AN5116-06B

Optical Line Terminal Equipment

Alarm and Event Reference

Version: C

Code: MN000000072

FiberHome Telecommunication Technologies Co., Ltd.

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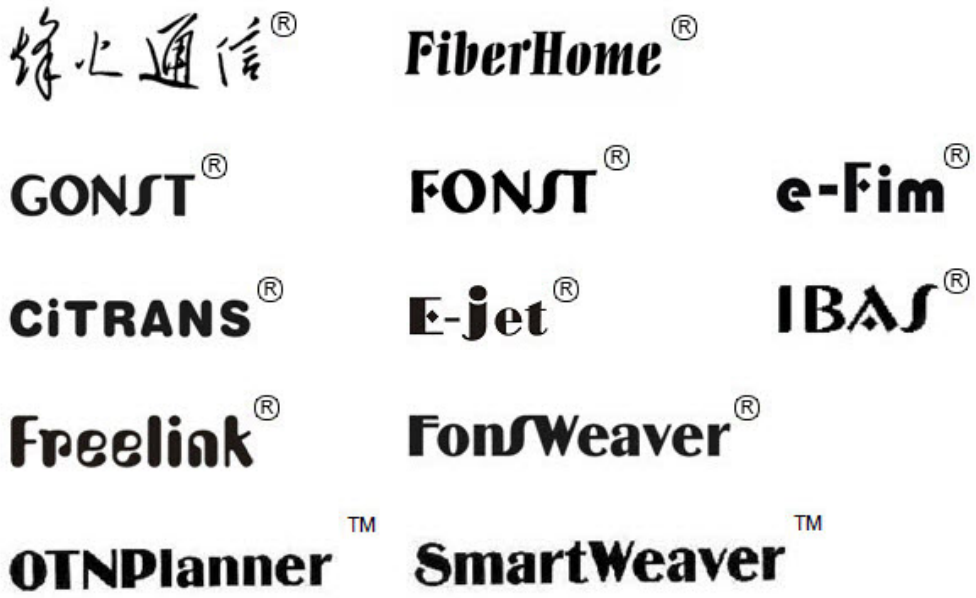

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Preface

Related Documentation

Document	Description
AN5116-06B Optical Line Terminal Equipment Documentation Guide	Introduces the retrieval method, contents, releasing, reading approach, and suggestion feedback method for the complete manual set for the AN5116-06B.
AN5116-06B Optical Line Terminal Equipment Product Description	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.
AN5116-06B Optical Line Terminal Equipment Feature Description	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, characteristic, specification, principle description, references and so on.
AN5116-06B Optical Line Terminal Equipment Hardware Description	Introduces the appearance, structure, functions, technical specifications, and usage method for the AN5116-06B's cabinet, PDP, subrack, cards, cables and wires, facilitating users' mastery of the hardware features of the equipment.
AN5116-06B Optical Line Terminal Equipment Installation Guide	Introduces the overall installation and verifying procedure 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 a variety of interfaces) to guide users to install the equipment.
AN5116-06B Optical Line Terminal Equipment EPON Configuration Guide	Introduces the method for configuring the EPON services supported by the AN5116-06B via ANM2000 Network Management System, 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
AN5116-06B Optical Line Terminal Equipment GPON Configuration Guide	Introduces the method for configuring the GPON services supported by the AN5116-06B via ANM2000 Network Management System, 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.
AN5116-06B Optical Line Terminal Equipment GUI Reference	Introduces the shortcut menu for every card of the AN5116-06B inside ANM2000 Network Management System, 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 inside ANM2000.
AN5116-06B Optical Line Terminal Equipment Component Replacement	Introduces the operation procedures of 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.
AN5116-06B Optical Line Terminal Equipment Routine Maintenance	Introduces the daily, weekly, monthly, quarterly and annual routine maintenance operations of the AN5116-06B. Users are able to eliminate the potential risks in the equipment operation process as early as possible via implementing the routine maintenance.
AN5116-06B Optical Line Terminal Equipment Alarm Reference	Introduces the AN5116-06B's alarm information, including alarm names, alarm levels, possible reasons, effects on the system, and processing procedure, to guide users on effective alarm processing.
AN5116-06B Optical Line Terminal Equipment Troubleshooting Guide	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 equipment releases EPON V1.0. Initial Version.
B	Compared with version A, this manual classifies and gathers alarms again to add related contents of the events. This manual corresponds to the AN5116-06B equipment releases EPON V1.1.
C	Compared with version B, this manual is added with the related contents of alarms and events. The XG2B card is newly added. This manual corresponds to the AN5116-06B equipment releases EPON V3.1 and GPON V3.1.

This manual introduces the general handling methods for the AN5116-06B's alarms and events, to guide the maintenance staff on effective alarm and event processing.

Intended Readers

This manual is intended for the following readers:

- Operation and maintenance engineers

To utilize this manual, these prerequisite skills are necessary:

- EPON technology
- GPON technology
- Data communication technology
- Fiber communication technology
- Ethernet technology

Conventions

Terminology Conventions

Terminology	Convention
AN5116-06B	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)
HSWA	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.

Contents

Figures

Tables

1 Overview

This chapter covers the basic methods of operating alarm function, including the following contents:

- ☑ Safety Precautions
- ☑ Alarm Definitions
- ☑ Principles for Alarm Handling
- ☑ Alarm Levels
- ☑ Alarm List
- ☑ Event Definitions
- ☑ Event Levels
- ☑ Event List

1.1 Safety Precautions

The safety precautions include:

- Identifying security and warning signs
- ESD protection
- Safety precautions for plugging and unplugging a card
- Safety guidelines for the optical fiber and interface
- Electrical safety
- Operation safety rules for the ANM2000

1.1.1 Identifying Security and Warning Signs

Operators should know the meanings of the security and warning signs on the AN5116-06B. Table 1-1 lists the meanings and positions of the labels.

Table 1-1 Identifying security and warning signs

Sign	Meaning	Location
	The ESD protection sign. This sign reminds the operators to wear an ESD protection wrist strap, so as to avoid damage to the equipment caused by electrostatic discharge.	See Figure 1-1.
	The subrack earth ground sign. This sign marks the location of the subrack earth ground pole.	
	The laser class sign. This sign marks the optical source class of the optical interface on a card. The operators must prevent the optical source from entering eyes directly to avoid bodily harm.	Located on the panels of the cards with optical interfaces.

Table 1-1 Identifying security and warning signs (Continued)

Sign	Meaning	Location
	The warning sign for periodical cleaning of the anti-dust screen. This sign reminds the operators to clean the anti-dust screen periodically.	Located on the panel of the subrack' anti-dust screen.
	The fan unit safety alarm sign. This sign reminds the operators not to touch the running fan blades.	Located on the fan unit panel.

The following uses the subrack as an example to introduce the locations of the ESD protection sign and the subrack earth ground sign.

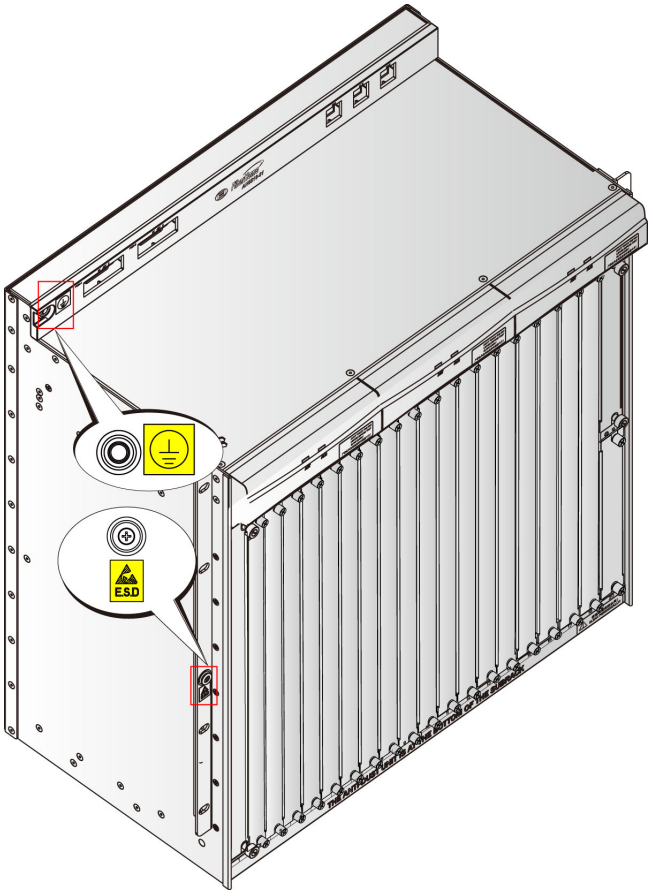


Figure 1-1 Positions of the ESD protection earth ground fastener, subrack earth ground pole

1.1.2 ESD Protection

The electrostatic discharge can damage electrostatic-sensitive components on the cards and subracks; therefore, you must wear the ESD protection wrist strap or take other measures before touching any equipment, cards, or IC (Integrated Circuit) chips. Use the ESD protection bags to store and transport cards.

The ESD protection wrist strap is an accessory shipped with the equipment. Make sure that the metal fastener of ESD protection wrist strap is in good contact with the skin and the other end of wrist strap is correctly connected to the ESD protection earth ground fastener on the cabinet, as shown in Figure 1-2.

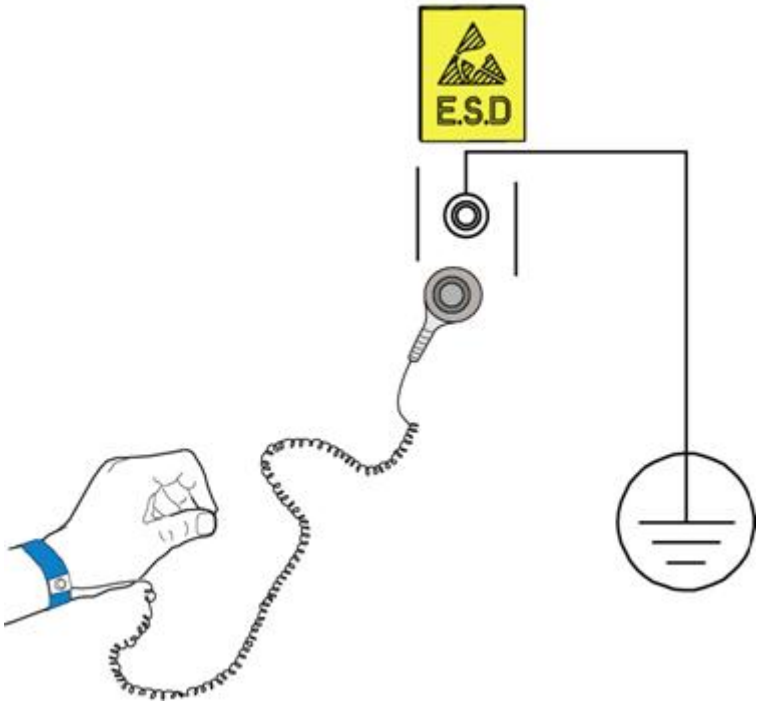


Figure 1-2 Wearing the ESD protection wrist strap

1.1.3 Safety Precautions for Plugging and Unplugging a Card

- Before plugging or unplugging a card, wear the ESD protection gloves or the ESD protection wrist strap and keep both hands dry and clean.
- Do not touch the circuitry, components, or wiring trough when handling the cards.

- Before plugging the card, you should confirm:
  - The corresponding slot is available.
  - Cables or optical fibers are not connected with the card.
  - The insertion direction of the card. Do not insert the card in the opposite direction. The insertion direction of the card is shown in Figure 1-3.
- Pay attention to the following precautions when plugging the card.
  - Use care when plugging the card to avoid distorting pins on the backplane.
  - Slide the card gently along the slide rails. Prevent the circuit components of the card from contacting each other, to avoid shorting or scratching. See Figure 1-3 for the card installation.
- Before unplugging the card, confirm the card is not carrying services. Unplugging the in-service card may cause service interruption.

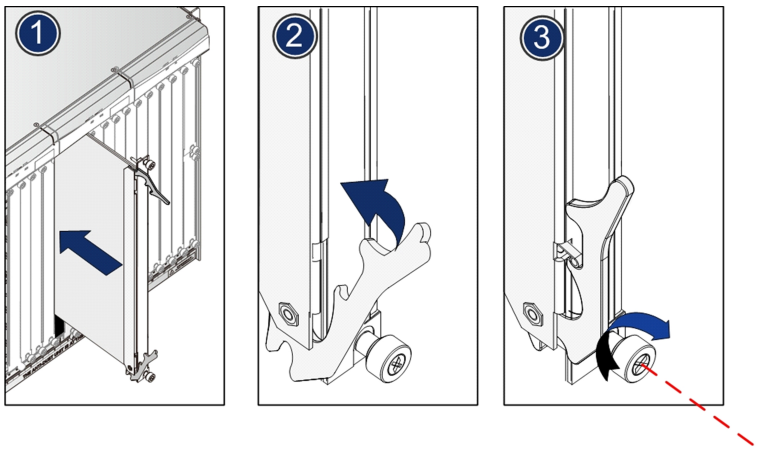


Figure 1-3 Installing a card

1.1.4 Safety Guidelines for the Optical Fiber and Interface

Using the dedicated fiber puller

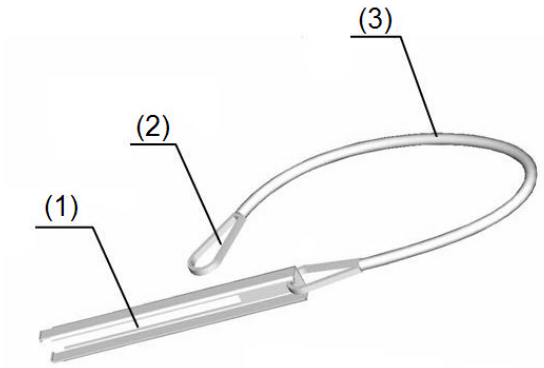
Optical fibers are easily damaged if they are plugged or unplugged by hands without using any tool. The operators should use the dedicated fiber puller to avoid damage to optical fiber and fiber connector caused by rough handling.

Caution:

A dedicated fiber puller is required for plugging and unplugging fibers.

The fiber puller is the delivery accessory and looks like a nipper and has a spring cord, as shown in Figure 1-4.

The fiber puller is secured on the cabinet with a spring cord before delivery. By clipping the fiber connector with the special fiber puller, you can plug or unplug the fiber very conveniently.



(1) Fiber puller

(2)Buckle (Buckle it into the mounting hole on the vertical mounting flange)

(3) Spring cord

Figure 1-4 The dedicated fiber puller

Protecting the optical modules against high optical power

Do not insert the pigtail into the card's optical interface when the pigtail's Tx optical power is unknown. To avoid damage to optical modules, just put the pigtail in the card's optical interface without connecting them or add an attenuator.

Connecting optical fibers

- Check the optical power before connecting the optical fibers; only if the optical power meets the requirement can the fibers be connected. The equipment optical power parameters are shown in AN5116-06B Optical Line Terminal Equipment Product Description.

- Before connecting optical fibers, check whether the optical fiber connector matches the optical interface. If the optical fiber connector does not match the optical interface, use an optical fiber adapter.

Protecting eyes

Looking the optical output interface or the end of the pigtail connected with the output interface directly will do harm to the eyes. Never get close to or look directly at the optical interface or optical fiber connector.

Avoiding overbending the fiber

The optical power may be affected if the fiber is bent or pressed with excessive force. The bend radius should be no less than 38 mm.

Protecting optical interfaces and connectors

- Cover the optical interfaces and optical connectors of the pigtail fibers that are not in use with anti-dust caps. This can avoid eye injuries caused by a direct and unintentional look into the optical interfaces or optical connectors, and prevent dust from entering the optical interfaces or contaminating the optical connectors.
- Cover the optical interfaces of the replaced cards with anti-dust caps to keep the optical interfaces clean.

Cleaning the optical interfaces and fiber connectors

Use dedicated cleaning tools and materials to clean optical interfaces and fiber connectors.

The following lists some common cleaning tools for operation engineers.

- Dedicated cleaning solvent (the first choice is the isoamyl alcohol and the second choice is the propyl alcohol)
- Non-woven lens tissue
- Dedicated compressed air
- Cotton swab (cotton for medical purposes or other long-staple cotton)
- Dedicated connector cleaner

1.1.5 Electrical Safety

Shorting

- When a shorting occurs, a quick, significant rise in the current will easily result in damage to the equipment and unforeseen safety problems.
- During operation, avoid metal fillings, water and other conductive materials into the in-service equipment so as to prevent damage to electrical apparatus and components caused by shorting.
- Avoid shorting caused by incorrect cable connections
- Avoid shorting caused by small animals entering the live equipment

Grounding

- Confirm that the protection earth ground bar in the equipment room is grounded properly.
- Confirm that the equipment is grounded properly.

