabled.	Double-click to enter the time interval of loop test.

11.3.24 Configuring ONU Bandwidth

Command function

The ONU bandwidth configuration command is used to configure the uplink / downlink service bandwidth of an ONU.

Applicable object

The AN5506-04B, the AN5506-10B1, and the HG260 all support this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**ONU Bandwidth** in the shortcut menu. Then the **ONU Bandwidth** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Upstream Bandwidth (kbit/s)	The uplink service bandwidth of the ONU.	The value range is 256 to 1000000; the unit is kbit/s; and the default value is 1000000 kbit/s.	Compulsory	Double-click to enter the maximum uplink bandwidth of the ONU.
Downstream Bandwidth (kbit/s)	The downlink service bandwidth of the ONU.	The value range is 256 to 1000000; the unit is kbit/s; and the default value is 1000000 kbit/s.	Compulsory	Double-click to enter the maximum downlink bandwidth of the ONU.
Profile Binding Info	The binding / unbinding status of the bandwidth profile.	-	Read-only	-
Profile Name	The name of the bound bandwidth profile.	-	Read-only	-

11.3.25 Enabling Anti-DoS Attack Function

Command function

The enabling anti-DoS attack command is used to protect the DoS attack on an ONU. This command enhances the anti-attack performance of the ONU, so as to improve the security of the equipment.

DoS attack: The purpose is to make the ONU unable to provide normal services. The most common DOS attack include computer network bandwidth attack and connectivity attack.

Applicable object

The AN5506-10B1 supports this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**Anti-Dos attack** in the shortcut menu. Then the **Anti-Dos attack** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The number of the slot that offers the PON interface connected with the ONU.	-	Read-only	-
PON Port No.	The number of the PON port connected with the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
IP_LAND	Enables / disables the anti-IP_LAND attack function. The LAND attack is described as follows: A malicious user sets both the source and destination addresses of a packet to the IP address of the attacked host, and sends this packet to the attacked host via IP spoofing.	The options include enable and disable . The default setting is disable .	Optional	Click the drop-down list to select to enable and disable .
TCP_BLAT	Enables / disables the anti-TCP_BLAT attack function. The TCP_BLAT attack is described as follows: A malicious user sends a forged packet with the same TCP source and destination port numbers; the attacked system tries to send a response message to itself, and this causes paralysis or restart of the system.	The options include enable and disable . The default setting is disable .	Optional	Click the drop-down list to select to enable and disable .
UDP_BLAT	Enables / disables the anti-UDP_BLAT attack function. The UDP_BLAT attack is described as follows: A malicious user sends a forged packet with the same UDP source and destination port numbers; the attacked system tries to send a response message to itself, and this causes disruption or restart of the system.	The options include enable and disable . The default setting is disable .	Optional	Click the drop-down list to select to enable and disable .

Item	Description	Value Range / Requirement	Property	Configuration Method
TCP_NULLScan Switch	Enables / disables the anti-TCP_NULLScan attack function. The TCP_NULLScan attack is described as follows: For a packet, its TCP serial number is set to 0, and its control bits are all set to 0.	The options include enable and disable . The default setting is disable .	Optional	Click the drop-down list to select to enable and disable .
TCP_XMASScan	Enables / disables the anti-XMASScan attack function. The XMASScan attack is described as follows: For a packet, its TCP serial number is set to 0, and its FIN / URG / PSH bits are set to 1.	The options include enable and disable . The default setting is disable .	Optional	Click the drop-down list to select to enable and disable .
TCP_SYNFINScan	Enables / disables the anti-TCP_SYNFINScan attack function. The TCP_SYNFINScan attack is described as follows: For a packet, its TCP header carries the TCP flag FIN.	The options include enable and disable . The default setting is disable .	Optional	Click the drop-down list to select to enable and disable .
TCP_SYNErrror	Enables / disables the anti-TCP_SYNErrror attack function. The TCP_SYNErrror attack is described as follows: For a packet, its SYN is 1, ACL is 0, and layer 4 destination port number is less than 1024.	The options include enable and disable . The default setting is disable .	Optional	Click the drop-down list to select to enable and disable .
TCP_ShortHDR	Enables / disables the anti-TCP_ShortHDR attack function. The TCP_ShortHDR attack is described as follows: For a packet, its TCP packet header length is less than the minimum allowed TCP packet header length.	The options include enable and disable . The default setting is disable .	Optional	Click the drop-down list to select to enable and disable .
TCP_FragError	Enables / disables the anti-TCP_FragError attack function. The TCP_FragError attack is described as follows: For a packet, its fragmentation wander is 1.	The options include enable and disable . The default setting is disable .	Optional	Click the drop-down list to select to enable and disable .

Item	Description	Value Range / Requirement	Property	Configuration Method
ICMPv4_Fragment	Enables / disables the anti-ICMPv4_Fragment attack function. The ICMPv4_Fragment attack is described as follows: The fragmentation packets are detected continuously.	The options include enable and disable . The default setting is disable .	Optional	Click the drop-down list to select to enable and disable .
ICMPv6_Fragment	Enables / disables the anti-ICMPv6_Fragment attack function. The ICMPv64_Fragment attack is described as follows: The fragmentation packets are detected continuously.	The options include enable and disable . The default setting is disable .	Optional	Click the drop-down list to select to enable and disable .
ICMPv4_LongPing	Enables / disables the anti-ICMPv4_LongPing attack function. The ICMPv4_LongPing attack is described as follows: A malicious user uses the pinging broadcast storm to flood the entire target system so that this system denies service requests of normal users.	The options include enable and disable . The default setting is disable .	Optional	Click the drop-down list to select to enable and disable .
ICMPv6_LongPing	Enables / disables the anti-ICMPv6_LongPing attack function. The ICMPv6_LongPing attack is described as follows: A malicious user uses the pinging broadcast storm to flood the entire target system so that this system denies service requests of normal users.	The options include enable and disable . The default setting is disable .	Optional	Click the drop-down list to select to enable and disable .

11.3.26 Binding Ethernet Switch Queue Scheduling Algorithm Profile

Command function

The binding Ethernet switch queue scheduling algorithm profile command is used to bind an ONU with an Ethernet switch queue scheduling algorithm profile. After this command is executed, the ONU will determine the data priority according to the queue scheduling algorithm and mode defined in the profile.

Applicable object

The AN5506-04B and the AN5506-10B1 support this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**Queue Schedule Profile Attach** in the shortcut menu. Then the **Queue Schedule Profile Attach** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Profile Id	The name of the Ethernet switch queue scheduling algorithm profile.	-	Compulsory. Select among the profile names configured in the Queue Schedule Profile window.	Click the drop-down list to select the profile name.