Power supply

- Before removing the power cable, confirm that the power supply is disconnected.
- Never expose the power cable. The unnecessary uninsulated parts should be completely covered with an insulating tape.
- When the operation conditions permit, first disconnect the power supply, and then conduct other operations

1.1.6 Operation Safety Rules for the ANM2000

The safety precautions for the ANM2000 are as follows:

- The network management computer should be placed away from direct sunlight, electromagnetic interference, heat source, humidity and dust, and with at least 8cm distance from other objects in order to keep good ventilation.
- Use UPS power supply to avoid loss of network management data caused by accidental power failure.

- The computer case, UPS power supply and switch (or hub) should be connected to the protection earth ground.
- To shut down the network management computer, first exit the operation system normally and then shut off the power supply.
- Do not exit the network management system when it is working normally. Exiting the network management system does not interrupt traffic in the network, but precludes centralized control of the networked equipment.
- The network management computer cannot be used for purposes other than network management. Use of unidentified memory devices should be prohibited so as to avoid computer viruses.
- Do not delete any file in the network management system randomly or copy any irrelevant file into the network management computer.
- Do not visit Internet via the network management computer. Doing so may increase data flow in the net card and hence affects normal network management data transmission or results in other accidents.

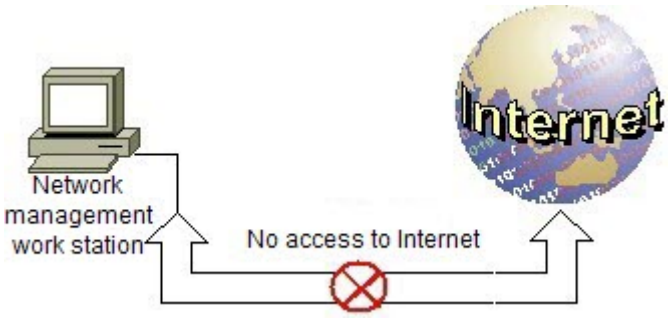


Figure 1-5 No access to Internet

- Do not perform service configuration or expansion during service busy hours via the network management system.
- Do not modify the network management computer’s protocol settings, computer name or LAN settings. Doing so may result in abnormal operation of network management system

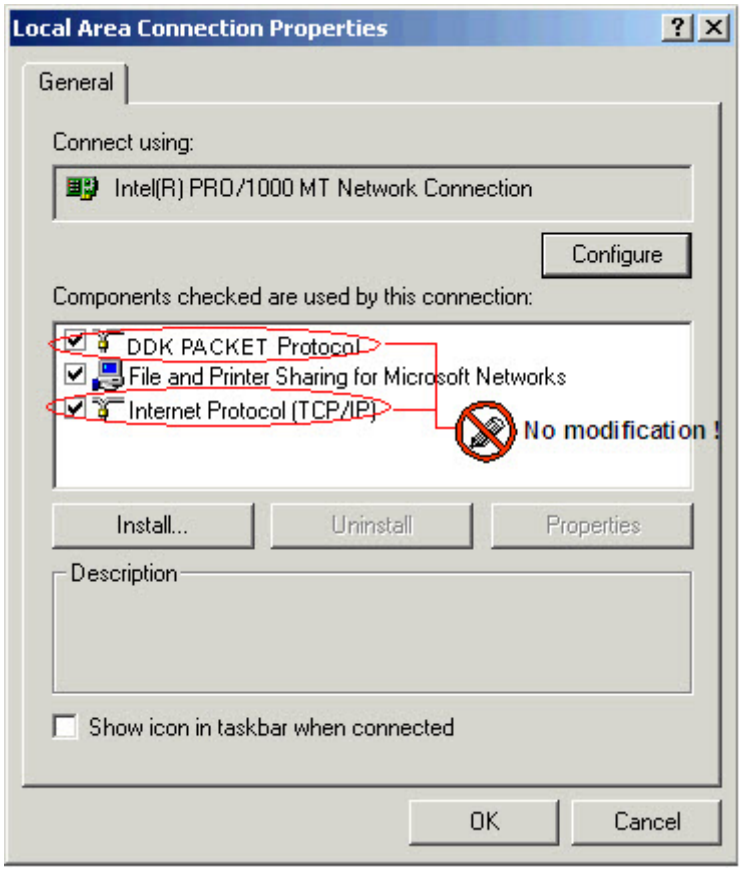


Figure 1-6 Do not modify protocol settings (1)

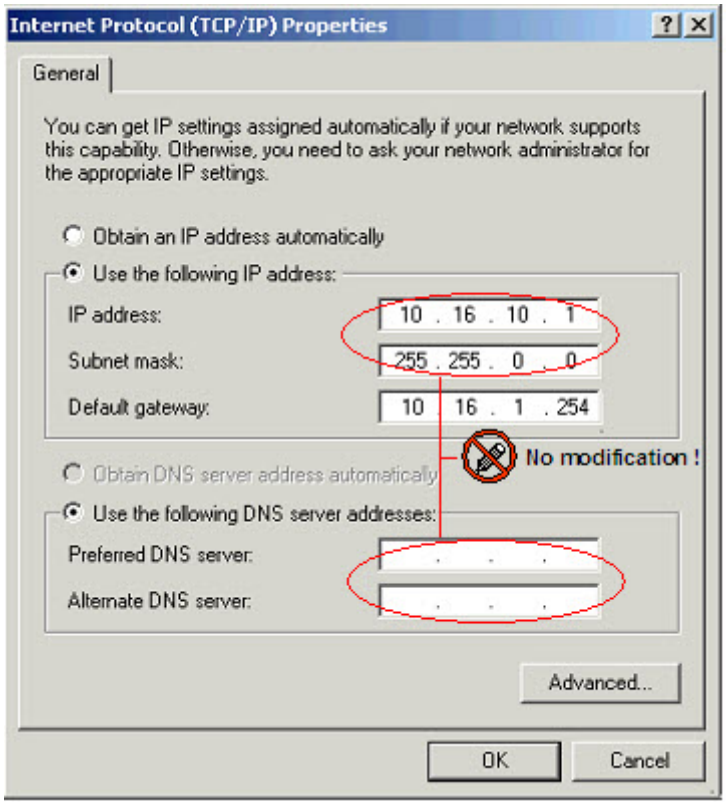


Figure 1-7 Do not modify protocol settings (2)

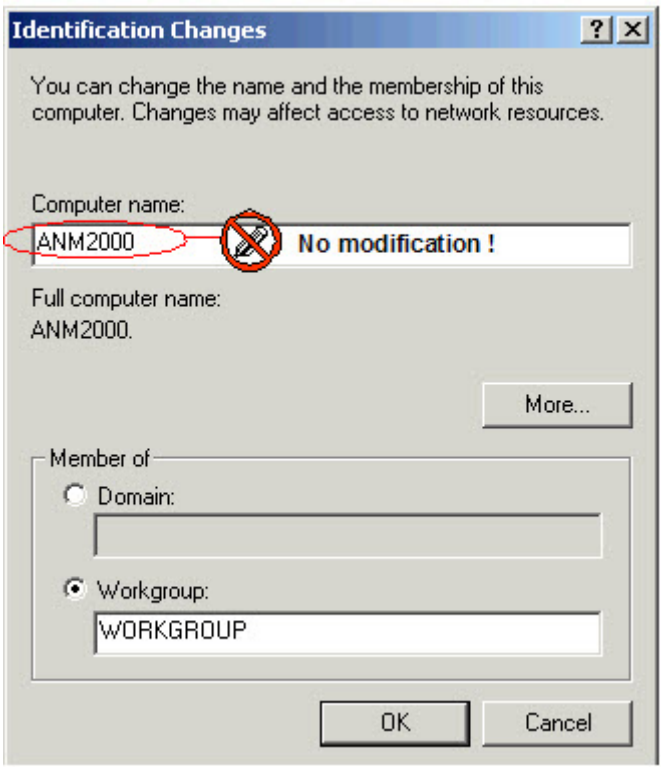


Figure 1-8 Do not modify computer name

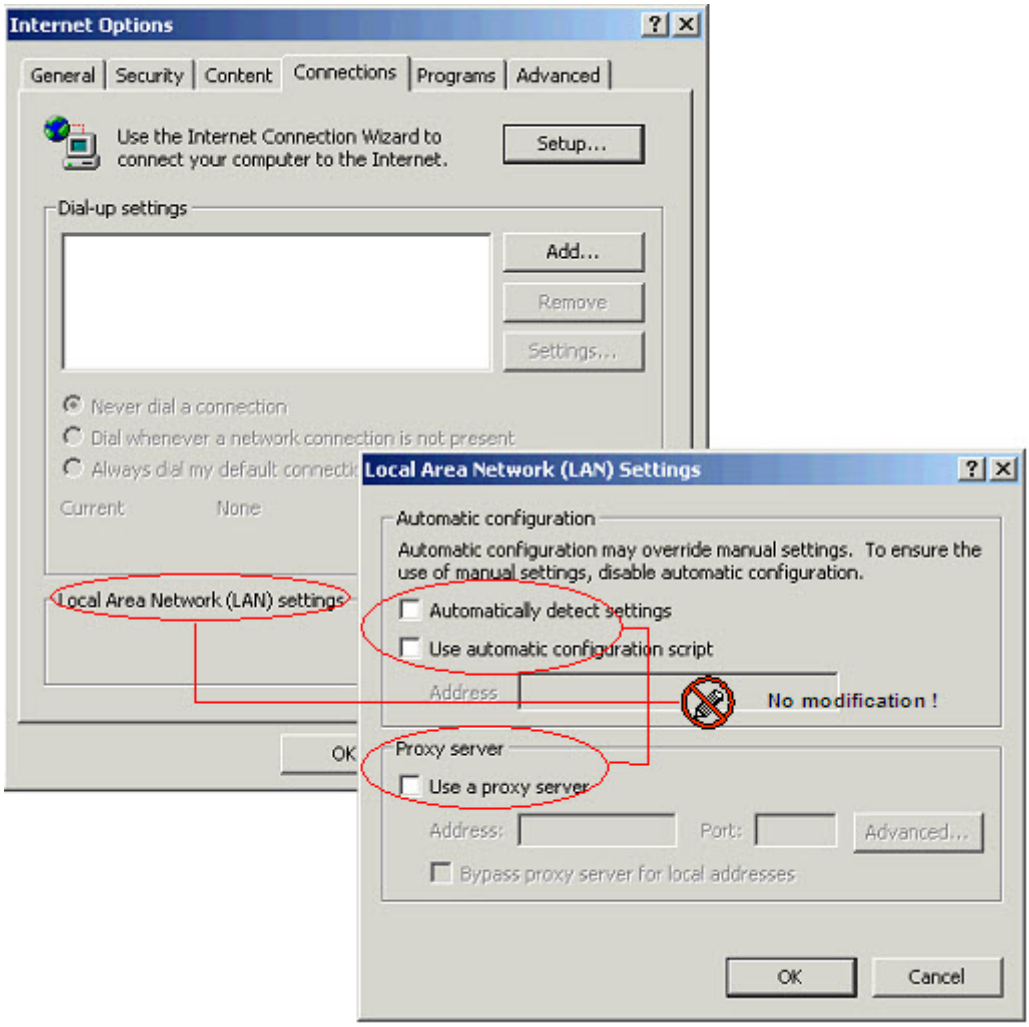


Figure 1-9 Do not modify LAN settings

1.2 Alarm Definitions

The alarm is the notice and alert of a system parameter reaching a certain threshold. Therefore, users must handle all alarms generated in the system immediately, so as to eliminate them at the initial stage, avoid occurring of various faults, and improve the network quality. For handling alarms, users must follow certain principles, so as to eliminate alarms and faults in the shortest possible time.

1.3 Principles for Alarm Handling

1.3.1 Principle of Restoring First and Repairing Second

Instruction

Restoring First and Preparing Second is to restore the services first by switching it to the protection path or the standby card and then repair faults. The prerequisite of this principle is that a protection path or a standby card for the faulty working path or the card exists in the system.

Application range

This principle is mainly applicable for handling the alarms influencing services.

1.3.2 Principle of External First and Equipment Second

Instruction

External first and equipment second is to exclude possible external faults (such as the broken fiber, terminal equipment fault, power supply fault, or equipment room environment problem) when handling alarms, and then consider faults of this equipment.

Application range

This principle is applicable for handling alarms caused by external faults.

1.3.3 Principle of Higher Level First and Lower Level Second

Instruction

Higer level first and lower level second is to analyze the alarm with higher level, such as the critical alarm and major alarm first and then the alarm with lower level, such as the subordinate alarm and prompt alarm in the course of alarm analysis. When handling alarms, users should handle the alarm influencing services first; if this alarm is caused by the alarm with higher level, then handle the alarm with higher levels first.

Application range

This principle is applicable for handling alarms when higher level alarms and lower level alarms exist at the same time.

1.3.4 Principle of Majority First and Minority Second

Instruction

Majority first and minority second is to handle the majority of alarms in the same type existing in the network management system first. The handling methods of the same type alarms are probably the same. After the majority of alarms with the same type are eliminated, the alarm existing in the network management system will reduce greatly. And this helps the supervision and maintenance staff analyze and ascertain the valid alarms.

Application range

This principle is applicable for handling alarms when the majority of the existing alarms are of the same type.

1.4 Alarm Levels

Generally, alarms has four levels: critical alarm, major alarm, minor alarm and prompt alarm.

- Critical alarm: Refers to the alarm causing service interruption and needing immediate troubleshooting.
- Major alarm: Refers to the alarm influencing service severely and needing immediate troubleshooting.
- Minor alarm: Refers to the alarm not influencing services but needing troubleshooting when the traffic is relatively small to avoid deterioration.
- Prompt alarm: Refers to the alarm not influencing current services but having the possibility to influence services, users can decide whether to handle it or not as needed.

1.5 Alarm List

See Table 1-2 for the alarm information of the AN5116-06B.

Table 1-2 Alarm information

Alarm Object	Alarm Name	Alarm Level	Alarm Type
HSUA card	CPU_INVERSION_FAILED	Critical alarm	Management failure alarm
	TIME_HAVENT	Critical alarm	Service quality alarm
	TIME_LOSS	Critical alarm	Service quality alarm
	TEMPERATURE_OVER	Critical alarm	Environmental alarm
	STANDBY_POWER_INPUT_FAIL	Critical alarm	Equipment alarm
	FAN_ERROR	Critical alarm	Equipment alarm
	CONFIG_HAVENOT_SAVED	Major alarm	Equipment alarm
	TOO_MANY_TDM	Major alarm	Equipment alarm
	CUR_ALARM_NUM_OVER_ THRESHOLD	Major alarm	Equipment alarm
	ALARM_NUM_OVER_ THRESHOLD	Major alarm	Equipment alarm
	CPU_USAGE_OVER_ THRESHOLD	Prompt alarm	Equipment alarm
	MEM_USAGE_OVER_ THRESHOLD	Prompt alarm	Equipment alarm
Unplink card	CARD_TYPE_NOT_IDENTICAL	Critical alarm	Equipment alarm

Table 1-2 Alarm information (Continued)

Alarm Object	Alarm Name	Alarm Level	Alarm Type
	CARD_NOT_PRESENT	Critical alarm	Equipment alarm
	GUP_NO_OPTICS_SIGNAL	Critical alarm	Communication alarm
	UP_CRC_ERROR_THRESHOLD / DOWN_CRC_ERROR_ THRESHOLD	Minor alarm	Service quality alarm
	UNDERSIZEFRAME_THRESHOLD	Minor alarm	Service quality alarm
	PORT_DISCONNECTED	Prompt alarm	Equipment alarm
EC4B/EC8B card	CARD_TYPE_NOT_IDENTICAL	Critical alarm	Equipment alarm
	CARD_NOT_PRESENT	Critical alarm	Equipment alarm
	Broken fiber	Critical alarm	Communication alarm
	PHYSIC_ID_CONFLICT	Critical alarm	Equipment alarm
	LOGICAL_ID_CONFLICT	Critical alarm	Equipment alarm
	ILEGAL_ONU_REGISTE	Prompt alarm	Equipment alarm
	ONU_UNAUTHENTICATED	Prompt alarm	Equipment alarm
	ONU_AUTO_CONFIG_FAILED	Prompt alarm	Management failure alarm
	CPU_USAGE_OVER_ THRESHOLD	Prompt alarm	Equipment alarm
	MEM_USAGE_OVER_ THRESHOLD	Prompt alarm	Equipment alarm
	OPTMODULE_TEMP_OVER	Prompt alarm	Equipment alarm
	OPTMODULE_TEMP_OVER	Prompt alarm	Equipment alarm
	OPTMODULE_BIAS_OVER	Prompt alarm	Equipment alarm
	OPTMODULE_TXPOWER_OVER	Prompt alarm	Equipment alarm
	OPTMODULE_RXPOWER_OVER	Prompt alarm	Equipment alarm
	OPTMODULE_RXPOWER_OVER	Prompt alarm	Equipment alarm
	TOTAL_BANDWIDTH_OVER	Prompt alarm	Management failure alarm
GC4B/GC8B card	CARD_TYPE_NOT_IDENTICAL	Critical alarm	Equipment alarm
	CARD_NOT_PRESENT	Critical alarm	Equipment alarm
	Broken fiber	Critical alarm	Communication alarm
	Unidentical module type	Critical alarm	Equipment alarm

Table 1-2 Alarm information (Continued)

Alarm Object	Alarm Name	Alarm Level	Alarm Type
	PHYSIC_ID_CONFLICT	Critical alarm	Equipment alarm
	LOGICAL_ID_CONFLICT	Critical alarm	Equipment alarm
	PASSWORD_CONFLICT	Critical alarm	Equipment alarm
	LASER_ALWAYS_ON	Critical alarm	Equipment alarm
	ILEGAL_ONU_REGISTE	Prompt alarm	Equipment alarm
	ONU_AUTO_CONFIG_FAILED	Prompt alarm	Management failure alarm
	CPU_USAGE_OVER_ THRESHOLD	Prompt alarm	Equipment alarm
	MEM_USAGE_OVER_ THRESHOLD	Prompt alarm	Equipment alarm
	ONU_UNAUTHENTICATED	Prompt alarm	Equipment alarm
	OPTMODULE_TEMP_OVER	Prompt alarm	Equipment alarm
	OPTMODULE_TEMP_OVER	Prompt alarm	Equipment alarm
	OPTMODULE_BIAS_OVER	Prompt alarm	Equipment alarm
	OPTMODULE_TXPOWER_OVER	Prompt alarm	Equipment alarm
	OPTMODULE_RXPOWER_OVER	Prompt alarm	Equipment alarm
	ONU_TO_OLT_RXPOWER_OVER	Prompt alarm	Equipment alarm
	TOTAL_BANDWIDTH_OVER	Prompt alarm	Management failure alarm
CE1B card	CARD_TYPE_NOT_IDENTICAL	Critical alarm	Equipment alarm
	CARD_NOT_PRESENT	Critical alarm	Equipment alarm
	E1_LOS	Major alarm	Communication alarm
	E1_AIS	Major alarm	Communication alarm
	CPU_USAGE_OVER_ THRESHOLD	Prompt alarm	Equipment alarm
	MEM_USAGE_OVER_ THRESHOLD	Prompt alarm	Equipment alarm
C155A card	CARD_TYPE_NOT_IDENTICAL	Critical alarm	Equipment alarm
	CARD_NOT_PRESENT	Critical alarm	Equipment alarm
	155_OPTICAL_LOS	Critical alarm	Communication alarm
	155_OPTICAL_LOF	Critical alarm	Communication alarm

Table 1-2 Alarm information (Continued)

Alarm Object	Alarm Name	Alarm Level	Alarm Type
	155_OPTICAL_LFA	Critical alarm	Communication alarm
	AIS	Minor alarm	Communication alarm
	CPU_USAGE_OVER_ THRESHOLD	Prompt alarm	Equipment alarm
	MEM_USAGE_OVER_ THRESHOLD	Prompt alarm	Equipment alarm
PUBA card	CARD_TYPE_NOT_IDENTICAL	Critical alarm	Equipment alarm
	CARD_NOT_PRESENT	Critical alarm	Equipment alarm
	User_defined_alarm1 to User_ defined_alarm14	Prompt alarm	Environmental alarm
ONU	Broken fiber	Critical alarm	Communication alarm
	LOS_Power	Critical alarm	Communication alarm
	Type Dismatch	Critical alarm	Management failure alarm
	MGC_DISCONNECTED	Critical alarm	Equipment alarm
	BATTERY_VOLTAGE_TOO_LOW	Critical alarm	Equipment alarm
	AC_FAIL	Major alarm	Communication alarm
	DC_LOW	Major alarm	Communication alarm
	BATTERY_MISSING	Major alarm	Equipment alarm
	CPU_VER_LOW	Major alarm	Equipment alarm
	E1 LOS	Major alarm	Communication alarm
	E1 LFA	Major alarm	Communication alarm
	E1 AIS	Major alarm	Communication alarm
	RX_POWER_HIGH_ALARM	Major alarm	Equipment alarm
	RX_POWER_LOW_ALARM	Major alarm	Equipment alarm
	TX_POWER_HIGH_ALARM	Major alarm	Equipment alarm
	TX_POWER_LOW_ALARM	Major alarm	Equipment alarm
	BIAS_HIGH_ALARM	Major alarm	Equipment alarm

Table 1-2 Alarm information (Continued)

Alarm Object	Alarm Name	Alarm Level	Alarm Type
	BIAS_LOW_ALARM	Major alarm	Equipment alarm
	VCC_HIGH_ALARM	Major alarm	Equipment alarm
	VCC_LOW_ALARM	Major alarm	Equipment alarm
	TEMP_HIGH_ALARM	Major alarm	Equipment alarm
	TEMP_LOW_ALARM	Major alarm	Equipment alarm
	ETH_PORT_LOOPBACK	Major alarm	Communication alarm
	UP_CRC_ERROR_THRESHOLD / DOWN_CRC_ERROR_ THRESHOLD	Minor alarm	Service quality alarm
	CPU_USAGE_OVER_ THRESHOLD	Prompt alarm	Equipment alarm
	MEM_USAGE_OVER_ THRESHOLD	Prompt alarm	Equipment alarm
	User_defined_alarm1 to User_ defined_alarm5	Prompt alarm	Environmental alarm
	OPTICAL_POWER_LOW	Prompt alarm	Equipment alarm
	NETWORK_SERVICE_QUALITY_ LOWER	Prompt alarm	Equipment alarm
	PROTECT_VOICE_SERVICE_ ONLY	Prompt alarm	Equipment alarm
	ONU LOF	Prompt alarm	Equipment alarm
	ONU DOW	Prompt alarm	Equipment alarm
	ONU SF	Prompt alarm	Equipment alarm
	ONU SD	Prompt alarm	Equipment alarm
	LCDG	Prompt alarm	Equipment alarm
	RDI	Prompt alarm	Equipment alarm
	SUF	Prompt alarm	Equipment alarm
	LOA	Prompt alarm	Equipment alarm
	PLOAM	Prompt alarm	Equipment alarm
	MEM	Prompt alarm	Equipment alarm
	PEE	Prompt alarm	Equipment alarm
	MIS	Prompt alarm	Equipment alarm
	UP_BIP8_OVER_THRESHOLD	Prompt alarm	Equipment alarm
	DOWN_BIP8_OVER_THRESHOLD	Prompt alarm	Equipment alarm

Table 1-2 Alarm information (Continued)

Alarm Object	Alarm Name	Alarm Level	Alarm Type
	INNER_TEMP_HIGH	Prompt alarm	Equipment alarm
	INNER_TEMP_LOW	Prompt alarm	Equipment alarm

1.6 Event Definitions

The event is the notice of the operations related to the system. Users should handle the events according to their levels and contents: For the urgent event, users should handle it immediately; and for the prompt event, users only need to execute the corresponding operation or leave it alone. Handling events should comply with the relevant rules; users should find out causes that trigger an event first, and then adopt the suitable measures.

1.7 Event Levels

Events generally have four levels: Critical event, major event, minor event and prompt event.

- Critical event: Refers to the operation or fault causing communication interruption and needing immediate troubleshooting.
- Major event: Refers to the operation or faults possibly influencing the service and needing troubleshooting.
- Minor event: Refers to the operation or faults not influencing services but needing troubleshooting when the traffic is relatively small to avoid deterioration.
- Prompt event: Refers to the operation or faults not influencing current services but having the possibility to influence services; users can decide whether to handle it or not as needed.

1.8 Event List

See Table 1-3 for the event information of the AN5116-06B.

Table 1-3 Event information of the equipment

Event Object	Event Name	Event Level
HSWA card	OLT_REGISER_FAILED	Critical event
	CPU_INVERSION_SUCCESSFUL	Prompt event
	Core switch card status change	Prompt event
	UPLINK_INVERSION	Prompt event
	SIGNAL_TRACE	Prompt event
	TIME_REQ	Prompt event
	COLD_START	Prompt event
	HG_REGISTER	Prompt event
	OLT_REGISTER	Prompt event
	PEER_INSERT	Prompt event
	PRECONFIG REQUEST	Prompt event
	LINECARD_SWITCH	Prompt event
ONU	CONFIG_FAILED	Critical event
	HG_REGISTER_FAILED	Critical event
	ONU_REGISTER_FAILED	Critical event
	AUTO_UPGRADE_FAILURE	Critical event
	UPGRADE_FILE_DISMATCH	Critical event
	UPGRADE_FAILURE	Critical event
	NGN_REG_FAIL_OVER_THRESH	Major event
	NGN_SET_FAIL	Minor event
	NGN_VERSION_ERROR	Minor event
	AUTO_UPGRADE_SUCCESS	Prompt event
	REPLACE_TYPE_MISMATCH	Prompt event
	PHYSIC_ADDRESS_REPLACE_ SUCCESSFUL	Prompt event
	SN_REPLACE_SUCCESS	Prompt event
	ONU_REPLACE_SUCCESSFUL	Prompt event
	ONU_REPLACE_EVENT	Prompt event
	REPLACE_REPLY_FAILED	Prompt event
	EQUIPMENT_TYPE_CHANGE	Prompt event
	EQUIPMENT_ALARM	Prompt event
	SELF_TEST_FAILURE	Prompt event
	ONU_AUTO_CONFIG_SUCCESS	Prompt event
	AUTH SUCCESS	Prompt event

Table 1-3 Event information of the equipment (Continued)

Event Object	Event Name	Event Level
	ONU_AUTH_SUCCESS	Prompt event
	DISCONNECT	Prompt event
	CONNECT	Prompt event
	MAC_SPOOFING_ATTACK	Prompt event
Card	PULL_OUT_CARD	Critical event
	INSERT_CARD	Critical event
	PON_INVERSION_SUCCESSFUL	Prompt event
	PON_PORT_PROTECTION_ GROUP_STATUS_CHANGE	Prompt event
	PRE_REGISTER_FAILURE	Prompt event
	PON_INVERSION_SUCCESSFUL	Prompt event
	PON_INVERSION_FAILED	Prompt event

2 Basic Operation

- ☑ Viewing Current Alarms
- ☑ Confirming Current Alarms
- ☑ Viewing Alarm History
- ☑ Configuring Custom Alarm Names
- ☑ Viewing Custom Alarm Names
- ☑ Configuring Custom Alarm Reporting Conditions
- ☑ Viewing Events

2.1 Viewing Current Alarms

Command function

This command is used to query current alarms of the selected object and its sub-objects. The current alarms include all alarms that have not ended and are not confirmed by users.

Applicable object

This command is applicable to the system, module, HSWA card, EC4B / EC8B / GC4B / GC8B card and their PON ports, CE1B card, C155A card and its STM-1 optical interfaces, HU1A card and its uplink ports, PUBA card, FAN card, ONU and its FE ports.

Prerequisite

The AN5116-06B communicates with the ANM2000 normally.

Operation procedure

Open the **Current Alarm** window according to the corresponding path listed in Table 2-1.

Table 2-1 Operation paths for querying current alarms

Object	Menu Item	Path
System, card and port	Current alarm	Right-click the AN5116-06B system in the **Object Tree** pane and select **Current Alarm** in the shortcut menu.
		Right-click the card in the **Object Tree** pane and select **Current Alarm** in the shortcut menu.
		Right-click the port in the **Object Tree** pane and select **Current Alarm** in the shortcut menu.
		Select **Alarm→Curretn Alarm** in the main menu bar or click the  button in the menu bar.

Operation result

The **Current Alarm** tab displays the object to be queried, alarm name, alarm type, begin time and end time, confirm time, confirm user, and confirm information. Users can handle relevant alarms based on the information displayed in this tab.

2.2 Confirming Current Alarms

Command function

This command is used to confirm the current alarm information, indicating that this alarm has been noticed and is being handled.

Applicable object

This command is applicable to current alarms of all current alarms.

Prerequisite

The AN5116-06B communicates with the ANM2000 normally.

Operation procedure

1. Open the **Current Alarm** tab according to the corresponding path listed in Table 2-1 and then right-click a certain alarm item.
2. Confirm current alarms:
   - Select **Alarm Confirm** in the shortcut menu to confirm the current alarm.
   - Select **Alarm Confirm-Confirming Information** in the shortcut menu and users can enter information in the **Confirming Information** box that appears to confirm the current alarm.

Operation result

- If an alarm has not ended, the alarm will still be displayed in the **Current Alarm** tab after being confirmed.
- If an alarm has ended, it will not be displayed in the **Current Alarm** tab after being confirmed. Users can query it in the **Historical Alarm** tab.

2.3 Viewing Alarm History

Command function

This command is used to query history alarms of the selected object and its sub-objects. The history alarms include all alarms that have ended and have been confirmed by users or by the system automatically.

Applicable object

This command is applicable to the system, module, HSWA card, EC4B / EC8B / GC4B / GC8B card and their PON ports, CE1B card, C155A card and its STM-1 optical interfaces, HU1A card and its uplink ports, PUBA card, FAN card, ONU and its FE ports.

Prerequisite

The AN5116-06B communicates with the ANM2000 normally.

Operation procedure

Open the **Historical Alarm** window according to the corresponding path listed in Table 2-2.

Table 2-2 Operation paths for querying alarm history

Object	Menu Item	Path
System, card and port	Alarm history	Right-click the AN5116-06B system in the **Object Tree** pane and select **Historical Alarm** in the shortcut menu.
		Right-click the card in the **Object Tree** pane and select **Historical Alarm** in the shortcut menu.
		Select **Alarm→Historical Alarm** in the main menu or click the  button in the menu bar.

Operation result

The **Historical Alarm** tab displays the object to be queried, alarm name, alarm type, beginning time and ending time, confirmation time, user confirmation and confirmation information.

2.4 Configuring Custom Alarm Names

Command function

This command is used to configure the custom alarm names for dry contacts.

Applicable object

This command is applicable to the PUBA card and the ONU.

Prerequisite

- The AN5116-06B communicates with the ANM2000 normally.
- The AN5116-06B connects with the dry contact normally.
- The ONU connects with the dry contact normally.

Operation procedure

1. Right-click the AN5116-06B system in the **Object tree** pane and select **Custom alarm manage** in the shortcut menu to bring up the **Custom alarm manage** window.
2. Select the PUBA card or the ONU from the object tree in the left pane.
3. Click the line where the alarm needs configuring in the right side of the pane.
4. Click the blank under the **Alarm English Name** item, and then select the alarm name in the drop-down list and the English name will automatically appear.
5. Repeat Steps 3 and 4 to configure other custom alarm names.

Note:

For the PUBA card, 14 custom alarm items can be defined; for the FTTH type ONU, two custom alarm items can be defined; for the FTTB type ONU, five custom alarm items can be defined.

6. Select the **Apply to same type device** check box in the shortcut menu to deliver the custom alarm names to equipment with the same type in the system.

7. Click **Save to Database** in the toolbar to save the configuration to the database.

Operation result

As soon as a certain custom alarm is reported to the ANM2000, the ANM2000 will display this defined alarm name.

2.5 Viewing Custom Alarm Names

Command function

This command is used to view the default names and custom names for custom alarms of dry contacts.

Applicable object

This command is applicable to the PUBA card and the ONU.

Prerequisite

- The AN5116-06B communicates with the ANM2000 normally.
- The AN5116-06B connects with the dry contact normally.
- The ONU connects with the dry contact normally.
- The custom alarm names has been set.

Procedure

1. Select **Alarm→Custom alarm manage** in the main menu of the ANM2000 window to open the **Custom alarm manage** window.
2. Select the object to be queried from the **Object tree** in the left pane.

Operation result

The right pane of the **Custom alarm manage** window displays the default names and custom names of custom alarms.