11.3.27 Binding an ONU Port with a Flow Policy

Command function

The binding ONU port with flow policy command is used to bind an ONU port with a flow policy. After this command is executed, the ONU port will process the uplink and downlink service flow according to the flow policy.

Applicable object

The AN5506-04B, the AN5506-10B1, and the HG260 all support this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**Port Binding Flow Policy** in the shortcut menu. Then the **Port Binding Flow Policy** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Port No.	The FE port number of the ONU.	-	Read-only	-
Ingress Policy ID	The ID of the flow policy profile that the ONU uplink service flow is to be bound with.	-	Compulsory. Select among the flow policy names configured in the Flow Policy window.	Click the drop-down list to select the parameter value.
Egress Policy ID	The ID of the flow policy profile that the ONU downlink service flow is to be bound with.	-	Compulsory. Select among the flow policy names configured in the Flow Policy window.	Click the drop-down list to select the parameter value.

11.3.28 Configuring Remote Management

Command function

The remote management configuration command is used to configure the TR069 client and achieve the remote management function on the ONU.

Applicable object

The HG260 supports this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Config**→**Remote Management Config** in the shortcut menu to open the **Remote Management Config** window.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
IGD-TR069-Enable	Enables / disables the TR069 function.	The value includes Disable and Enable . The default value is Enable .	Compulsory	Click the drop-down list to select to enable or disable.
IGD-ACS-SERVER-URL	The ACS server URL provided by the ISP.	The maximum length is 128 characters.	Optional. When the TR069 management channel is enabled, the parameter is valid.	Double-click to enter the parameter value.
IGD-ACS-SERVER-UserName	The authentication user name of the equipment connecting to the ACS server.	The maximum length is 64 characters.	Optional. When the TR069 management channel is enabled, the parameter is valid.	Double-click to enter the customer name.
IGD-ACS-SERVER-Password	The authentication password of the equipment connecting to the ACS server.	The maximum length is 64 characters.	Optional. When the TR069 management channel is enabled, the parameter is valid.	Double-click to enter the password value.

Item	Description	Value Range / Requirement	Property	Configuration Method
IGD-Inform-Enable	Enables / disables the Inform message regular report function.	The value includes Disable and Enable . The default value is Enable	Optional. When the TR069 management channel is enabled, the parameter is valid.	Click the drop-down list to select to enable or disable.
IGD-Inform-Interval (s)	The interval of the regular report.	The value ranges between 0 and 4294967294, and the unit is second.	Optional. If IGD-Inform-Enable is set to Enable, and the TR069 management channel is enabled, the parameter is valid.	Double-click to enter the report interval.
IGD-CONN-Port	The port of the equipment connecting to the ACS server.	The value range: 0 to 65534.	Optional. When the TR069 management channel is enabled, the parameter is valid.	Double-click to enter the parameter value.
IGD-CONN-Username	The authentication user name of the equipment connecting to the ACS server.	The maximum length is 64 characters.	Optional. When the TR069 management channel is enabled, the parameter is valid.	Double-click to enter the parameter value.
IGD-CONN-Password	The authentication password of the equipment connecting to the ACS server.	The maximum length is 64 characters.	Optional. When the TR069 management channel is enabled, the parameter is valid.	Double-click to enter the parameter value.
IGD-Middleware-Enable	Enables or disables the middleware.	The value includes Disable and Enable . The default value is Enable	Optional. When the TR069 management channel is enabled, the parameter is valid.	Click the drop-down list to select to enable or disable.

Item	Description	Value Range / Requirement	Property	Configuration Method
IGD-Middleware-URL	The middleware server URL.	The maximum length is 128 characters.	Optional. If IGD-Middleware-Enable is set to Enable, and the TR069 management channel is enabled, the parameter is valid.	Double-click to enter the URL.
IGD-Middleware-Port	The middleware server port.	The value range: 0 to 65534.	Optional. If IGD-Middleware-Enable is set to Enable, and the TR069 management channel is enabled, the parameter is valid.	Double-click to enter the parameter value.

11.4 Control Command

11.4.1 Resetting an ONU

Command function

The resetting ONU command is used to restart the appointed ONU. After an ONU is restarted, it will register to the OLT again, and the authorization number and configuration of this ONU are still valid.



Caution:

This command can interrupt services on the ONU, so use care when executing it.

Applicable object

The AN5506-04B, the AN5506-10B1, and the HG260 all support this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **System control**→**Reset ONU** in the shortcut menu. Then the **Reset ONU** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-

11.4.2 Resetting an ONU FE Port

Command function

The resetting ONU FE port command is used to restart the appointed LAN port of an ONU. After the restarting, the configuration of this port is still valid.



Caution:

This command can interrupt services on the ONU LAN port, so use care when executing it.

Applicable object

The AN5506-04B, the AN5506-10B1, and the HG260 all support this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **System control**→**reset ONU LAN Port** in the shortcut menu. Then the **reset ONU LAN Port** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
The LAN port number of the ONU.	The serial number of the LAN port to be reset.	The value range varies with the ONU LAN port quantity.	Compulsory	Double-click to enter the LAN port number.

11.4.3 Registering / Logging Out to an MGC

Command function

The command is used to manually control an MG to register on or log out from an MGC.

Applicable object

The AN5506-04B, the AN5506-10B1, and the HG260 all support this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **System control** → **MGC Register/Unregister** in the shortcut menu. Then the **MGC Register/Unregister** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The number of the slot that offers the PON interface connected with the ONU.	-	Read-only	-
PON Port No.	The number of the PON port connected with the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Register/Unregister	Registers the MG to or log out the MG from the MGC.	The options include Register and Unregister .	Compulsory	Click the drop-down list to select to register or log out.
MGC IP	The MGC IP address that should be connected to.	-	Compulsory	Double-click to enter the MGC IP address.

11.4.4 Registering / Logging Out a NGN Subscriber

Command function

The NGN subscriber registering / logging out command is used to register / log out a user port to the MGC manually.

Applicable object

The AN5506-04B, the AN5506-10B1, and the HG260 all support this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **System control** → **NGN User Register/Unregister** in the shortcut menu. Then the **NGN User Register/Unregister** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The number of the slot that offers the PON interface connected with the ONU.	-	Read-only	-
PON Port No.	The number of the PON port connected with the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Port No.	The port number of the NGN subscriber.	The value range: 1 to 64.	Compulsory	Double-click to enter the subscriber port number.
Register/Unregister	Registers the user port to or log out the user port from the MGC.	The options include Register and Unregister .	Compulsory	Click the drop-down list to select to register or log out.

11.4.5 Disabling a Remote Optical Module

Command function

The remote optical module disabling command is used to enable or disable the PON port of the ONU.

Applicable object

The AN5506-04B, the AN5506-10B1, and the HG260 all support this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **System control** → **Remote Optical Module Off** in the shortcut menu. Then the **reset ONU PON Port** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
PON Switch	Enables or disables the PON port enabling switch of the ONU.	The options include on and off . The default setting is on .	Compulsory	Click the drop-down list to select to enable or disable.
Off Time (s)	The time that the PON port is shut down.	The value range is 1 to 65535; the unit is second; and the default value is 60 seconds.	Optional. When the PON port is enabled, the parameter is not configurable.	Double-click to enter the off time.

11.5 Get Information Command

11.5.1 Viewing RSTP Bridge Information

Command function

The viewing RSTP bridge information command is used to view the RSTP bridge information of an ONU.

Applicable object

The AN5506-10B1 supports this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get Information** → **RSTP Bridge Info** in the shortcut menu. Then the **RSTP Bridge Info** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Bridge Max Age (s)	The maximum aging time of the RSTP bridge.	The unit is second.	Read-only	-
Bridge Priority	The priority of the bridge when the RSTP function is enabled. A bridge with a smaller priority value has a higher priority to be selected as the root bridge.	-	Read-only	-
Bridge Mac Address	The MAC address of the RSTP bridge.	-	Read-only	-
Bridge Hello Time (s)	The time interval of two successive Hello packets received by the RSTP bridge.	The unit is second.	Read-only	-
Forward Delay	The forward delay time of the RSTP bridge.	The unit is second.	Read-only	-
ONU Version	The RSTP version.	-	Read-only	-
Root Bridge Priority	The priority of the root bridge.	-	Read-only	-
Root Bridge Mac Address	The MAC address of the root bridge.	-	Read-only	-
Root Port	The port number of the root bridge.	-	Read-only	-
Root Max Age (s)	The maximum aging time of the root bridge.	The unit is second.	Read-only	-
Root Hello Time (s)	The time interval of two successive Hello packets received by the root bridge.	The unit is second.	Read-only	-
Root Forward Delay (s)	The forward delay time of the root bridge.	The unit is second.	Read-only	-

11.5.2 Viewing RSTP Port Information

Command function

The viewing RSTP port information command is used to view the RSTP information of an appointed ONU port.

Applicable object

The AN5506-10B1 supports this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get Information** → **RSTP Port Info** in the shortcut menu. Then the **RSTP Port Info** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
ONU Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
ONU No.	The authorization number of the ONU.	-	Read-only	-
Port No.	The serial number of the port to be queried.	The value range: 1 to 24.	Compulsory	Double-click to enter the port number.
Port Priority	The priority of the port when the RSTP is enabled. A port with a lower priority value is preferred to act as the root port.	-	Read-only	-
Port Role	The role of the port. Its value includes: Selectable , Backup , Root , Appointed , not joining RSTP , and Unknown .	-	Read-only	-
Port State	The operating mode of the port.	-	Read-only	-
Port Path Cost	The path cost of the port when the RSTP is enabled.	-	Read-only	-
Designated Root Priority	The priority of the appointed root port.	-	Read-only	-
Designated Root Mac Address	The MAC address of the appointed root port.	-	Read-only	-
Designated Path Cost	The path cost of the appointed root port.	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
Designated Port No.	The number of the appointed port. It is determined by the port number on the opposite end equipment.	-	Read-only	-
Designated Port Priority	The priority of the appointed port.	-	Read-only	-
Designated Bridge Priority	The priority of the appointed bridge.	-	Read-only	-
Designated Bridge MAC Address	The MAC address of the appointed bridge.	-	Read-only	-

11.5.3 Viewing ONU Ranging Value

Command function

The viewing ONU ranging value command is used to view the logical distance between the ONU and the OLT.

Applicable object

The AN5506-04B, the AN5506-10B1, and the HG260 all support this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get Information** → **ONU RTT Value** in the shortcut menu. Then the **ONU RTT Value** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
Onu No.	The authorization number of the ONU.	-	Read-only	-
RTT Value (m)	The measured logical distance between the ONU and the OLT.	The unit is meter.	Read-only	-

11.5.4 Line Test

11.5.4.1 Testing POTS Port External Line Status

Command function

The testing POTS port external line status command is used to query the external voice line status of an ONU. When the voice line has faults, users can execute this command to perform line diagnosis.

Applicable object

The AN5506-10B1 supports this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get Information** → **Line Test** in the shortcut menu. Then select the **POTS Outline Test** tab in the window that appears.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
POTS Port No.	The number of the POTS port to be tested.	The value range varies with the ONU POTS port quantity.	Compulsory	Double-click to enter the POTS port number.
TestType	The type of the external line test.	<p>The value includes Force Test and No Force Test.</p> <ul style="list-style-type: none"> ◆ When Force Test is selected, no matter the subscriber is in conversation, this test will be performed. During the test, the conversation will be interrupted. ◆ When No Force Test is selected, the test will be performed when the subscriber is not in a conversation. 	Compulsory	Click the drop-down list to select the test type.
TestState	The external line test status. Its value includes Test Succeed and Test Refused .	-	Read-only	-
Refused Reason	The reason of the test being refused.	-	Read-only	-
Port State	The status of the tested port. Its values corresponding to the following port status items: normal / line insulation bad / line breakage / mixed line / line grounding bad / line interfere / line creepage / not hang up / short circuit.	-	Read-only	-
A -> ground DC Voltage (V)	The DC voltage of telephone line B, with the earth as the reference.	The unit is volt.	Read-only	-
B -> ground DC Voltage (V)	The DC voltage of telephone line B, with the earth as the reference.	The unit is volt.	Read-only	-
A ->B DC Voltage (V)	The DC voltage between telephone lines A and B.	The unit is volt.	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
A -> ground insulation resistance (Ω)	The impedance of telephone line A, with the earth as the reference.	The unit is ohm.	Read-only	-
B -> ground insulation resistance (Ω)	The impedance of telephone line B, with the earth as the reference.	The unit is ohm.	Read-only	-
A -> B insulation resistance (Ω)	The impedance between telephone lines A and B.	The unit is ohm.	Read-only	-
A -> B polarity reversal insulation resistance (Ω)	The polarity reversal resistance.	The unit is ohm.	Read-only	-
A -> ground capacitance (PF)	The capacitance of telephone line A, with the earth as the reference.	The unit is pF.	Read-only	-
B -> ground capacitance (PF)	The capacitance of telephone line B, with the earth as the reference.	The unit is pF.	Read-only	-
A -> B capacitance (PF)	The capacitance between telephone lines A and B.	The unit is pF.	Read-only	-
A -> ground AC Voltage (V)	The AC voltage of telephone line A, with the earth as the reference.	The unit is volt.	Read-only	-
B-> ground AC Voltage (V)	The AC voltage of telephone line B, with the earth as the reference.	The unit is volt.	Read-only	-
A -> B AC Voltage (V)	The AC voltage between telephone lines A and B.	The unit is volt.	Read-only	-
A -> B loop resistance (Ω)	The total resistance of the AB loop.	The unit is ohm.	Read-only	-