2.6 Configuring Custom Alarm Reporting Conditions

Command function

This command is used to set the reporting conditions for custom alarms.

Applicable object

This command is applicable to the PUBA card and the ONU.

Prerequisite

- The AN5116-06B communicates with the ANM2000 normally.
- The AN5116-06B connects with the dry contact normally.
- The ONU connects with the dry contact normally.

Operation procedure

- Configuring custom alarm reporting conditions for the PUBA card.
  1) Right-click the PUBA card in the **object tree** of the ANM2000 window, and then select **Config→Custom Alarm Manage** in the shortcut menu.
  2) Select **Edit→Append** or click the  button in the menu bar to get the **Please Input The Rows For Add:** dialog box; and then enter **1** in the dialog box and click **OK** to create an item.
  3) Enter the alarm interface No. in the **Interface No.** column, and select the alarm reporting condition in the drop-down list of the **Alarm Report Condition** item.
  4) Click  to write the configuration to the equipment.
- Configuring custom alarm reporting conditions for the ONU
  1) In the **Object Tree** of the ANM2000 window, click the PON port connected with the ONU.
  2) In the **ONU List** tab that appears subsequently, right-click the ONU and select **Config→Custom Alarm Manage** in the shortcut menu.

3) Enter the alarm interface No. in the **Interface No.** column, and select the alarm reporting condition in the drop-down list of the **Alarm Report Condition** item.

4) Click  to write the configuration to the equipment.

Operation result

When each alarm interface checks the level meeting the reporting conditions, the alarm will be generated and reported to the network management system.

2.7 Viewing Events

Command function

This command is used to query the event information of the selected object and its sub-object.

Applicable object

This command is applicable to the system, module, HSWA card, EC4B / EC8B / GC4B / GC8B card and their PON ports, CE1B card, C155A card and its STM-1 optical interfaces, HU1A card and its uplink ports, PUBA card, FAN card, ONU and its FE ports.

Prerequisite

The AN5116-06B communicates with the ANM2000 normally.

Operation procedure

1. Select **View→Event Report** in the ANM2000 main menu.
2. Select the corresponding query conditions in the **Event Report** tab that appears to query all events which meet the condition.

Operation result

The **Event Report** tab displays the object, event level and starting time of the event to be queried. The query is based on these items.

3 Critical Alarm

- Critical Alarms of the HSWA Card
- Critical Alarms of the EC4B/EC8B Card
- Critical Alarms of the GC4B/GC8B Card
- Critical Alarms of the PUBA Card
- Critical Alarms of the CE1B Card
- Critical Alarms of the C155A Card
- Critical Alarms of the Uplink Card
- Critical Alarms of the ONU

3.1 Critical Alarms of the HSWA Card

3.1.1 CPU_INVERSION_FAILED

Alarm information

Alarm Name	Alarm Level	Alarm Type
CPU_INVERSION_FAILED	Critical alarm	Management failure alarm

Influences on the system

If the system automatically or manually forced switching between the active and standby HSWA cards fails, the system continues to use the faulty active HSWA card, resulting in the system service interruption and the OLT failure for providing any services.

Probable reasons

- The active HSWA card works normally.
- The standby HSWA card is not present.
- The standby HSWA card is faulty.

Handling steps

1. Check whether the standby HSWA card is present or not.
   - If not, proceed to Step2.
   - If yes, proceed to Step3.
2. Reset of the standby HSWA card:
   1) In the ANM2000, right-click the active HSWA card in the **Object Tree** pane and select **System Control→Reset Standby HSWA**.
   2) Click the OK button to reset the standby HSWA card in the **Sending Commands...** window that appears subsequently.
      - If the standby HSWA card is present after the reset, execute the switching between the active and standby HSWA cards again. If the switching is successful, proceed to Step 7; if not, proceed to Step 4.

- If the standby HSWA card is still not present after the reset, replace this standby card.

3. Check the status of the ACT LED indicator on the standby HSWA card:
   - If the LED blinks slowly, the standby HSWA card is not ready to switch. Wait a moment and execute the switching between the active and standby HSWA cards again after the LED became ON.
   - If the LED is ON, proceed to Step 4.
4. Check whether the active HSWA card works normally, using the **Get Information** command to query whether each parameter is normal:
   - If the active HSWA card does not work normally, proceed to Step 5 for the forced switching.
   - If the active HSWA card works normally, proceed to Step 6.
5. Execute the manually forced switching:
   - If the manually forced switching is successful, do not change the current active-standby status of the HSWA cards and proceed to Step 7.
   - If not, stop the current operation and proceed to Step 6.
6. Please contact technicians of FiberHome.
7. End.

Caution:

If the switching failure occurs on the HSWA card, reset the standby HSWA card or perform manually forced switching operation. Even if the switching is successful, the configuration may lose or service interruption may occur. It is recommended to proceed to Step 6 if the switching failure occurs in the HSWA card.

3.1.2 TIME_HAVENT

Alarm information

Alarm Name	Alarm Level	Alarm Type
TIME_HAVENT	Critical alarm	Service quality alarm

Influences on the system

The alarm information cannot be reported to the ANM2000.

Probable reasons

The equipment time does not synchronize with the ANM2000.

Handling steps

1. Check whether the equipment time synchronizes with the ANM2000.
   1) Right-click the HSWA card in the **Logical Tree** pane in the ANM2000 and select **Time Config→Time Managment** to click **Time Method** tab.
   2) Check whether the equipment time is consistent with the ANM2000 in the **Time Method** tab.
      - If the time is consistent, proceed to Step 4.
      - If the time is inconsistent, proceed to Step 2.
2. Modify the equipment time to synchronize with the ANM2000.
   1) Right-click the system in the **Logical Tree** pane in the ANM2000 and select **Config→Time Calibration** in the shortcut menu.
   2) Repeat Step 1 to check whether the equipment time synchronizes with the ANM2000.
      - If the time is consistent, proceed to Step 4.
      - If the time is inconsistent, proceed to Step 3.
3. Please contact technicians of FiberHome.
4. End.

3.1.3 TIME_LOSS

Alarm information

Alarm Name	Alarm Level	Alarm Type
TIME_LOSS	Critical alarm	Service quality alarm

Influences on the system

The AN5116-06B cannot obtain clock signals from the NTP time server.

Probable reasons

The communication between the equipment and the NTP time server interrupts.

Handling steps

1. Check whether the physical connection between the uplink interface and the NTP time server is normal.
   - If the physical connection fault occurs, repair the connection from the uplink interface to the NTP server.
   - If the physical connection is normal, proceed to Step 2.
2. Please contact technicians of FiberHome.
3. End.

3.1.4 TEMPERATURE_OVER

Alarm information

Alarm Name	Alarm Level	Alarm Type
TEMPERATURE_OVER	Critical alarm	Environmental alarm

Influences on the system

The abnormal temperature may cause instability of the system.

Probable reasons

- The ambient temperature is abnormal.
- The temperature threshold setting is unreasonable.

Handling steps

1. Check whether the fan rotates normally:
   - If the fan rotates abnormally, repair it.

- If the fan rotates normally, proceed to Step 2.

2. Check whether too much dust gathers inside the fan card or the ventilation and air cooling may be hindered:
   - If too much dust exists, clear the dust.
   - If not, proceed to Step 3.
3. Check whether the air conditioner at the equipment site works normally:
   - If the air conditioner is off, switch it on.
   - If the air conditioner has faults, repair it.
   - If the air conditioner works normally, proceed to Step 4.
4. Check whether the temperature threshold needs to be modified:
   - If the threshold needs to be modified, proceed to Step 5.
   - If not, proceed to Step 6.
5. Follow the steps below to modify the temperature threshold:
   1) In the ANM2000, right-click the HSWA card in the **Object Tree** pane. Select **Alarm Management→Temp Threshold** in the shortcut menu to open the **Temp Threshold** window.
   2) Enter the suitable threshold value in the **Temp Threshold** column.
   3) Click  to write the configuration to the equipment.
      - If the alarm is removed after the modification, proceed to Step 7.
      - If the alarm persists after the modification, proceed to Step 6.
6. Please contact technicians of FiberHome.
7. End.

3.1.5 STANDBY_POWER_INPUT_FAIL

Alarm information

Alarm Name	Alarm Level	Alarm Type
STANDBY_POWER_INPUT_FAIL	Critical alarm	Equipment alarm

Influences on the system

The active and standby power supply loss occurs at same time, and the AN5116-06B fails to work.

Probable reasons

- The standby power supply's 220V mains supply is cut off.
- The standby power supply's supply line has faults.

Handling steps

1. Check whether the standby power supply's supply line has faults.
   - If faults exist, repair the supply line and proceed to Step 4.
   - If not, proceed to Step 2.
2. Check whether the standby power supply's 220V mains supply is cut off.
   - If the 220V mains supply is cut off, contact the local power supply department for troubleshooting.
   - If not, proceed to Step 3.
3. Please contact technicians of FiberHome.
4. End.

3.1.6 FAN_ERROR

Alarm information

Alarm Name	Alarm Level	Alarm Type
FAN_ERROR	Critical alarm	Equipment alarm

Influences on the system

The fan failure may cause the poor heat dissipation for the whole system. If the equipment works in this situation for a long time, the system cannot keep running stably, even hardware faults may occur.

Probable reasons

The fan unit works abnormally

Handling steps

1. Check whether the power supply of the fan unit is connected correctly. If not, connect the power supply correctly for the fan unit first.
2. Check whether too much dust is inside the fan card:
   - If yes, clear the dust. If the alarm is removed after the cleaning, proceed to Step 5; If the alarm persists, proceed to Step 3.
   - If not, proceed to Step 3.
3. Replace the faulty fan complying with the operation specification and make the correct cable connection:
   - If the alarm is removed after the modification, proceed to Step 5.
   - If the alarm persists after the modification, proceed to Step 4.
4. Please contact technicians of FiberHome.
5. End.

3.2 Critical Alarms of the EC4B/EC8B Card

3.2.1 CARD_TYPE_NOT_IDENTICAL

Alarm information

Alarm Name	Alarm Level	Alarm Type
CARD_TYPE_NOT_IDENTICAL	Critical alarm	Equipment alarm

Influences on the system

- The ANM2000 or the CLI (Command Line Interface) cannot issue any command to the card located in this slot successfully.
- The card cannot provide any service.

Probable reasons

The type of the card physically inserted in the equipment is not identical to that pre-configured in the ANM2000.

Handling steps

1. Check the type of the card physically inserted in the equipment to verify whether the card type matches the configuration in the ANM2000.
   - If the physical card type does not match the configuration in the ANM2000, replace the card and proceed to Step 2.
   - If the physical card type matches the configuration in the ANM2000, proceed to Step 3.
2. Modify the card type in the ANM2000 to make it identical to the physical card type in the equipment:
   1) In the ANM2000, right-click the AN5116-06B in the **Object Tree** pane and select the **Card Config** in the shortcut menu.
   2) In the **Card Config** window that appears subsequently, click the EC4B / EC8B card to modify the card type. Select **Set Card Authorization→ Copy Hardware Config To Card Config** in the menu bar.
   3) Select **Operation→Write Device** in the menu bar and proceed to Step 3.
3. After modifying the card configuration, users should confirm whether the alarm is removed:
   - If the alarm is removed after the modification, proceed to Step 5.
   - If the alarm persists after the modification, proceed to Step 4.
4. Please contact technicians of FiberHome.
5. End.

3.2.2 CARD_NOT_PRESENT

Alarm information

Alarm Name	Alarm Level	Alarm Type
CARD_NOT_PRESENT	Critical alarm	Equipment alarm

Influences on the system

- The ANM2000 or the CLI (Command Line Interface) cannot issue any command to the card located in this slot successfully.
- All services loaded on this card are interrupted; and the card cannot provide any service.

Probable reasons

- The EC4B / EC8B card is unplugged from the equipment.
- The EC4B / EC8B card in the equipment is faulty.

Handling steps

1. Check whether the card is unplugged from the equipment:
   - If the card is unplugged, check the card and insert it again. If the alarm is removed, proceed to Step 4; if the alarm still persists, proceed to the Step 2.
   - If the card is present, proceed to Step2.
2. Check whether the card is faulty and whether the ALARM LED on the card is ON:
   - If the ALARM LED is OFF, proceed to Step 3.
   - If the ALARM LED is ON, replace the card and proceed to Step 4.
3. Please contact technicians of FiberHome.
4. End.

3.2.3 LINK_LOSS

Alarm information

Alarm Name	Alarm Level	Alarm Type
LINK_LOSS	Critical alarm	Communication alarm

Influences on the system

All subscriber services loaded on the PON port are interrupted.

Probable reasons

- The optical module of the PON port on the OLT card is faulty.
- The optical fiber connected with the PON port (i.e. the fiber link between the PON port and the splitter) is damaged.

Handling steps

1. Check the optical module of the PON port on the OLT card with an optical power meter:
   - If the optical power is too low or no optical signal exists, the optical module has faults. Replace the card.
   - If the optical power is normal, proceed to Step 2.
2. Check the optical fiber (from the PON port to the splitter) with an optical power meter:
   - If the optical power is too low or no optical signal exists, the fiber link or the splitter has faults. Repair the physical link.
   - If the optical power is normal, proceed to Step 3.
3. Please contact technicians of FiberHome.
4. End.

3.2.4 PHYSIC_ID_CONFLICT

Alarm information

Alarm Name	Alarm Level	Alarm Type
PHYSIC_ID_CONFLICT	Critical alarm	Equipment alarm

Influences on the system

The system cannot authorize the ONUs which use the conflict physical IDs.

Probable reasons

The physical IDs of ONUs under the current EC4B / EC8B card's PON port conflict with those of the authorized ONUs in the system.

Handling steps

1. Check the validity of the ONUs whose physical IDs conflict with each other. Power off the illegal ONU under the current PON port or replace the ONU:
   - If the alarm is removed after the modification, proceed to Step 3.
   - If the alarm persists after the modification, proceed to Step 2.
2. Please contact technicians of FiberHome.
3. End.

3.2.5 LOGICAL_ID_CONFLICT

Alarm information

Alarm Name	Alarm Level	Alarm Type
LOGICAL_ID_CONFLICT	Critical alarm	Equipment alarm

Influences on the system

The system cannot authorize the ONUs which use the conflict logical IDs.

Probable reasons

The logical IDs of ONUs under the current EC4B / EC8B card's PON port conflict with those of the authorized ONUs in the system.

Handling steps

1. Check the validity of the ONUs whose logical IDs conflict with each other. Power off the illegal ONU under the current PON port or replace the ONU:
   - If the alarm is removed, proceed to Step 3.
   - If the alarm persists, proceed to Step 2.
2. Please contact technicians of FiberHome.
3. End.

3.3 Critical Alarms of the GC4B/GC8B Card

3.3.1 CARD_TYPE_NOT_IDENTICAL

Alarm information

Alarm Name	Alarm Level	Alarm Type
CARD_TYPE_NOT_IDENTICAL	Critical alarm	Equipment alarm

Influences on the system

- The ANM2000 or the CLI (Command Line Interface) cannot issue any command to the card located in this slot successfully.
- The card cannot provide any service.

Probable reasons

The type of the card physically inserted in the equipment is not identical to that pre-configured in the ANM2000.

Handling steps

1. Check the type of the card physically inserted in the equipment to verify whether the card type matches the configuration in the ANM2000.
   - If the physical card type does not match the configuration in the ANM2000, replace the card and proceed to Step 2.
   - If the physical card type matches the configuration in the ANM2000, proceed to Step 3.
2. Modify the card type in the ANM2000 to make it identical to the physical card type in the equipment:
   1) In the ANM2000, right-click the AN5116-06B in the **Object Tree** pane and select the **Card Config** in the shortcut menu.
   2) In the **Card Config** window that appears subsequently, click the GC4B / GC8B card to modify the card type. Select **Set Card Authorization→ Copy Hardware Config To Card Config** in the menu bar.
   3) Select **Operation→Write Device** in the menu bar and proceed to Step 3.

3. After modifying the card configuration, users should confirm whether the alarm is removed:
   - If the alarm is removed, proceed to Step 5.
   - If the alarm persists, proceed to Step 4.
4. Please contact technicians of FiberHome.
5. End.

3.3.2 CARD_NOT_PRESENT

Alarm information

Alarm Name	Alarm Level	Alarm Type
CARD_NOT_PRESENT	Critical alarm	Equipment alarm

Influences on the system

- The ANM2000 or the CLI (Command Line Interface) cannot issue any command to the card located in this slot successfully.
- All services loaded on this card are interrupted; and the card cannot provide any service.

Probable reasons

- The GC4B / GC8B card is unplugged from the equipment.
- The GC4B / GC8B card in the equipment is faulty.

Handling steps

1. Check whether the card is unplugged from the equipment:
   - If the card is unplugged, check the card and insert it again. If the alarm is removed, proceed to Step 4; if the alarm still persists, proceed to the Step 2.
   - If the card is present, proceed to Step 2.
2. Check whether the card is faulty and whether the ALARM LED on the card is ON:

- If the ALARM LED is OFF, proceed to Step 3.
- If the ALARM LED is ON, replace the card and proceed to Step 4.

3. Please contact technicians of FiberHome.
4. End.

3.3.3 LINK_LOSS

Alarm information

Alarm Name	Alarm Level	Alarm Type
LINK_LOSS	Critical alarm	Communication alarm

Influences on the system

All subscriber services loaded on the PON port are interrupted.

Probable reasons

- The optical module of the PON port on the OLT card is faulty.
- The optical fiber connected with the PON port (i.e. the fiber link between the PON port and the splitter) is damaged.

Handling steps

1. Check the optical module of the PON port on the OLT card with an optical power meter:
   - If the optical power is too low or no optical signal exists, the optical module has faults. Replace the card.
   - If the optical power is normal, proceed to Step 2.
2. Check the optical fiber (from the PON port to the splitter) with an optical power meter:
   - If the optical power is too low or no optical signal exists, the fiber link or the splitter has faults. Repair the physical link.
   - If the optical power is normal, proceed to Step 3.
3. Please contact technicians of FiberHome.

4. End.

3.3.4 Unidentical Module Type

Alarm information

Alarm Name	Alarm Level	Alarm Type
Unidentical module type.	Critical alarm	Equipment alarm

Influences on the system

- The GC4B/GC8B card cannot detect the ONU of the PON interface.
- Services of the PON interface on the GC4B/GC8B card are abnormal.

Probable reasons

- The optical module type of the PON interface is not identical.
- The optical module has faults.
- The PON interface has fautls.

Handling steps

1. Unplug the optical module of the faulty PON interface on the GC4B/GC8B card. Check whether the optical module type is 2.5G GPON optical module.
   - If the optical module type is faulty, replace the 2.5G GPON optical module.
   - If the optical module type is correct, proceed to Step 2.
2. Check whether the optical module is faulty.
   - After replacing the optical module in the same type, faults are removed and proceed to Step 4.
   - After replacing the optical module in the same type, the fault persists and the PON interface of the card has faults, proceed to Step 3.
3. Please contact technicians of FiberHome.
4. End.

3.3.5 PHYSIC_ID_CONFLICT

Alarm information

Alarm Name	Alarm Level	Alarm Type
PHYSIC_ID_CONFLICT	Critical alarm	Equipment alarm

Influences on the system

This alarm does not influence the system; but the system cannot authorize the ONUs which use the conflict physical IDs.

Probable reasons

The physical IDs of ONUs under the current EC4B / EC8B card's PON port conflict with those of the authorized ONUs in the system.

Handling steps

1. Check the validity of the ONUs whose physical IDs conflict with each other. Power off the illegal ONU under the current PON port or replace the ONU:
   - If the alarm is removed, proceed to Step 3.
   - If the alarm persists, proceed to Step 2.
2. Please contact technicians of FiberHome.
3. End.

3.3.6 LOGICAL_ID_CONFLICT

Alarm information

Alarm Name	Alarm Level	Alarm Type
LOGICAL_ID_CONFLICT	Critical alarm	Equipment alarm

Influences on the system

The system cannot authorize the ONUs which use the conflict logical IDs.

Probable reasons

The logical IDs of ONUs under the current EC4B / EC8B card's PON port conflict with those of the authorized ONUs in the system.

Handling steps

1. Check the validity of the ONUs whose logical IDs conflict with each other. Power off the illegal ONU under the current PON port or replace the ONU:
   - If the alarm is removed, proceed to Step 3.
   - If the alarm persists, proceed to Step 2.
2. Please contact technicians of FiberHome.
3. End.

3.3.7 PASSWORD_CONFLICT

Alarm information

Alarm Name	Alarm Level	Alarm Type
PASSWORD_CONFLICT	Critical alarm	Equipment alarm

Influences on the system

The system cannot authorize the ONUs with the conflict passwords.

Probable reasons

The passwords of ONUs under the current EC4B / EC8B card's PON port conflict with those of the authorized ONUs in the system.

Handling steps

1. Check the validity of the ONUs whose passwords conflict with each other. Power off the illegal ONU under the current PON port or replace the ONU:
   - If the alarm is removed, proceed to Step 3.
   - If the alarm persists, proceed to Step 2.
2. Please contact technicians of FiberHome.

3. End.

3.3.8 LASER_ALWAYS_ON

Alarm information

Alarm Name	Alarm Level	Alarm Type
LASER_ALWAYS_ON	Critical alarm	Equipment alarm

Influences on the system

- The ONU transmits optical signals constantly and the OLT cannot resolve the optical signals.
- Except the ONU, all ONU services of the PON interface are interrupted.

Probable reasons

Laser of certain ONU is always on.

Handling steps

- If the ONU authorized number and the physical ID exist in the additional alarm information of the LASER_ALWAYS_ON alarm, follow the steps below for troubleshooting:
  1) Find the ONU according to the corresponding authorized number and physical ID at the subscriber side and replace the ONU.
     - If the alarm is removed after replacement, proceed to step 3.
     - If the alarm persists after replacement, proceed to step 2.
  2) Please contact technicians of FiberHome.
  3) End.
- If no ONU authorized number and the physical ID exist in the additional alarm information of the LASER_ALWAYS_ON alarm, follow the steps below for troubleshooting:
  1) Unplug every branch fiber connected to the splitter and then insert into the optical power detector to check the ONU Tx optical power:

- If the optical power meter receives the optical signal, the laser of the ONU is always ON. Replace the ONU.
- If no optical signal are detected by the optical power meter, the laser of the ONU always ON doesn't exist.

2) If the alarm persists, contact technicians of FiberHome.

3) End.

3.4 Critical Alarms of the PUBA Card

3.4.1 CARD_TYPE_NOT_IDENTICAL

Alarm information

Alarm Name	Alarm Level	Alarm Type
CARD_TYPE_NOT_ IDENTICAL	Critical alarm	Equipment alarm

Influences on the system

- The ANM2000 or the CLI (Command Line Interface) cannot issue any command to the card located in this slot successfully.
- All services loaded on this card are interrupted; and the card cannot provide voice services.

Probable reasons

The type of the card physically inserted in the equipment is not identical to that pre-configured in the ANM2000.

Handling steps

1. Check the type of the card physically inserted in the equipment to verify whether the card type matches the configuration in the ANM2000.
   - If the physical card type does not match the configuration in the ANM2000, replace the card and proceed to Step 2.
   - If the physical card type matches the configuration in the ANM2000, proceed to Step 3.

2. Modify the card type in the ANM2000 to make it identical to the physical card type in the equipment:

   1) In the ANM2000, right-click the AN5116-06B in the **Object Tree** pane and select the **Card Config** in the shortcut menu.

   2) In the **Card Config** window that appears subsequently, click the PUBA card to modify the card type and select **Set Card Authorization→Copy Hardware Config To Card Config** in the menu bar.

   3) Select **Operation→Write Device** in the menu bar and proceed to Step 3.

3. After modifying the card configuration, users should confirm whether the alarm is removed:

   - If the alarm is removed, proceed to Step 5.
   - If the alarm persists, proceed to Step 4.

4. Please contact technicians of FiberHome.

5. End.

3.4.2 CARD_NOT_PRESENT

Alarm information

Alarm Name	Alarm Level	Alarm Type
CARD_NOT_PRESENT	Critical alarm	Equipment alarm

Influences on the system

- The ANM2000 or the CLI (Command Line Interface) cannot issue any command to the card located in this slot successfully.
- All services loaded on this card are interrupted; and the card cannot provide voice services.

Probable reasons

The PUBA card is unplugged from the equipment or the PUBA card in the equipment is faulty.

Handling steps

1. Check whether the card is unplugged from the equipment:
   - If the card is unplugged, check the card and insert it again. If the alarm is removed, proceed to Step 4; if the alarm still persists, proceed to the Step 2.
   - If the card is present, proceed to Step 2.
2. Check whether the card is faulty and whether the ALARM LED on the card is ON:
   - If the ALARM LED is OFF, proceed to Step 3.
   - If the ALARM LED is ON, replace the card and proceed to Step 4.
3. Please contact technicians of FiberHome.
4. End.

3.5 Critical Alarms of the CE1B Card

3.5.1 CARD_TYPE_NOT_IDENTICAL

Alarm information

Alarm Name	Alarm Level	Alarm Type
CARD_TYPE_NOT_ IDENTICAL	Critical alarm	Equipment alarm

Influences on the system

- The ANM2000 or the CLI (Command Line Interface) cannot issue any command to the card located in this slot successfully.
- The TDM services loaded on this card are interrupted.

Probable reasons

The type of the card physically inserted in the equipment is not identical to that pre-configured in the ANM2000.

Handling steps

1. Check the type of the card physically inserted in the equipment to verify whether the card type matches the configuration in the ANM2000.
   - If the physical card type does not match the configuration in the ANM2000, replace the card and proceed to Step 2.
   - If the physical card type matches the configuration in the ANM2000, proceed to Step 3.
2. Modify the card type in the ANM2000 to make it identical to the physical card type in the equipment:
   1) In the ANM2000, right-click the AN5116-06B in the **Object Tree** pane and select the **Card Config** in the shortcut menu.
   2) In the **Card Config** window that appears subsequently, click the CE1B card to modify the card type and select **Set Card Authorization→Copy Hardware Config To Card Config** in the menu bar.
   3) Select **Operation→Write Device** in the menu bar and proceed to Step 3.
3. After modifying the card configuration, users should confirm whether the alarm is removed:
   - If the alarm is removed, proceed to Step 5.
   - If the alarm persists, proceed to Step 4.
4. Please contact technicians of FiberHome.
5. End.

3.5.2 CARD_NOT_PRESENT

Alarm information

Alarm Name	Alarm Level	Alarm Type
CARD_NOT_PRESENT	Critical alarm	Equipment alarm

Influences on the system

- The ANM2000 or the CLI (Command Line Interface) cannot issue any command to the card located in this slot successfully.

- The TDM services loaded on this card are interrupted.

Probable reasons

The CE1B card is unplugged from the equipment or the CE1B card in the equipment is faulty.

Handling steps

1. Check whether the card is unplugged from the equipment:
   - If the card is unplugged, check the card and insert it again. If the alarm is removed, proceed to Step 4; if the alarm still persists, proceed to the Step 2.
   - If the card is present, proceed to Step 2.
2. Check whether the card is faulty and whether the ALARM LED on the card is ON:
   - If the ALARM LED is OFF, proceed to Step 3.
   - If the ALARM LED is ON, replace the card and proceed to Step 4.
3. Please contact technicians of FiberHome.
4. End.

3.6 Critical Alarms of the C155A Card

3.6.1 CARD_TYPE_NOT_IDENTICAL

Alarm information

Alarm Name	Alarm Level	Alarm Type
CARD_TYPE_NOT_IDENTICAL	Critical alarm	Equipment alarm

Influences on the system

- The ANM2000 or the CLI (Command Line Interface) cannot issue any command to the card located in this slot successfully.
- The TDM services loaded on this card are interrupted.

Probable reasons

The type of the card physically inserted in the equipment is not identical to that pre-configured in the ANM2000.

Handling steps

1. Check the type of the card physically inserted in the equipment to verify whether the card type matches the configuration in the ANM2000.
   - If the physical card type does not match the configuration in the ANM2000, replace the card and proceed to Step 2.
   - If the physical card type matches the configuration in the ANM2000, proceed to Step 3.
2. Modify the card type in the ANM2000 to make it identical to the physical card type in the equipment:
   1) In the ANM2000, right-click the AN5116-06B in the **Object Tree** pane and select the **Card Config** in the shortcut menu.
   2) In the **Card Config** window that appears subsequently, click the C155A card to modify the card type and select **Set Card Authorization→Copy Hardware Config To Card Config** in the menu bar.
   3) Select **Operation→Write Device** in the menu bar and proceed to Step 3.
3. After modifying the card configuration, users should confirm whether the alarm is removed:
   - If the alarm is removed, proceed to Step 5.
   - If the alarm persists, proceed to Step 4.
4. Please contact technicians of FiberHome.
5. End.

3.6.2 CARD_NOT_PRESENT

Alarm information

Alarm Name	Alarm Level	Alarm Type
CARD_NOT_PRESENT	Critical alarm	Equipment alarm

Influences on the system

- The ANM2000 or the CLI (Command Line Interface) cannot issue any command to the card located in this slot successfully.
- The TDM services loaded on this card are interrupted.

Probable reasons

The C155A card is unplugged from the equipment or the C155A card in the equipment is faulty.

Handling steps

1. Check whether the card is unplugged from the equipment:
   - If the card is unplugged, check the card and insert it again. If the alarm is removed, proceed to Step 4; if the alarm still persists, proceed to the Step 2.
   - If the card is present, proceed to Step 2.
2. Check whether the card is faulty and whether the ALARM LED on the card is ON:
   - If the ALARM LED is OFF, proceed to Step 3.
   - If the ALARM LED is ON, replace the card and proceed to Step 4.
3. Please contact technicians of FiberHome.
4. End.

3.6.3 155_OPTICAL_LOS

Alarm information

Alarm Name	Alarm Level	Alarm Type
155_OPTICAL_LOS	Critical alarm	Communication alarm

Influences on the system

The TDM services loaded on this card are interrupted.

Probable reasons

- The optical fiber is broken.
- Excessive line loss or transmission failure.
- The Tx laser of the far end equipment is broken.

Handling steps

1. Check whether the connection optical fiber is broken:
   - If yes, replace the broken optical fiber and plug in the new one. If the alarm is removed, proceed to Step 5; if the alarm still persists, proceed to step 2.
   - If not, proceed to Step 2.
2. Measure the Rx optical power of the C155A card that reports the alarm. If the optical power is normal, check whether the optical fiber is firmly connected to the port. If yes, replace the C155A card that reports the alarm.
   - If the alarm is removed after the replacement, proceed to Step 5.
   - If the alarm persists, proceed to Step 3.
3. Check whether the optical fiber is firmly connected to the port of the optical transmitting card on the far end equipment. If yes, replace the card on the far end equipment. If the alarm persists after the replacement, proceed to step 4.
4. Please contact technicians of FiberHome.
5. End.

3.6.4 155_OPTICAL_LOF

Alarm information

Alarm Name	Alarm Level	Alarm Type
155_OPTICAL_LOF	Critical alarm	Communication alarm

Influences on the system

The TDM services loaded on this card have faults.

Probable reasons

- Excessive line loss.
- The signals transmitted from the far end equipment have no frame structure.

Handling steps

1. Measure the Rx optical power of the C155A card that reports the alarm.
   - If the optical power is normal, replace the C155A card that reports the alarm. If the alarm is removed after replacing, proceed to Step 5; if the alarm still persists, proceed to Step 3.
   - If the optical power is not within the normal range, proceed to step 2.
2. Check whether the optical fiber between the local end equipment and the far end equipment and its interface are damaged:
   - If yes, replace the optical fiber and the interface. If the alarm is removed after replacing, proceed to Step 5; if the alarm still persists, proceed to Step 3.
   - If not, proceed to Step 3.
3. Check whether the far end equipment works normally.
   - If not, restore the far end equipment to the normal working status. If the alarm is removed after restoration, proceed to Step 5; if the alarm still persists, proceed to Step 4.
   - If yes, proceed to Step 4.
4. Please contact technicians of FiberHome.
5. End.

3.6.5 155_OPTICAL_LFA

Alarm information

Alarm Name	Alarm Level	Alarm Type
155_OPTICAL_LFA	Critical alarm	Communication alarm

Influences on the system

The TDM services loaded on this card have faults.

Probable reasons

- Excessive line loss.
- Excessive bit errors during the transmission.
- The far end equipment works abnormally.