11.5.4.2 Testing POTS Port Internal Line Status

Command function

The testing POTS port internal line status command is used to query the external voice line status of an ONU. When the voice line has faults, users can execute this command to perform line diagnosis.

Applicable object

The AN5506-10B1 supports this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get Information** → **Line Test** in the shortcut menu. Then select the **POTS Inline Test** tab in the window that appears.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
ONU Authorized No.	The authorization number of the ONU.	-	Read-only	-
POTS Port No.	The number of the POTS port to be tested.	The value range varies with the ONU POTS port quantity.	Compulsory	Double-click to enter the POTS port number.

Item	Description	Value Range / Requirement	Property	Configuration Method
TestType	The type of the internal line test.	The value includes Force Test and No Force Test . <ul style="list-style-type: none"> ◆ When Force Test is selected, no matter the subscriber is in conversation, this test will be performed. During the test, the conversation will be interrupted. ◆ When No Force Test is selected, the test will be performed when the subscriber is not in a conversation. 	Compulsory	Click the drop-down list to select the test type.
TestState	The internal line test status. Its value includes Test Succeed and Test Refused .	-	Read-only	-
Refused Reason	The reason of the test being refused.	-	Read-only	-
Signal Tone State	The current dial tone status. Includes Normal and Abnormal .	-	Read-only	-
FeederVoltageState	The current status of the telephone feed voltage value. Includes Normal and Abnormal .	-	Read-only	-
Loop current State	The loop current status in the loop formed after off-hook. Includes Normal and Abnormal .	-	Read-only	-
Loop current (A)	The current value in the loop formed after off-hook.	The unit is ampere.	Read-only	-
Feeder voltage (V)	The telephone feed voltage value.	The unit is volt.	Read-only	-
Signaltone level (DB)	The dial tone level value.	The unit is decibel.	Read-only	-
Signaltone frequency (HZ)	The dial tone frequency value.	The unit is hertz.	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
Ringing current voltage (V)	The ringing current voltage value.	The unit is volt.	Read-only	-
Ringing Current Voltage State	The ringing current voltage status.	-	Read-only	-

11.5.5 NGN Information

11.5.5.1 Viewing NGN Statistical Information

Command function

The viewing NGN statistical information command is used to view the voice signaling packets and RTP packets Tx / Rx status of an ONU.

Applicable object

The AN5506-04B, the AN5506-10B1, and the HG260 all support this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get Information** → **NGN Statistic Info** in the shortcut menu. Then the **NGN Statistic Info** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
ReceivedNGNReqPackets	The number of the NGN request packets received by the ONU.	-	Read-only	-
SendNGNReqPackets	The number of the NGN request packets sent by the ONU.	-	Read-only	-
ReceivedNGNRespPackets	The number of the NGN response packets received by the ONU.	-	Read-only	-
SendNGNRespPackets	The number of the NGN response packets sent by the ONU.	-	Read-only	-
ReceivedRTPPackets	The number of the RTP voice packets received by the ONU.	-	Read-only	-
SendRTPPackets	The number of the RTP voice packets sent by the ONU.	-	Read-only	-
ReceivedRTPBytes	The number of the RTP voice bytes received by the ONU.	-	Read-only	-
SendRTPBytes	The number of the RTP voice bytes sent by the ONU.	-	Read-only	-
PacketLoss (%)	The packet loss rate of the ONU.	The unit is %.	Read-only	-
NetworkAvgDelay (ms)	The network average delay of the ONU.	The unit is ms.	Read-only	-
RTPAvgJitterBuffer (ms)	The average voice jitter delay of the ONU.	The unit is ms.	Read-only	-
Bandwidth Usage (kbit/s)	The bandwidth occupied by the voice service on the ONU.	The unit is kbit/s.	Read-only	-
LostSigPackets	The lost signaling packets number of the ONU.	-	Read-only	-
RetransmitPackets	The retransmitted signaling packets number of the ONU.	-	Read-only	-
WrongSigPackets	The error signaling packets number of the ONU.	-	Read-only	-
UnknownSigPackets	The unknown signaling packets number of the ONU.	-	Read-only	-

11.5.5.2 Viewing NGN Port Statistical Information

Command function

The viewing NGN port statistical information command is used to view the statistical information of an ONU POTS port, including RTP stream Tx / Rx statistical information and call duration statistical information.

Applicable object

The AN5506-04B, the AN5506-10B1, and the HG260 all support this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get Information** → **NGN Statistic Info** in the shortcut menu. Then the **NGN Statistic Info** window will appear. Click the **NGN Port Statistic Info** tab.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
ONU Port No.	The POTS port number of the ONU.	The value range varies with the ONU POTS port quantity.	Compulsory	Double-click to enter the voice port number.
ReceivedRTP-Packets	The number of the RTP voice packets received by the POTS port.	-	Read-only	-
SendRTPPackets	The number of the RTP voice packets transmitted by the POTS port.	-	Read-only	-
ReceivedRTP-Bytes	The number of the RTP voice bytes received by the POTS port.	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
SendRTPBytes	The number of the RTP voice bytes sent by the POTS port.	-	Read-only	-
RTPJitterBuffer (ms)	The voice jitter delay of the POTS port.	The unit is ms.	Read-only	-
Lastest Call Begin Time	The start time of the latest call of the POTS port subscriber.	-	Read-only	-
Lastest Call End Time	The end time of the latest call of the POTS port subscriber.	-	Read-only	-
Last Call Duration (s)	The current call duration of the POTS port subscriber.	The unit is second.	Read-only	-
Total Call Times	The call times of a subscriber of the POTS port subscriber.	-	Read-only	-
Total Call Duration (s)	The total call duration of a subscriber of the POTS subscriber.	The unit is second.	Read-only	-
UpstreamRate (kbit/s)	The uplink rate of the POTS port.	The unit is kbit/s.	Read-only	-
Downstream-Rate (kbit/s)	The downlink rate of the POTS port.	The unit is kbit/s.	Read-only	-
AvgNetworkDelay (ms)	The network average delay of the POTS port.	The unit is ms.	Read-only	-
PacketLoss (%)	The packet loss rate of the POTS port.	The unit is %.	Read-only	-

11.5.5.3 Viewing NGN Resource Status

Command function

The viewing NGN resource status command is used to view the subscriber status of an ONU POTS port and the corresponding RTP resource information.

Applicable object

The AN5506-04B, the AN5506-10B1, and the HG260 all support this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get Information** → **NGN Statistic Info** in the shortcut menu. Then the **NGN Statistic Info** window will appear. Click the **NGN Resource State** tab.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
ONU No.	The authorization number of the ONU.	-	Read-only	-
POTS No.	The POTS port number of the ONU.	-	Read-only	-
Tel	The telephone number configured at the POTS port.	-	Read-only	-
Reg Status	The calling status of the POTS port.	The status includes: non-activated, registering, idle, off-hook, dialing, ringing, ring back tone, connecting, connected, on-hook, disconnected, busy, failed, and not on-hook for a long time.	Read-only	-
Termination ID	The ID number of the termination point.	-	Read-only	-
RTP Name	The RTP resource name.	-	Read-only	-
RTP Port	The RTP port number.	-	Read-only	-

11.5.5.4 Viewing NGN RTP Resource Configuration

Command function

The viewing NGN resource configuration command is used to view the RTP resource configuration information of an ONU.

Applicable object

The AN5506-04B, the AN5506-10B1, and the HG260 all support this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get Information** → **NGN Statistic Info** in the shortcut menu. Then the **NGN Statistic Info** window will appear. Click the **NGN RTP Resource** tab.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
RTP Name	The RTP resource name. The first 128 entries will be displayed.	The AN5116-06B supports configuration of 6000 NGN RTP resource items.	Read-only	-

11.5.6 Viewing ONU Profile Binding Information

Command function

The viewing ONU profile binding command is used to query the binding information of the ONU service profile.

Applicable object

The AN5506-04B supports this command.

Access method

Click an EPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get Information** → **ONU Profile Binding Info** in the shortcut menu. Then the **ONU Profile Binding Info** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
ONU No.	The authorization number of the ONU.	-	Read-only	-
ONU Service Profile Name	The name of the service profile bound with the ONU.	-	Read-only	-

11.5.7 Viewing ONU Port Loopback Test

Command function

The viewing ONU port loopback test command is used to view the test results of ONU port loopback. The parameters include number and delay of the Tx / Rx frames.

Applicable object

The AN5506-04B, the AN5506-10B1, and the HG260 all support this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get Information** → **ONU Port loopback check-up** in the shortcut menu. Then the **ONU Port loopback check-up** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Port No.	The number of the ONU port to be looped back.	The value range includes numbers of all PON ports and FE ports.	Compulsory	Click the drop-down list to select the port number.
Send Frame	The number of Tx frames.	-	Read-only	-
Frames Received OK	The number of Rx correct frames.	-	Read-only	-
Frames Received Corrupted	The number of Rx error frames.	-	Read-only	-
Min Delay (us)	The minimum delay of Rx frames.	The unit is us.	Read-only	-
Max Delay (us)	The maximum delay of Rx frames.	The unit is us.	Read-only	-
Avg Delay (us)	The average delay of Rx frames.	The unit is us.	Read-only	-

11.5.8 Obtaining ONU MAC Address

Command function

The obtaining ONU MAC address command is used to query the MAC address of an ONU.

Applicable object

The AN5506-04B, the AN5506-10B1, and the HG260 all support this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get Information** → **MAC-learning table on ONU** in the shortcut menu. Then the **MAC-learning Table On ONU** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Port Type	The type of the port.	The value includes PON and FE .	Read-only	-
Port No.	The number of the port.	For a PON port, the value of this parameter is 1. For a FE port, the value of this parameter is the FE port number.	Read-only	-
MAC	The MAC address learned by the port.	-	Read-only	-
VLAN ID	The VLAN ID value corresponding to the MAC address.	The value range: 1 to 4085.	Read-only	-

11.5.9 Querying ONU Status Information

Command function

The querying ONU status command is used to query the status information of the ONU.

Applicable object

The AN5506-04B, the AN5506-10B1, and the HG260 all support this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get Information** → **ONU State Information** in the shortcut menu. Then the **ONU State Information** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	The number of the PON port connected with the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Last Off Time	The last time the ONU is off the network.	-	Read-only	-

11.5.10 Viewing Port Status Information

Command function

The viewing port status information command is used to view the status information of various ONU ports, including connection status, flow control status, and port physical status.

Applicable object

The AN5506-04B, the AN5506-10B1, and the HG260 all support this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get Information** → **port info** in the shortcut menu. Then the **port info** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
Port No.	The number of the ONU port.	-	Read-only	-
LINK Status	The connection status of the port.	-	Read-only	-
Flow Control	The enabling status of the flow control function on the port.	-	Read-only	-
Phy Admin State	The enabling / disabling status of the port.	-	Read-only	-
AutNeg Admin State	The enabling status of the auto negotiation function on the port.	-	Read-only	-
Rate	The rate of the port.	-	Read-only	-
Duplex	The duplex mode of the port.	-	Read-only	-
Loopback Status	The loopback status of the port.	-	Read-only	-

11.5.11 Viewing Optical Module Parameters Information

Command function

The viewing optical module parameters command is used to view optical module status parameters of an ONU, including optical module type, optical module temperature, optical module voltage, bias current, Tx and Rx optical power.

Applicable object

The AN5506-04B, the AN5506-10B1, and the HG260 all support this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get Information** → **OptModule Para Information** in the shortcut menu. Then the **OptModule Para Information** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
Onu No.	The authorization number of the ONU.	-	Read-only	-
Optical module type (KM)	The type of the optical module. The default value is 20km.	The unit is km.	Read-only	-
Temperature (C)	The temperature of the optical module.	The unit is °C.	Read-only	-
Voltage (V)	The voltage of the optical module.	The unit is V.	Read-only	-
Current (mA)	The bias current of the optical module.	The unit is mA.	Read-only	-
Transmitting optical power	The Tx optical power of the optical module.	The unit is dBm.	Read-only	-
Rx power (Dbm)	The Rx optical power of the optical module.	The unit is dBm.	Read-only	-

11.5.12 Querying MG Configuration

Command function

The querying MG configuration command is used to query the configuration information of the MG.