Handling steps

1. Measure the Rx optical power of the C155A card that reports the alarm.
   - If the optical power is normal, replace the C155A card that reports the alarm. If the alarm is removed after replacing, proceed to Step 5; if the alarm still persists, proceed to Step 3.
   - If the optical power exceeds the normal range, proceed to step 2.
2. Check whether the optical fiber between the local end equipment and the far end equipment and its interface are damaged:
   - If yes, replace the optical fiber and the interface. If the alarm is removed after replacing, proceed to Step 5; if the alarm still persists, proceed to Step 3.
   - If not, proceed to Step 3.
3. Check whether the far end equipment works normally.
   - If not, restore the far end equipment to the normal working status. If the alarm is removed after restoration, proceed to Step 5; if the alarm still persists, proceed to Step 4.
   - If yes, proceed to Step 4.
4. Please contact technicians of FiberHome.
5. End.

3.7 Critical Alarms of the Uplink Card

3.7.1 CARD_TYPE_NOT_IDENTICAL

Alarm information

Alarm Name	Alarm Level	Alarm Type
CARD_TYPE_NOT_IDENTICAL	Critical alarm	Equipment alarm

Influences on the system

- The ANM2000 or the CLI (Command Line Interface) cannot issue any command to the card located in this slot successfully.
- All services of the whole OLT system are interrupted.

Probable reasons

The type of the card physically inserted in the equipment is not identical to that pre-configured in the ANM2000.

Handling steps

1. Check the type of the card physically inserted in the equipment to verify whether the card type matches the configuration in the ANM2000.
   - If the physical card type does not match the configuration in the ANM2000, replace the card and proceed to Step 2.
   - If the physical card type matches the configuration in the ANM2000, proceed to Step 3.
2. Modify the card type in the ANM2000 to make it identical to the physical card type in the equipment:
   1) In the ANM2000, right-click the AN5116-06B in the **Object Tree** pane and select the **Card Config** in the shortcut menu.
   2) In the **Card Config** window that appears subsequently, click the uplink card to modify the card type and select **Set Card Authorization→Copy Hardware Config To Card Config** in the menu bar.
   3) Select **Operation→Write Device** in the menu bar and proceed to Step 3.

3. After modifying the card configuration, users should confirm whether the alarm is removed:
   - If the alarm is removed, proceed to Step 5.
   - If the alarm persists, proceed to Step 4.
4. Please contact technicians of FiberHome.
5. End.

3.7.2 CARD_NOT_PRESENT

Alarm information

Alarm Name	Alarm Level	Alarm Type
CARD_NOT_PRESENT	Critical alarm	Equipment alarm

Influences on the system

- The ANM2000 or the CLI (Command Line Interface) cannot issue any commands to the card located in this slot successfully.
- All services of the whole OLT system are interrupted.

Probable reasons

The uplink card is unplugged from the equipment or the uplink card in the equipment is faulty.

Handling steps

1. Check whether the card is unplugged from the equipment:
   - If the card is unplugged, check the card and insert it again. If the alarm is removed, proceed to Step 4; if the alarm still persists, proceed to the Step 2.
   - If the card is present, proceed to Step 2.
2. Check whether the card is faulty and whether the ALARM LED on the card is ON:
   - If the ALARM LED is OFF, proceed to Step 3.

- If the ALARM LED is ON, replace the card and proceed to Step 4.

3. Please contact technicians of FiberHome.
4. End.

3.7.3 GUP_NO_OPTICS_SIGNAL

Alarm information

Alarm Name	Alarm Level	Alarm Type
GUP_NO_OPTICS_SIGNAL	Critical alarm	Communication alarm

Influences on the system

All services loaded on the port are interrupted.

Probable reasons

- The optical fiber connection of the uplink port is abnormal.
- The optical module of the uplink port is faulty.

Handling steps

1. Check whether the uplink optical interface is connected with the optical fiber:
   - If not, connect the optical fiber and proceed to Step 5.
   - If yes, proceed to Step 2.
2. Check whether the fiber connection of the uplink optical interface is normal:
   - If the corresponding LINK LED indicator of the uplink optical interface is OFF, the connection is abnormal. Unplug the optical fiber and clean the end of the optical fiber with the dedicated fiber wiping paper. Re-insert the optical fiber and proceed to Step 5.
   - If the corresponding LINK LED indicator of the uplink optical interface is ON, the connection is normal and proceed to Step 3.
3. Check the optical fiber on the uplink port or the optical module with the optical power meter:

- If no optical signal is detected, the optical fiber is faulty. Replace the optical fiber and proceed to Step 5.
- If optical signals are detected, proceed to Step 4.

4. Enable the uplink optical interface again:
   1) In the ANM2000, right-click the HU1A card in the **Object Tree** pane and select **Config→Uplink Port Properties** in the shortcut menu.
   2) In the **Uplink Port Properties** window that appears subsequently, click the designated port and clear the **Port Enable** check box to disable the uplink port.
   3) Click  to write the configuration to the equipment.
   4) Select the **Port Enable** check box to enable the uplink port again.
   5) Click the  button to write the configuration to the equipment and proceed to Step 5.
5. Check whether the alarm has ended:
   - If the alarm is removed, proceed to Step 9.
   - If the alarm persists, proceed to Step 6.
6. Enable the automatic negotiation for the port again:
   1) In the ANM2000, right-click the HU1A card in the **Object Tree** pane and select **Config→Uplink Port Properties** in the shortcut menu.
   2) In the **Uplink Port Properties** window that appears subsequently, click the designated port and select **Disable** in the drop-down list of Port Auto Negotiate to disable the port automatic negotiation function.
   3) Click  to write the configuration to the equipment.
   4) Select **Enable** in the drop-down list of **Port Auto Negotiate** to enable the port automatic negotiation function again.
   5) Click the  button to write the configuration to the equipment and proceed to Step 7.
7. Check whether the alarm has ended:
   - If the alarm is removed, proceed to Step 9.
   - If the alarm persists, proceed to Step 8.

8. Please contact technicians of FiberHome.
9. End.

3.8 Critical Alarms of the ONU

3.8.1 LINK_LOSS

Alarm information

Alarm Name	Alarm Level	Alarm Type
LINK_LOSS	Critical alarm	Communication alarm

Influences on the system

- If a single ONU reports this alarm, all subscriber services of this ONU may be interrupted.
- If all ONUs under a PON port of the OLT card report this alarm, all subscriber services under the PON port are interrupted.

Probable reasons

- If a single ONU reports the alarm, probable reasons are:
  - The optical fiber is unconnected.
  - The optical fiber connection is abnormal.
  - The optical module of the uplink PON port on the ONU is faulty.
- If all ONUs under a PON port of the OLT card report the alarm, probable reasons are:
  - The uplink link (such as a splitter) has faults.
  - The optical module of the PON port on the OLT card is faulty.

Handling steps

- If a single ONU reports this alarm:

  1) Check whether the ONU's PON port is connected with an optical fiber:

- If the port is not connected with an optical fiber, connect an optical fiber to the port.
- If the port is connected with an optical fiber, proceed to Step 2.

2) Check whether the fiber connection for the ONU's PON port is normal; check whether the LOS LED on the ONU is ON.
   - If the fiber connection is abnormal (the LOS LED is ON), unplug the optical fiber and clean the fiber's end surface with the dedicated fiber wiping paper and plug it in again.
   - If the physical connection is normal, proceed to Step 3.
3) Check whether the ONU receives optical signals via the optical power meter.
   - If the ONU does not receive any optical signal, the optical fiber's physical link is faulty. Replace the optical fiber and proceed to step 6 if the alarm is removed after the replacement.
   - If optical signals are detected, proceed to Step 4.
4) Replace the ONU
   - If the alarm is removed after replacing the ONU, proceed to Step 6.
   - If the alarm persists after replacing the ONU, proceed to Step 5.
5) Please contact technicians of FiberHome.
6) End.

◆ If all ONUs under the PON port of the OLT card report this alarm:

1) Check the optical module of the PON port on the OLT card with an optical power meter:
   - If the optical power is too low or no optical signal exists, the optical module has faults. Replace the optical module or card.
   - If the optical power is normal, proceed to Step 2.
2) Check the optical fiber (from the PON port to the splitter) with an optical power meter:
   - If no optical signal exists, the fiber link or the splitter has faults. Repair the physical link.
   - If optical signals are detected, proceed to Step 3.

3) Check each optical fiber at the ONU side under the PON port with an optical power meter:
   - If no optical signal exists, the fiber link or the splitter has faults. Repair the physical link.
   - If optical signals are detected, proceed to Step 4.
4) Please contact technicians of FiberHome.

3.8.2 Type Dismatch

Alarm information

Alarm Name	Alarm Level	Alarm Type
Type Dismatch	Critical alarm	Management failure alarm

Influences on the system

The ONU cannot work normally and cannot provide services for subscribers.

Probable reasons

- The type of the new ONU is not identical to that of the original one when replacing the ONU.
- The type of the pre-configured ONU in the ANM2000 is not identical to the physically connected ONU type. Two reason are as follows:
  - The MAC address of the newly-registered ONU is identical to that of the physical white list but is not identical to the type pre-configured in the white list.
  - The logical link identifier of the newly-registered ONU is identical to that listed in the logical link identifier white list but the type is not identical to that pre-configured in the white list.

Handling steps

- The type of the new ONU is not identical to that of the original one when replacing the ONU.
  1) Replace the original ONU with a new one in the correct type.

2) End.

- The pre-configured ONU type in the ANM2000 is not identical to the physically connected ONU type.

  1) Check against the data planning to confirm whether the pre-configured ONU type in the ANM2000 or the physically connected ONU type is wrong:

     - If the physically connected ONU type is wrong, proceed to Step 2.
     - If the pre-configured ONU type in the ANM2000 is wrong, proceed to Step 3.

  2) If the alarm is removed after replacing the ONU, proceed to Step 4.

  3) Modify the configuration in the ANM2000 according to the data planning to end the alarm, and proceed to Step 4.

  4) End.

3.8.3 MGC_DISCONNECTED

Alarm information

Alarm Name	Alarm Level	Alarm Type
MGC_DISCONNECTED	Critical alarm	Equipment alarm

Influences on the system

- If a single ONU's voice service configuration has faults, the NGN voice service of the ONU subscriber is influenced.
- If the uplink physical link of the OLT has faults, the NGN voice service of all ONU subscribers is influenced.

Probable reasons

After the NGN voice services are configured, the communication between the ONU and the MGC is disconnected; this may be caused by the following events:

- The physical connection of the network has faults.
  - If a single ONU reports this alarm, the physical connection between the ONU and the OLT maybe has faults.

- If all ONU report this alarm, the OLT's physical connection maybe has faults.

- The configuration of the NGN voice service is modified and the modification is wrong.
  - If a single ONU reports this alarm, maybe the ONU’s IP address, VLAN ID or MGC address configuration are modified wrongly.
  - If all ONUs report this alarm, maybe the OLT’s local VLAN configuration or MGC address configuration is wrongly configured and the wrong configuration is delivered to all ONUs.

Handling steps

- If a single ONU reports this alarm:

  1) Check whether the physical connection from the ONU to the OLT is normal:
     - If the connection is abnormal, restore the connection and proceed to Step 6 after the alarm is removed.
     - If the connection is normal, proceed to Step 2.
  2) Check whether the ONU’s public network IP configuration is correct in the NGN uplink subscriber configuration:
     - If the configuration is wrong, modify into the correct ONU public network IP and reconnect the MGC. Proceed to Step 6 after the alarm is removed.
     - If the configuration is normal, proceed to Step 3.
  3) Check whether the MGC IP address configuration of the signaling service corresponding to the ONU is correct in the NGN uplink port configuration:
     - If the configuration is wrong, modify into the correct MGC IP and reconnect the MGC. Proceed to Step 6 after the alarm is removed.
     - If the configuration is normal, proceed to Step 4.
  4) Check whether the ONU's VLAN ID configuration is identical to that in the data planning in the ONU voice port configuration.
     - If the configuration is wrong, modify into the correct VLAN ID and reconnect the MGC. Proceed to Step 6 after the alarm is removed.

- If the configuration is normal, proceed to Step 5.

5) Please contact technicians of FiberHome.

6) End.

◆ If all ONUs of the OLT report this alarm:

1) Check whether the physical connection from the uplink card to the IP bearer network equipment is normal:

- If the connection is abnormal, restore the connection and proceed to Step 6 after the alarm is removed.
- If the connection is normal, proceed to Step 2.

2) Check whether the physical connection from the MGC to the IP bearer network equipment is normal:

- If the connection is abnormal, restore the connection and proceed to Step 6 after the alarm is removed.
- If the connection is normal, proceed to Step 3.

3) Check whether the VLAN range of the configured NGN service in the central office end is identical to that of the data planning. The method is shown below: In the ANM2000, right-click the HSWA card in the **Object Tree** pane and select **VLAN Config→Local VLAN→Local End Service VLAN**.

- If the configuration is wrong, modify it and proceed to Step 6 after the alarm is removed.
- If the configuration is normal, proceed to Step 4.

4) Check whether the MGC address configuration of the uplink port of the NGN service is correct and the method is shown below: In the ANM2000, right-click the HSWA card in the **Object Tree** pane and select **Voice Config→NGN Interface**.

◆ Please contact technicians of FiberHome.

◆ End.

3.8.4 BATTERY_VOLTAGE_TOO_LOW

Alarm information

Alarm Name	Alarm Level	Alarm Type
BATTERY_VOLTAGE_TOO_LOW	Critical alarm	Management failure alarm

Influences on the system

The ONU cannot work normally because the voltage of the battery is overlow.

Probable reasons

The voltage of the ONU standby battery is overlow.

Handling steps

1. Check whether the alarm is removed after replacing the ONU standby battery:
   - If the alarm is removed, proceed to Step 3.
   - If the alarm persists, proceed to Step 2.
2. Please contact technicians of FiberHome.
3. End.

4 Major Alarms

- Major Alarms of the HSWA Card
- Major Alarms of the CE1B Card
- Major Alarms of the ONU

4.1 Major Alarms of the HSWA Card

4.1.1 CONFIG_HAVENOT_SAVED

Alarm information

Alarm Name	Alarm Level	Alarm Type
CONFIG_HAVENOT_SAVED	Major alarm	Equipment alarm

Influences on the system

- After the equipment reboot or a sudden power-down, the unsaved configurations will be lost.

Probable reasons

After performing or modifying configurations of the equipment, users do not execute **Save Config to Flash** command.

Handling steps

1. Check whether configurations or modifications need to be saved:
   - If the configurations and modifications do not need to be saved, users can leave this alarm alone.
   - If the configurations and modifications need to be modified, proceed to Step 2.
2. Save the current configuration to the Flash:
   1) In the ANM2000, right-click the active HSWA card in the **Object Tree** pane.
   2) Select **System Config→Save Config To Flash** in the shortcut menu.
   3) Click **OK** to save the current configuration to the Flash.
3. End.

4.1.2 TOO_MANY_TDM

Alarm information

Alarm Name	Alarm Level	Alarm Type
TOO_MANY_TDM	Major alarm	Equipment alarm

Influences on the system

Inserting too many TDM cards may influence the AN5116-06B's TDM service and cause the TDM service interruption.

Probable reasons

More than two TDM cards are inserted in the system.

Handling steps

1. Check the quantity of the TDM card in the AN5116-06B subrack and unplug the redundant TDM cards.
   - If the alarm is removed, proceed to Step 3.
   - If the alarm persists, proceed to Step 2.
2. Please contact technicians of FiberHome.
3. End.

4.1.3 CUR_ALARM_NUM_OVER_THRESHOLD

Alarm information

Alarm Name	Alarm Level	Alarm Type
CUR_ALARM_NUM_OVER_ THRESHOLD	Major alarm	Equipment alarm

Influences on the system

The alarm does not influence the system.

Probable reasons

The number of cumulative alarms in the current system exceeds the pre-configured threshold value.

Handling steps

1. The number of current alarms is less than the threshold value when handling other alarms in the system.
   - If the alarm is removed, proceed to Step 3.
   - If the alarm persists, proceed to Step 2.
2. Please contact technicians of FiberHome.
3. End.

4.1.4 ALARM_NUM_OVER_THRESHOLD

Alarm information

Alarm Name	Alarm Level	Alarm Type
ALARM_NUM_OVER_ THRESHOLD	Major alarm	Equipment alarm

Influences on the system

The newly-added system alarms cannot be displayed in the ANM2000 GUI and subscribers cannot get the latest system status and handle new alarms.

Probable reasons

The number of cumulative alarms in the current system exceeds the pre-configured threshold value.

Handling steps

Analyze system alarms in the alarm report pane and resolve questions put forward by alarms one by one and delete alarms which had been handled in a timely manner.

4.2 Major Alarms of the CE1B Card

4.2.1 E1_LOS

Alarm information

Alarm Name	Alarm Level	Alarm Type
E1_LOS	Major alarm	Communication alarm

Influences on the system

The TDM services loaded on this card are interrupted.