Applicable object

The AN5506-04B, the AN5506-10B1, and the HG260 all support this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get Information** → **MG Configuration Report** in the shortcut menu. Then the **MG Configuration Report** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
ONU Authorized No.	The authorization number of the ONU.	-	Read-only	-
MGID	The ID of the MG.	-	Read-only	-
Protocol Type	The type of the softswitch platform protocol.	The value includes MGCP , MEGAGO and SIP .	Read-only	-
EID	The gateway domain name.	-	Read-only	-
First MGCIP	The IP address of the active softswitch platform.	-	Read-only	-
Second MGCIP	The IP address of the standby softswitch platform.	-	Read-only	-
First SIP Server	The IP address of the SIP active register server.	-	Read-only	-
Second SIP Server	The IP address of the SIP standby register server.	-	Read-only	-
First SIP-Proxy Server	The IP address of the SIP active proxy server.	-	Read-only	-
Second SIP-Proxy Server	The IP address of the SIP standby register server.	-	Read-only	-
Signal Svlan Tpid	The signaling SVLAN TPID.	-	Read-only	-
Signal Svlan ID	The signaling SVLAN ID.	-	Read-only	-
Cvlan COS	The signaling SVLAN priority.	-	Read-only	-
Signal Cvlan Tpid	The signaling CVLAN TPID.	-	Read-only	-
Signal Cvlan ID	The signaling CVLAN ID.	-	Read-only	-
CVLAN Cos	The signaling CVLAN priority.	-	Read-only	-
RTP Svlan Tpid	The media stream SVLAN TPID.	-	Read-only	-
RTP Svlan ID	The media stream SVLAN ID.	-	Read-only	-
RTP Svlan COS	The media stream SVLAN priority.	-	Read-only	-
RTP Cvlan Tpid	The media stream CVLAN TPID.	-	Read-only	-
RTP Cvlan ID	The media stream CVLAN ID.	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
RTP Cvlan COS	The media stream CVLAN priority.	-	Read-only	-
IP Mode	The IP address obtaining mode.	Its value includes Static , PPPoE and DHCP .	Read-only	-
Signal IP	The signaling IP address.	-	Read-only	-
Signal gateway	The signaling gateway address.	-	Read-only	-
RTP IP	The media stream IP address.	-	Read-only	-
RTP gateway	The media gateway address.	-	Read-only	-
PPPoE name	The user name for obtaining the IP address in PPPoE mode.	-	Read-only	-
PPPoE password	The password for obtaining the IP address in PPPoE mode.	-	Read-only	-
Keep Alive	The enabling status of the heartbeat function.	-	Read-only	-
Alive Interval	The heartbeat interval.	-	Read-only	-
Alive Times	The heartbeat test times.	-	Read-only	-

11.5.13 Querying Parameter Configuration of Fax / Modem Service

Command function

The fax / modem service parameter configuration query command is used to query the related parameters of the fax / modem service of an ONU.

Applicable object

The AN5506-04B, the AN5506-10B1, and the HG260 all support this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get Information** → **GET FAX/Modem Configuration** in the shortcut menu. Then the **GET FAX/Modem Configuration** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
ONU Authorized No.	The authorization number of the ONU.	-	Read-only	-
Port No.	The number of the ONU port.	The value range varies with the ONU type.	Compulsory	-
VoiceT38Enable	The transmission mode of the fax service.	-	Read-only	-
VoiceFax/Modem-Control	The control mode of the fax data.	-	Read-only	-

11.5.14 Querying ONU POTS Port Status

Command function

The querying ONU POTS port status command is used to query the current status of an ONU POTS port.

Applicable object

The AN5506-04B, the AN5506-10B1, and the HG260 all support this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get Information** → **NGN User Port Status** in the shortcut menu. Then the **NGN User Port Status** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configura- tion Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
ONU Authorized No.	The authorization number of the ONU.	-	Read-only	-
Port No.	The number of the ONU port.	The value range varies with the ONU type.	Compulsory	-
Port Status	The current status of the subscriber port.	Including: 1. registering; 2. idle; 3. off-hook; 4. dialing; 5. ringing; 6. ring back tone; 7. connecting 8. connected; 9. releasing connection; 10. register failed; 11. disabled; 12. other.	Read-only	-
Termination ID	The ID of the termination point.	-	Read-only	-
RTP Name	The RTP resource name.	-	Read-only	-
RTP Port	The RTP port number.	-	Read-only	-
iadPortServiceS- tate	The current status of the subscriber port service.	The options include: terminating services locally, terminating services at the opposite end, terminating services automatically or service normal.	Read-only	-
iadPortServiceCo- decMode	The coding / decoding mode of the port.	The options include: G.711A , G.729, G.711U, G.723, G.726, and T.38.	Read-only	-
Echo Cancel	The echo suppression function enabling status.	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configura- tion Method
Reversed Polarity	The polarity reversal signal enabling status.	-	Read-only	-
Rx Gain (dB)	The Rx gain.	-	Read-only	-
Tx Gain (dB)	The Tx gain.	-	Read-only	-
SIP Telephone	The SIP telephone number.	-	Read-only	-
SIPUSERNAME	The user name corresponding to the SIP subscriber port.	-	Read-only	-
SIPUSERPWD	The password corresponding to the SIP subscriber port.	-	Read-only	-

11.5.15 Performing Emulation Command

Command function

The emulation command is used to detect the operating status of an ONU POTS port via the incoming / outgoing call emulation test.

Applicable object

The AN5506-04B, the AN5506-10B1, and the HG260 all support this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get Information** → **Simulation Command** in the shortcut menu. Then the **Simulation Command** window will appear.