Probable reasons

- The connection of the E1 transmission line is abnormal.
- The far end equipment connected with the E1 interface has faults.

Handling steps

1. Check whether the E1 connection between the OLT and the far end equipment is normal and perform the E1 loopback test:
   1) In the ANM2000, right-click the CE1B card in the **Object Tree** pane.
   2) Select **Config→E1 loopback** in the shortcut menu and the **E1 loopback** window appears.
   3) Select **Outer ring** in the **State** drop-down list of the E1 port.
   4) Click  button to test the E1 connection between the OLT and the far end equipment.
   - If the connection is abnormal, repair the physical connection. After the E1 link is normal, proceed to Step 4 if the alarm is removed. If the alarm still persists, proceed to Step 2.
   - If the connection is normal, proceed to Step 2.
2. Check whether the equipment at the far end connected via the E1 transmission line works normally:

- If the equipment at the far end works abnormally, restore the far end equipment to the normal working status. If the alarm is removed after restoration, proceed to Step 4; if the alarm still persists, proceed to Step 3.
- If the equipment works normally, proceed to Step 3.

3. Please contact technicians of FiberHome.
4. End.

4.2.2 E1 LFA

Alarm information

Alarm Name	Alarm Level	Alarm Type
E1 LFA	Major alarm	Communication alarm

Influences on the system

The E1 transmission service is interrupted.

Probable reasons

- The connection of the E1 transmission line is abnormal.
- The far end equipment connected with the E1 interface has faults.

Handling steps

1. Check whether the E1 connection between the OLT and the far end equipment is normal and perform the E1 loopback test:
   1) In the ANM2000, right-click the CE1B card in the **Object Tree** pane.
   2) Select **Config→E1 loopback** in the shortcut menu and the **E1 loopback** window appears.
   3) Select **Outer ring** in the **State** drop-down list of the E1 port.
   4) Click  button to test the E1 connection between the OLT and the far end equipment.
   - If the connection is abnormal, repair the physical connection. After the E1 link is normal, proceed to Step 4 if the alarm is removed. If the alarm still persists, proceed to Step 2.

- If the connection is normal, proceed to Step 2.

2. Check whether the equipment at the far end connected via the E1 transmission line works normally:
   - If the equipment works abnormally, restore the far end equipment to the normal working status. If the alarm is removed after restoration, proceed to Step 4; if the alarm still persists, proceed to Step 3.
   - If the equipment works normally, proceed to Step 3.
3. Please contact technicians of FiberHome.
4. End.

4.2.3 E1_AIS

Alarm information

Alarm Name	Alarm Level	Alarm Type
E1_AIS	Major alarm	Communication alarm

Influences on the system

The TDM services loaded on this card are interrupted.

Probable reasons

- The connection of the E1 transmission line is abnormal.
- The far end equipment connected with the E1 interface has faults.

Handling steps

1. Check whether the E1 connection between the OLT and the far end equipment is normal and perform the E1 loopback test:
   1) In the ANM2000, right-click the CE1B card in the **Object Tree** pane.
   2) Select **Config→E1 loopback** in the shortcut menu and the **E1 loopback** window appears.
   3) Select **Outer ring** in the **State** drop-down list of the E1 port.

4) Click  button to test the E1 connection between the OLT and the far end equipment.

- If the connection is abnormal, repair the physical connection. After the E1 link is normal, proceed to Step 4 if the alarm is removed. If the alarm still persists, proceed to Step 2.
- If the connection is normal, proceed to Step 2.

2. Check whether the equipment at the far end connected via the E1 transmission line works normally:
   - If the equipment at the far end works abnormally, restore it to the normal working status. If the alarm is removed after restoration, proceed to Step 4; if the alarm still persists, proceed to Step 3.
   - If the equipment works normally, proceed to Step 3.
3. Please contact technicians of FiberHome.
4. End.

4.3 Major Alarms of the ONU

4.3.1 CPU_VER_LOW

Alarm information

Alarm Name	Alarm Level	Alarm Type
CPU_VER_LOW	Major alarm	Equipment alarm

Influences on the system

The ONU fails to be configured with new functions.

Probable reasons

The ONU's chip software version is an old version, which cannot be compatible with the service configuration of the AN5116-06B system.

Handling steps

1. Upgrade the ONU's CPU version to meet the requirement of service configuration in the AN5116-06B system.
   1) Start the FTP server and make configuration. Copy the new CPU version to the corresponding folder.
   2) In the ANM2000, right-click the active HSWA card in the **Object Tree** pane and select **System Maintenance→Batch Upgrade ONU** in the shortcut menu.
   3) Open the **Batch Upgrade ONU** dialog box and set parameters as needed; and then click the **Upgrade Software** button. After the upgrading is successfully, the system can support the new function configuration on the ONU.
2. End.

4.3.2 E1_LOS

Alarm information

Alarm Name	Alarm Level	Alarm Type
E1_LOS	Major alarm	Communication alarm

Note:

Only the ONU which provides E1 services can generate this alarm and corresponding faults.

Influences on the system

The E1 transmission service is interrupted.

Probable reasons

- The connection of the E1 transmission line is abnormal.
- The far end equipment connected with the E1 interface has faults.

Handling steps

1. Check whether the E1 connection between the ONU and the far end equipment is normal and perform the E1 loopback test:
   1) In the **Object Tree** pane of the ANM2000 window, click the PON port connected with the ONU.
   2) Right-click the ONU in the **ONU list** tab that appears.
   3) Select **Config→E1 loopback** in the shortcut menu and the **E1 loopback** window appears.
   4) Select **Outer ring** in the **State** drop-down list of the E1 port.
   5) Click  button to test the E1 connection between the ONU and the far end equipment.
      - If the connection is abnormal, repair the physical connection. After the E1 link is normal, proceed to Step 4 if the alarm is removed. If the alarm still persists, proceed to Step 2.
      - If the connection is normal, proceed to Step 2.
2. Check whether the equipment at the far end connected via the E1 transmission line works normally:
   - If the equipment at the far end works abnormally, restore it to the normal working status. If the alarm is removed after restoration, proceed to Step 4; if the alarm still persists, proceed to Step 3.
   - If the equipment works normally, proceed to Step 3.
3. Please contact technicians of FiberHome.
4. End.

4.3.3 E1 LFA

Alarm information

Alarm Name	Alarm Level	Alarm Type
E1 LFA	Major alarm	Communication alarm

Note:

Only the ONU which provides E1 services can generate this alarm and corresponding faults.

Influences on the system

The E1 transmission service is interrupted.

Probable reasons

- The connection of the E1 transmission line is abnormal.
- The far end equipment connected with the E1 interface has faults.

Handling steps

1. Check whether the E1 connection between the ONU and the far end equipment is normal and perform the E1 loopback test:
   1) In the **Object Tree** pane of the ANM2000 window, click the PON port connected with the ONU.
   2) Right-click the ONU in the **ONU list** tab that appears.
   3) Select **Config→E1 loopback** in the shortcut menu and the **E1 loopback** window appears.
   4) Select **Outer ring** in the **State** drop-down list of the E1 port.
   5) Click  button to test the E1 connection between the ONU and the far end equipment.
   - If the connection is abnormal, repair the physical connection. After the E1 link is normal, proceed to Step 4 if the alarm is removed. If the alarm still persists, proceed to Step 2.
   - If the connection is normal, proceed to Step 2.
2. Check whether the equipment at the far end connected via the E1 transmission line works normally:

- If the equipment works abnormally, restore the far end equipment to the normal working status. If the alarm is removed after restoration, proceed to Step 4; if the alarm still persists, proceed to Step 3.
- If the equipment works normally, proceed to Step 3.

3. Please contact technicians of FiberHome.
4. End.

4.3.4 E1_AIS

Alarm information

Alarm Name	Alarm Level	Alarm Type
E1_AIS	Major alarm	Communication alarm

Note:

Only the ONU which provides E1 services can generate this alarm and corresponding faults.

Influences on the system

The services carried by the E1 interface may be interrupted.

Probable reasons

- The ONU has faults.
- The far end equipment connected with the E1 interface has faults.

Handling steps

1. Check whether the local end equipment works normally and perform the E1 loopback test:
   1) In the **Object Tree** pane of the ANM2000 window, click the PON port connected with the ONU.
   2) Right-click the ONU in the **ONU list** tab that appears.

3) Select **Config→E1 loopback** in the shortcut menu and the **E1 loopback** window appears.

4) Select **Inner ring** in the **State** drop-down list of the E1 port.

5) Click  button to perform the loopback test for the local end equipment.

6) Check whether the alarm has ended:

- If the alarm persists, the local end equipment has faults. The ONU should be replaced.
- If the alarm is removed, proceed to Step 2.

2. Check whether the equipment at the far end connected via the E1 transmission line works normally:

- If the far end equipment works abnormally, repair it.
- If the equipment works normally, proceed to Step 3.

3. Please contact technicians of FiberHome.

4.3.5 DC Fail

Alarm information

Alarm Name	Alarm Level	Alarm Type
DC Fail	Major alarm	Communication alarm

Influences on the system

When the storage battery voltage is too low, the ONU fails to work normally, which cannot provide services for users.

Probable reasons

- The 220V mains supply is cut off.
- The supply line has faults.

Handling steps

1. Check whether the supply line has faults.

- If faults exist, repair the supply line and proceed to Step 4.

- If the supply line is normal, proceed to Step 2.

2. Check whether the storage battery can be charged normally:
   - If yes, charge the storage battery.
   - If the connection is normal, proceed to Step 3 if the alarm persists.
3. Please contact technicians of FiberHome.
4. End.

4.3.6 AC_FAIL

Alarm information

Alarm Name	Alarm Level	Alarm Type
AC_FAIL	Major alarm	Communication alarm

Influences on the system

The ONU cannot work normally and cannot provide services for subscribers.

Probable reasons

- The 220V mains supply is cut off.
- The ONU power cable or transformer has faults.

Handling steps

1. Check whether the mains supply is power-off:
   - If yes, contact the local power supply department for troubleshooting.
   - If the equipment works normally, proceed to Step 2.
2. Check whether the ONU's power cable or transformer has faults.
   - If yes, replace the ONU's power cable or transformer. Proceed to Step 4 after the alarm is removed.
   - If yes, replace the ONU's power cable or transformer. Proceed to Step 3 when the alarm persists.
   - If no faults exist, proceed to Step 3.
3. Please contact technicians of FiberHome.

4. End.

4.3.7 Battery Fail

Alarm information

Alarm Name	Alarm Level	Alarm Type
Battery Fail	Major alarm	Communication alarm

Influences on the system

The ONU cannot work normally and cannot provide services for subscribers.

Probable reasons

- The line between the ONU and battery has faults.
- The battery runs out.

Handling steps

1. Check whether the connection between the ONU and the storage battery is normal.
   - If the connection is abnormal, reconnect the power cable.
   - If the connection is normal, proceed to Step 2.
2. Replace the ONU battery and check whether the alarm is removed.
   - If the alarm is removed, proceed to Step 4.
   - If the alarm persists, proceed to Step 3.
3. Please contact technicians of FiberHome.
4. End.

4.3.8 E1_TIMING_UNLOCK

Alarm information

Alarm Name	Alarm Level	Alarm Type
E1_TIMING_UNLOCK	Major alarm	Communication alarm

Note:

Only the ONU which provides E1 services can generate this alarm and corresponding faults.

Influences on the system

The E1 transmission service is interrupted.

Probable reasons

- The connection of the E1 transmission line is abnormal.
- The far end equipment connected with the E1 interface has faults.

Handling steps

1. Check whether the E1 transmission line is normal via the E1 loopback.
   - If the connection is abnormal, repair the physical connection. After the E1 link is normal, proceed to Step 4 if the alarm is removed. If the alarm still persists, proceed to Step 2.
   - If the connection is normal, proceed to Step 2.
2. Check whether the equipment at the far end connected via the E1 transmission line works normally:
   - If the equipment works abnormally, restore the far end equipment to the normal working status. If the alarm is removed after restoration, proceed to Step 4; if the alarm still persists, proceed to Step 3.
   - If the equipment works normally, proceed to Step 3.
3. Please contact technicians of FiberHome.
4. End.

4.3.9 RX_POWER_HIGH_ALARM

Alarm information

Alarm Name	Alarm Level	Alarm Type
RX_POWER_HIGH_ALARM	Major alarm	Equipment alarm

Influences on the system

The ONU service is influenced or in severe cases, all ONU services may be interrupted because the optical module cannot work well.

Probable reasons

- The ONU optical module is aged or damaged.
- The setting of the alarm threshold value of the ONU Rx optical power is unreasonable.

Handling steps

Caution:

Checking the optical module's optical power can interrupt services.

1. Observe the alarm for 5 minutes to check whether the alarm is removed automatically.
   - If the alarm is removed, proceed to Step 5.
   - If the alarm persists, proceed to Step 2.
2. Test the Rx optical power on the ONU side using a dedicated PON optical power meter and a testing optical fiber to check whether the optical power is within the normal range:
   - If the optical power is too high, add optical attenuators in the optical path or replace the optical module of the PON port on the OLT side.
   - If the optical power is within the normal range, proceed to step 3.
3. Check whether the setting of maximum threshold value for the Rx optical power is reasonable:

1) In the ANM2000, right-click the system in the **Object Tree** and select **Config→Profile Definition→PM Threshold Profile** in the shortcut menu.

2) Check whether the alarm threshold value in the **Alarm Code** is valid.

Threshold Value	Default Value (dBm)	Reasonable Value (dBm)
Alarm report threshold	8.20	8.20
Clearing alarm threshold	-40.00	-40.00

- If the configuration is wrong, modify it and proceed to Step 5 after the alarm is removed.
- If the configuration is normal, proceed to Step 4.

4. Please contact technicians of FiberHome.
5. End.

4.3.10 RX_POWER_LOW_ALARM

Alarm information

Alarm Name	Alarm Level	Alarm Type
RX_POWER_LOW_ALARM	Major alarm	Equipment alarm

Influences on the system

The ONU service is influenced or in severe cases, all ONU services may be interrupted because the optical module cannot work well.

Probable reasons

- The optical fiber line has faults.
- The ONU optical module is aged or damaged.
- The setting of the alarm threshold value of the ONU Rx optical power is unreasonable.

Handling steps

Caution:

Checking the optical module's optical power can interrupt services..

1. Observe the alarm for 5 minutes to check whether the alarm is removed automatically.
   - If the alarm is removed, proceed to Step 5.
   - If the alarm persists, proceed to Step 2.
2. Test the Rx optical power on the ONU side using a dedicated PON optical power meter and a testing optical fiber to check whether the optical power is too low:
   - If the optical power is too low, check and repair the optical fiber line or replace the optical module of the PON port on the OLT side.
   - If the optical power is within the normal range, proceed to step 3.
3. Check whether the setting of minimum threshold value for the Rx optical power is reasonable:
   1) In the ANM2000, right-click the system in the **Object Tree** and select **Config→Profile Definition→PM Threshold Profile** in the shortcut menu.
   2) Check whether the alarm threshold value in the **Alarm Code** is valid.

Threshold Value	Default Value (dBm)	Reasonable Value (dBm)
Alarm report threshold	-40.00	-40.00
Clearing alarm threshold	8.20	8.20

   - If the configuration is wrong, modify it and proceed to Step 5 after the alarm is removed.
   - If the configuration is normal, proceed to Step 4.
4. Please contact technicians of FiberHome.
5. End.

4.3.11 TX_POWER_HIGH_ALARM

Alarm information

Alarm Name	Alarm Level	Alarm Type
TX_POWER_HIGH_ALARM	Major alarm	Equipment alarm

Influences on the system

The ONU service is influenced or in severe cases, all ONU services may be interrupted because the optical module cannot work well.

Probable reasons

- The ONU optical module is aged or damaged.
- The setting of the alarm threshold value of the ONU Tx optical power is unreasonable.

Handling steps

Caution:

Checking the optical module's optical power can interrupt services..

1. Observe the alarm for 5 minutes to check whether the alarm is removed automatically.
   - If the alarm is removed, proceed to Step 5.
   - If the alarm persists, proceed to Step 2.
2. Test the Tx optical power of the ONU optical module using a dedicated PON optical power meter and a testing optical fiber to check whether the optical power is too high:
   - If the optical power is too high, replace the optical module.
   - If the optical power is within the normal range, proceed to step 3.
3. Check whether the setting of maximum threshold value for the Tx optical power is reasonable:

1) In the ANM2000, right-click the system in the **Object Tree** and select **Config→Profile Definition→PM Threshold Profile** in the shortcut menu.