Parameter

- ◆ Incoming call simulation begin

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	The value range is 1 to 8, or 11 to 18.	Compulsory	Select in the Object Tree pane.
PON No.	Number of the PON port that connects to the ONU.	The value range: 1 to 8.	Compulsory	Select in the Object Tree pane.
ONU No.	The authorization number of the ONU.	The value range: 1 to 64.	Compulsory	Select in the Object Tree pane.
Port No.	The number of the ONU port.	The value range varies with the ONU port quantity.	Compulsory	Select in the Object Tree pane.
Timeout	The time-out duration of the incoming call test.	The value ranges between 60 and 300, and the unit is second.	Compulsory	Double-click to enter the time-out duration.
State	The current test status.	The status includes the following items: test started and test not started .	Read-only	-

◆ Incoming call simulation query

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	The value range is 1 to 8, or 11 to 18.	Compulsory	Select in the Object Tree pane.
PON No.	Number of the PON port that connects to the ONU.	The value range: 1 to 8.	Compulsory	Select in the Object Tree pane.
ONU No.	The authorization number of the ONU.	The value range: 1 to 64.	Compulsory	Select in the Object Tree pane.
Port No.	The number of the ONU port.	The value range varies with the ONU port quantity.	Compulsory	Select in the Object Tree pane.
State	The current status of the port.	The status includes the following items: idle , off-hook , ringing , connected , on-hook , and test end .	Read-only	-

◆ Incoming call simulation end

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	The value range is 1 to 8, or 11 to 18.	Compulsory	Select in the Object Tree pane.
PON No.	Number of the PON port that connects to the ONU.	The value range: 1 to 8.	Compulsory	Select in the Object Tree pane.
ONU No.	The authorization number of the ONU.	The value range: 1 to 64.	Compulsory	Select in the Object Tree pane.
Port No.	The number of the ONU port.	The value range varies with the ONU port quantity.	Compulsory	Select in the Object Tree pane.
State	The current status of the port.	The status includes the following items: idle, off-hook, ringing, connected, on-hook , and test end .	Read-only	-
Conclusion	The test conclusion of the outgoing call emulation.	The conclusion includes the following items: succeeded, failed, call has been set up, call status is not confirmed .	Read-only	-
Fail Reason	The reason of test failure.	The reason includes the following items: no signaling interaction, called offhook, SS does not respond to the offhook signaling .	Read-only	-

◆ Outgoing call simulation begin

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	The value range is 1 to 8, or 11 to 18.	Compulsory	Select in the Object Tree pane.
PON No.	Number of the PON port that connects to the ONU.	The value range: 1 to 8.	Compulsory	Select in the Object Tree pane.
ONU No.	The authorization number of the ONU.	The value range: 1 to 64.	Compulsory	Select in the Object Tree pane.
Port No.	The number of the ONU port.	The value range varies with the ONU port quantity.	Compulsory	Select in the Object Tree pane.

Item	Description	Value Range / Requirement	Property	Configuration Method
Tel	The outgoing telephone number.	-	Compulsory	Double-click to enter the POS telephone number.
Timeout	The time-out duration of the incoming call test.	The value ranges between 60 and 300, and the unit is second.	Compulsory	Double-click to enter the time-out duration.
State	The current test status.	The status includes the following items: test started and test not started .	Read-only	-

◆ Outgoing call simulation query

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	The value range is 1 to 8, or 11 to 18.	Compulsory	Select in the Object Tree pane.
PON No.	Number of the PON port that connects to the ONU.	The value range: 1 to 8.	Compulsory	Select in the Object Tree pane.
ONU No.	The authorization number of the ONU.	The value range: 1 to 64.	Compulsory	Select in the Object Tree pane.
Port No.	The number of the ONU port.	The value range varies with the ONU port quantity.	Compulsory	Select in the Object Tree pane.
State	The current status of the port.	The status includes the following items: idle , off-hook , dial tone , receiving , receive end , ringing-back , connected , busy tone , on-hook and test end	Read-only	-

◆ Outgoing call simulation end

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	The value range is 1 to 8, or 11 to 18.	Compulsory	Select in the Object Tree pane.
PON No.	Number of the PON port that connects to the ONU.	The value range: 1 to 8.	Compulsory	Select in the Object Tree pane.
ONU No.	The authorization number of the ONU.	The value range: 1 to 64.	Compulsory	Select in the Object Tree pane.
Port No.	The number of the ONU port.	The value range varies with the ONU port quantity.	Compulsory	Select in the Object Tree pane.
State	The current status of the port.	The status includes the following items: idle, off-hook, dial tone, receiving, receive end, ringing-back, connected, busy tone, on-hook and test end .	Read-only	-
DIALNUMBER	The dialed telephone number.	-	Read-only	-
TARGETNUMBER	The telephone number reported to the softswitch platform.	-	Read-only	-
FAILED SIG	The signaling indication for test failure.	-	Read-only	-

Item	Description	Value Range / Requirement	Property	Configuration Method
Conclusion	The test conclusion of the outgoing call emulation.	The conclusion includes the following items: succeeded, failed, call has been set up, call status is not confirmed.	Read-only	-
Fail Reason	The reason of test failure.	The reason includes the following items: The SS off-hook response signaling is not received, the SS-transmitting dial tone signaling is not received, MG internal reason, the dialed telephone number is not the same as the one reported to the SS, the ring back tone is not received, the opposite end not off-hook, the channel setup failure, the SS does not respond to the on-hook signaling, etc.	Read-only	-

11.5.16 Querying ONU Environment Status

Command function

The querying ONU environment status command is used to query the environment status information of an ONU, including temperature and fan rotation speed of this ONU.

Applicable object

The AN5506-10B1 supports this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get Information** → **ONU Environment State** in the shortcut menu. Then the **ONU Environment State** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
ONU No.	The authorization number of the ONU.	-	Read-only	-
Temperature	The temperature of the ONU.	-	Read-only	-
Fan speed	The fan rotation speed of this ONU.	-	Read-only	-

11.5.17 Viewing ONU Port Connected Equipment Type

Command function

The viewing ONU port connected equipment type command is used to view the type of the equipment set connected with the appointed port of an ONU.

Applicable object

The AN5506-04B and the AN5506-10B1 support this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get Information** → **Ports, Connected Device Type** in the shortcut menu. Then the **Ports, Connected Device Type** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
ONU No.	The authorization number of the ONU.	-	Read-only	-
Port No.	The number of the ONU port.	-	Read-only	-
State	The type of the equipment set connected with the port of the ONU.	The value includes HG Intelligent,PC , and No Connection .	Read-only	-

11.5.18 Querying ONU Voice Port Activation Status

Command function

The querying ONU voice port activation status command is used to query the RTP activation status of an ONU voice port.

Applicable object

The AN5506-04B and the AN5506-10B1 support this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get Information** → **ONU IAD Port Active Status** in the shortcut menu. Then the **ONU IAD Port Active Status** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
ONU No.	The authorization number of the ONU.	-	Read-only	-
Port No.	The serial number of the port to be queried.	The value range varies with the ONU port quantity.	Compulsory	Double-click to enter the port number.
Active Status	The RTP activation status of the ONU voice port.	The value includes Active and Non-Active .	Read-only	-

11.5.19 Viewing ONU Power Supply Management Status

Command function

The viewing ONU power supply management status command is used to query the power supply status of an ONU.

Applicable object

The AN5506-10B1 supports this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get Information** → **Power Management** in the shortcut menu. Then the **Power Management** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
ONU No.	The authorization number of the ONU.	-	Read-only	-
Power Supply Mode	The current power supply mode of the ONU.	The value includes Main Power and Backup Battery .	Read-only	-
Backup Battery	Indicates whether a backup battery exists.	-	Read-only	-
Backup Battery State	The status of the backup battery.	The value includes Invalid , Charging , Working , and Saturation .	Read-only	-

11.5.20 Viewing Equipment Information

Command function

The viewing equipment information command is used to view the information of the HG260.

Applicable object

The HG260 supports this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get Information** → **Device Information** in the shortcut menu. Then the **Device Information** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
ONU No.	The authorization number of the ONU.	-	Read-only	-
DI-Model Name	The ID information of the equipment.	-	Read-only	-
DI-Manufacturer OUI	The OUI of the manufacturer.	-	Read-only	-
DI-Hardware Version	The hardware version number.	-	Read-only	-
DI-Software Version	The software version number.	-	Read-only	-
DI-Serial Number	The serial number of the equipment.	-	Read-only	-

11.5.21 Viewing Wi-Fi Status Information

Command function

The viewing WiFi status information command is used to view the status of the Wi-Fi service.

Applicable object

The HG260 supports this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get Information** → **WiFi Information** in the shortcut menu. Then the **WiFi Information** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
ONU No.	The authorization number of the ONU.	-	Read-only	-
WPS-Status	The WPS session status. The WPS (Wi-Fi protection setting) is used to help subscribers set SSIDs and configure WPA data coding and authentication modes.	-	Read-only	-
WPS-Overlap	The WPS session overlap status.	-	Read-only	-
WLAN-Enable	The enabling status of the Wi-Fi radio interface.	-	Read-only	-

11.5.22 Viewing WAN Connection Information

Command function

The viewing WAN connection information command is used to view the WAN connection status statistical information.

Applicable object

The HG260 supports this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get Information** → **WAN Information Statistics** in the shortcut menu. Then the **WAN Information Statistics** window will appear.

Parameter

Item	Description	Value Range / Requirement	Property	Configuration Method
Slot No.	The slot number of the PON interface card connected with the ONU.	-	Read-only	-
PON Port No.	Number of the PON port that connects to the ONU.	-	Read-only	-
ONU No.	The authorization number of the ONU.	-	Read-only	-
Wan NO	The index number of the WAN connection.	-	Read-only	-
Wan_Name	The name of the WAN connection.	-	Read-only	-
Wan_Vlan_ID	The VLAN ID of the WAN connection.	-	Read-only	-
Wan_COS	The 802.1p priority of the WAN connection.	-	Read-only	-
Wan_D_S_P	The IP address obtaining mode of the WAN connection.	-	Read-only	-
Wan_Qos_Enable	Indicates whether enables the QoS function for the WAN connection.	-	Read-only	-
Wan_Status	The current connection status of the WAN network.	-	Read-only	-
Wan_Ip_Address	The static IP address of the WAN connection.	-	Read-only	-
Wan_Ip_Subnet	The subnet mask of the WAN connection.	-	Read-only	-
Wan_Gateway	The default gateway address of the WAN connection.	-	Read-only	-
Wan_Master_DNS	The master DNS server IP address provided by the ISP.	-	Read-only	-
Wan_Slave_DNS	The slave DNS server IP address provided by the ISP.	-	Read-only	-

11.6 Deleting ONU from Network Management Database

Command function

The command is used to delete the broken or off-line ONUs from the network management database.



Caution:

The command will delete the ONU and the services it carries from the network management database. Please perform with care.

Applicable object

The AN5506-04B, the AN5506-10B1, and the HG260 all support this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Delete ONU from Database** in the shortcut menu. The **ANM2000** alert box appears to indicate the deletion.

11.7 Obtaining ONU Information

Command function

The ONU information obtaining command is used to manually obtain the ONU information, including: physical address, password, logical SN and logical SN password.

Applicable object

The AN5506-04B, the AN5506-10B1, and the HG260 all support this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Get ONU Information** in the shortcut menu to execute this command.

11.8 Refreshing an ONU

Command function

The refreshing command is used to refresh the status information of an ONU.

Applicable object

The AN5506-04B, the AN5506-10B1, and the HG260 all support this command.

Access method

Click an GPON interface card in the **Object Tree** pane, right-click the appointed ONU in the ONU list tab at the right side of the GUI, and select **Refresh** in the shortcut menu to execute this command.

11.9 Displaying ONU Subscribers

Command function

The displaying ONU subscriber command is used to expand and display information on ONU subscribers in the ONU list tab; information on ONU subscribers includes the number of the PON port connected with each ONU, the slot number of the card containing each PON port, the authorization number of each ONU, etc.

Applicable object

The AN5506-04B, the AN5506-10B1, and the HG260 all support this command.

Access method

1. Click an GPON interface card in the **Object Tree** pane, right-click a certain ONU in the ONU list tab at the right of the GUI, and select **Display ONU User** in the shortcut menu. In the ONU list tab, an expand icon will appear in the left of each ONU; users can click this expand icon to expand and display information on this ONU.
2. After the ONU subscriber information is displayed, right-click a certain ONU in the ONU list tab, and the **Hide ONU User** command will appear in the shortcut menu. Click **Hide ONU User** to hide the ONU-related subscriber information.

11.10 Hiding ONU Port Panel

Command function

The hiding ONU port panel command is used to hide the port panel of the designated ONU on the ANM2000 GUI.

Applicable object

The AN5506-04B, the AN5506-10B1, and the HG260 all support this command.

Access method

1. Click an GPON interface card in the **Object Tree** pane, right-click the designated ONU in the ONU list tab at the right of the GUI, and select **Hide ONU Port Panel** in the shortcut menu. After the previous operations, the port panel of the designated ONU will not be displayed on the ANM2000 GUI.
2. After the ONU port panel is hidden, right-click the designated ONU, and the **Display ONU Port Panel** command will appear in the shortcut menu. Click **Display ONU Port Panel** to display the ONU port panel on the ANM2000 GUI.

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