2) Check whether the alarm threshold value in the **Alarm Code** is valid.

Threshold Value	Default Value (dBm)	Reasonable Value (dBm)
Alarm report threshold	8.20	8.20
Clearing alarm threshold	-40.00	-40.00

- If the configuration is wrong, modify it and proceed to Step 5 after the alarm is removed.
- If the configuration is normal, proceed to Step 4.

4. Please contact technicians of FiberHome.
5. End.

4.3.12 TX_POWER_LOW_ALARM

Alarm information

Alarm Name	Alarm Level	Alarm Type
TX_POWER_LOW_ALARM	Major alarm	Equipment alarm

Influences on the system

The ONU service is influenced or in severe cases, all ONU services may be interrupted because the optical module cannot work well.

Probable reasons

- The ONU optical module is aged or damaged.
- The setting of the alarm threshold value of the ONU Tx optical power is unreasonable.

Handling steps

Caution:

Checking the optical module's optical power can interrupt services.

1. Observe the alarm for 5 minutes to check whether the alarm is removed automatically.
   - If the alarm is removed, proceed to Step 5.
   - If the alarm persists, proceed to Step 2.
2. Test the Tx optical power of the ONU optical module using a dedicated PON optical power meter and a testing optical fiber to check whether the optical power is too low:
   - If the optical power is too low, replace the optical module.
   - If the optical power is within the normal range, proceed to step 3.
3. Check whether the setting of minimum threshold value for the Tx optical power is reasonable:
   1) In the ANM2000, right-click the system in the **Object Tree** and select **Config→Profile Definition→PM Threshold Profile** in the shortcut menu.
   2) Check whether the alarm threshold value in the **Alarm Code** is valid.

Threshold Value	Default Value (dBm)	Reasonable Value (dBm)
Alarm report threshold	-40.00	-40.00
Clearing alarm threshold	8.20	8.20

   - If the configuration is wrong, modify it and proceed to Step 5 after the alarm is removed.
   - If the configuration is normal, proceed to Step 4.
4. Please contact technicians of FiberHome.
5. End.

4.3.13 BIAS_HIGH_ALARM

Alarm information

Alarm Name	Alarm Level	Alarm Type
BIAS_HIGH_ALARM	Major alarm	Equipment alarm

Influences on the system

The ONU service is influenced or in severe cases, all ONU services may be interrupted because the optical module cannot work well.

Probable reasons

- The ONU optical module is aged or damaged.
- The setting of the alarm threshold value of the ONU optical module's bias current is unreasonable.

Handling steps

Caution:

Checking the optical module's optical power can interrupt services.

1. Observe the alarm for 5 minutes to check whether the alarm is removed automatically.
   - If the alarm is removed, proceed to Step 5.
   - If the alarm persists, proceed to Step 2.
2. Test the Rx optical power on the ONU side and the Tx optical power of the ONU optical module using a dedicated PON optical power meter and a testing optical fiber to check whether the optical power is within the normal range:
   - If the optical power is not within the normal range, replace the optical module.
   - If the optical power is within the normal range, proceed to step 3.
3. Check whether the setting of maximum threshold value of the ONU optical module's bias current is reasonable:

1) In the ANM2000, right-click the system in the **Object Tree** and select **Config→Profile Definition→PM Threshold Profile** in the shortcut menu.

2) Check whether the alarm threshold value in the **Alarm Code** is valid.

Threshold Value	Default Value (mA)	Reasonable Value (mA)
Alarm report threshold	131.00	131.00
Clearing alarm threshold	0.00	0.00

- If the configuration is unreasonable, modify it and proceed to Step 5 after the alarm is removed.
- If the configuration is reasonable, proceed to Step 4.

4. Please contact technicians of FiberHome.
5. End.

4.3.14 BIAS_LOW_ALARM

Alarm information

Alarm Name	Alarm Level	Alarm Type
BIAS_LOW_ALARM	Major alarm	Equipment alarm

Influences on the system

The ONU service is influenced or in severe cases, all ONU services may be interrupted because the optical module cannot work well.

Probable reasons

- The ONU optical module is aged or damaged.
- The setting of the alarm threshold value of the ONU optical module's bias current is unreasonable.

Handling steps

Caution:

Checking the optical module's optical power can interrupt services.

1. Observe the alarm for 5 minutes to check whether the alarm is removed automatically.
   - If the alarm is removed, proceed to Step 4.
   - If the alarm persists, proceed to Step 2.
2. Test the Rx optical power on the ONU side and the Tx optical power of the ONU optical module using a dedicated PON optical power meter and a testing optical fiber to check whether the optical power is within the normal range:
   - If the optical power is not within the normal range, replace the optical module.
   - If the optical power is within the normal range, proceed to step 3.
3. Check whether the setting of minimum threshold value of the ONU optical module's bias current is reasonable:
   1) In the ANM2000, right-click the system in the **Object Tree** and select **Config→Profile Definition→PM Threshold Profile** in the shortcut menu.
   2) Check whether the alarm threshold value in the **Alarm Code** is valid.

Threshold Value	Default Value (mA)	Reasonable Value (mA)
Alarm report threshold	0.00	0.00
Clearing alarm threshold	131.00	131.00

   - If the configuration is unreasonable, modify it and proceed to Step 5 after the alarm is removed.
   - If the configuration is reasonable, proceed to Step 4.
4. Please contact technicians of FiberHome.
5. End.

4.3.15 VCC_HIGH_ALARM

Alarm information

Alarm Name	Alarm Level	Alarm Type
VCC_HIGH_ALARM	Major alarm	Equipment alarm

Influences on the system

The ONU service is influenced or in severe cases, all ONU services may be interrupted because the optical module cannot work well.

Probable reasons

- The ONU optical module is aged or damaged.
- The setting of the alarm threshold value of the ONU optical module's voltage is unreasonable.

Handling steps

Caution:

Checking the optical module's optical power can interrupt services.

1. Observe the alarm for 5 minutes to check whether the alarm is removed automatically.
   - If the alarm is removed, proceed to Step 5.
   - If the alarm persists, proceed to Step 2.
2. Test the Rx optical power on the ONU side and the Tx optical power of the ONU optical module using a dedicated PON optical power meter and a testing optical fiber to check whether the optical power is within the normal range:
   - If the optical power is not within the normal range, replace the optical module.
   - If the optical power is within the normal range, proceed to step 3.
3. Check whether the setting of maximum threshold value of the ONU optical module's voltage is reasonable:

1) In the ANM2000, right-click the system in the **Object Tree** and select **Config→Profile Definition→PM Threshold Profile** in the shortcut menu.

2) Check whether the alarm threshold value in the **Alarm Code** is valid.

Threshold Value	Default Value (V)	Reasonable Value (V)
Alarm report threshold	6.60	6.60
Clearing alarm threshold	0.00	0.00

- If the configuration is unreasonable, modify it and proceed to Step 5 after the alarm is removed.
- If the configuration is reasonable, proceed to Step 4.

4. Please contact technicians of FiberHome.
5. End.

4.3.16 VCC_LOW_ALARM

Alarm information

Alarm Name	Alarm Level	Alarm Type
VCC_LOW_ALARM	Major alarm	Equipment alarm

Influences on the system

The ONU service is influenced or in severe cases, all ONU services may be interrupted because the optical module cannot work well.

Probable reasons

- The ONU optical module is aged or damaged.
- The setting of the alarm threshold value of the ONU optical module's voltage is unreasonable.

Handling steps

Caution:

Checking the optical module's optical power can interrupt services.

1. Observe the alarm for 5 minutes to check whether the alarm is removed automatically.
   - If the alarm is removed, proceed to Step 5.
   - If the alarm persists, proceed to Step 2.
2. Test the Rx optical power on the ONU side and the Tx optical power of the ONU optical module using a dedicated PON optical power meter and a testing optical fiber to check whether the optical power is within the normal range:
   - If the optical power is not within the normal range, replace the optical module.
   - If the optical power is within the normal range, proceed to step 3.
3. Check whether the setting of minimum threshold value of the ONU optical module's voltage is reasonable:
   1) In the ANM2000, right-click the system in the **Object Tree** and select **Config→Profile Definition→PM Threshold Profile** in the shortcut menu.
   2) Check whether the alarm threshold value in the **Alarm Code** is valid.

Threshold Value	Default Value (V)	Reasonable Value (V)
Alarm report threshold	0.00	0.00
Clearing alarm threshold	6.60	6.60

   - If the configuration is unreasonable, modify it and proceed to Step 5 after the alarm is removed.
   - If the configuration is reasonable, proceed to Step 4.
4. Please contact technicians of FiberHome.
5. End.

4.3.17 ETH_PORT_LOOPBACK

Alarm information

Alarm Name	Alarm Level	Alarm Type
ETH_PORT_LOOPBACK	Major alarm	Communication alarm

Influences on the system

The subscriber equipment connected to the port fails to use the service.

Probable reasons

The port which the ONU connects with the subscriber equipment is in the loopback status.

Handling steps

1. Check whether the loop exists in the user equipment's connection line.
   - If the loop exists, disconnect the loop wire.
   - If no loop exists, proceed to Step 2.
2. In the **Object Tree** pane of the ANM2000 window, click the PON port connected with the ONU.
3. In the **ONU List** tab that appears subsequently, right-click the ONU and select **Config→Port Loop Detect** in the shortcut menu. Select **Disable** in the **UNI Loop Detect Management** drop-down list of the port and disable the port loopback.
4. Apply the configuration to the equipment. If the alarm is removed, proceed to Step 6; If the alarm persists, proceed to Step 5.
5. Please contact technicians of FiberHome.
6. End.

4.3.18 LOS_Power

Alarm information

Alarm Name	Alarm Level	Alarm Type
LOS_Power	Critical alarm	Communication alarm

Influences on the system

The ONU cannot work normally and cannot provide services for subscribers.

Probable reasons

- The ONU power supply transformer has faults.
- The external power supply disconnects.
- The ONU power module has faults.

Handling steps

1. Check whether the ONU power supply is normal.
   - If the external power supply is abnormal, restore the power supply.
   - If the power cable connection is abnormal, check the power cable to find the loosening point and reconnect.
   - The ONU power supply is shut off and make sure the power supply switch is ON.
   - If the external power supply and the power cable connection are normal, the ONU power supply switch is ON, proceed to Step 2.
2. Please contact technicians of FiberHome.
3. End.

5 Minor Alarms

- Minor Alarms of the Uplink Card
- Minor Alarms of the C155A Card
- Minor Alarms of the ONU

5.1 Minor Alarms of the Uplink Card

5.1.1 UP_CRC_ERROR_THRESHOLD / DOWN_CRC_ERROR_THRESHOLD

Alarm information

Alarm Name	Alarm Level	Alarm Type
UP_CRC_ERROR_THRESHOLD / DOWN_CRC_ERROR_ THRESHOLD	Minor alarm	Service quality alarm

Influences on the system

The service provided by the system is influenced and the uplink card's uplink/ downlink data has packet loss.

Probable reasons

- The setting for threshold value of uplink/downlink CRC is unreasonable.
- The poor network quality causes the uplink/downlink CRC error to reach the threshold value.

Handling steps

1. Check the network quality to see whether the network cable, optical fiber and optical module are aged.
   - If the alarm is removed after replacing the aged network cable, optical fiber and optical module, proceed to Step 4.
   - If the alarm persists after replacing the aged network cable, optical fiber and optical module, proceed to Step 2.
2. Check the optical fiber connector and bend angle. The bend radius of the optical cable should be more than 38mm. Clean the optical fiber connector with fiber wiping paper.
   - If the alarm is removed after cleaning the optical fiber connector and adjusting the bend angle, proceed to Step 4.

- If the alarm persists after cleaning the optical fiber connector and adjusting the bend angle, proceed to Step 3.

3. Please contact technicians of FiberHome.
4. End.

Reference information

CRC (Cyclical Redundancy Check): A method of checking for errors in data that has been transmitted on a communications link. A sending device applies a 16- or 32-bit polynomial to a block of data that is to be transmitted and appends the resulting cyclic redundancy code (CRC) to the block. The receiving end applies the same polynomial to the data and compares its result with the result appended by the sender. If they agree, the data has been received successfully. If not, the sender can be notified to re-send the block of data.

5.1.2 UNDERSIZEFRAME_THRESHOLD

Alarm information

Alarm Name	Alarm Level	Alarm Type
UNDERSIZEFRAME_ THRESHOLD	Minor alarm	Service quality alarm

Influences on the system

The system bandwidth is occupied by the undersized packets, so the quality of the services provided is influenced.

Probable reasons

The quantity of the undersized packets currently received by the system exceeds the configured threshold.

Handling steps

1. Check whether the equipment at the far end connected with the uplink card works normally:

- If the equipment at the far end works abnormally, restore it to the normal working status. If the alarm is removed after restoration, proceed to Step 3; if the alarm still persists, proceed to Step 2.
- If the equipment works normally, proceed to Step 2.

2. Please contact technicians of FiberHome.
3. End.

Reference information

Undersized packet: The frame that is smaller than 64 bytes. The undersized packets are considered as the fragments generated in the signal collision, and should be discarded.

5.2 Minor Alarms of the C155A Card

5.2.1 AIS

Alarm information

Alarm Name	Alarm Level	Alarm Type
AIS	Minor alarm	Communication alarm

Influences on the system

The TDM services loaded on this card are interrupted.

Probable reasons

- The optical fiber is broken.
- The far end equipment works abnormally.

Handling steps

1. Check whether the optical fiber connection is correct via the optical interface loopback.

- If the connection is abnormal, restore the optical fiber connection or replace the optical fiber. If the alarm is removed, proceed to Step 4. If the alarm still persists, proceed to Step 2.
- If the connection is normal, proceed to Step 2.

2. Check whether the equipment at the far end connected via the optical fiber works normally:
   - If the equipment at the far end works abnormally, restore it to the normal working status. If the alarm is removed after restoration, proceed to Step 4; if the alarm still persists, proceed to Step 3.
   - If the equipment works normally, proceed to Step 3.
3. Please contact technicians of FiberHome.
4. End.

5.3 Minor Alarms of the ONU

5.3.1 UP_CRC_ERROR_THRESHOLD / DOWN_CRC_ERROR_THRESHOLD

Alarm information

Alarm Name	Alarm Level	Alarm Type
UP_CRC_ERROR_ THRESHOLD / DOWN_ CRC_ERROR_THRESHOLD	Minor alarm	Service quality alarm

Influences on the system

The service provided by the system is influenced and the packet loss occurs in the uplink data of the ONU.

Probable reasons

- The setting for threshold value of uplink/downlink CRC is unreasonable.
- The poor network quality causes the uplink/downlink CRC error to reach the threshold value.

Handling steps

1. Check whether the network cable of the FE port is connected normally:
   - If the connection is abnormal, replace the network cable
   - If the connection is normal, proceed to Step 2.
2. Check whether the uplink / downlink CRC threshold value needs to be modified:
   - If the threshold needs to be modified, proceed to Step 3.
   - If the value does not need to be modified, proceed to Step 4.
3. Modify the uplink / downlink CRC threshold value:
   1) In the **Object Tree** pane of the ANM2000 window, click the PON port connected with the ONU.
   2) Right-click the ONU in the **ONU list** tab that appears.
   3) Select **Config→FE Port Perf Threshold** in the shortcut menu and the **FE Port Perf Threshold** window appears.
   4) Enter the appropriate threshold values in the **Up Crc_Threshold** and **Down Crc_Threshold** columns for this ONU port.

Threshold Value	Default Value (/second)	Reasonable Value (/second)
Up/down CRC_threshold	0	10

   5) Click  to write the configuration to the equipment.
4. Please contact technicians of FiberHome.
5. End.

6 Prompt Alarm

- Prompt Alarm of the HSWA Card
- Prompt Alarms of the EC4B/EC8B Card
- Prompt Alarms of the GC4B/GC8B Card
- Prompt Alarm of the CE1B Card
- Prompt Alarm of the C155A Card
- Prompt Alarm of the PUBA Card
- Prompt Alarms of the Uplink Card
- Prompt Alarm of the ONUs

6.1 Prompt Alarm of the HSWA Card

6.1.1 CPU_USAGE_OVER_THRESHOLD

Alarm information

Alarm Name	Alarm Level	Alarm Type
CPU_USAGE_OVER_THRESHOLD	Prompt alarm	Equipment alarm

Influences on the system

The running speed of this card may lower, and the system may collapse.

Probable reasons

- The CPU utilization threshold value setting is unreasonable.
- The programs running in the card are too many in quantity or too large in size.

Handling steps

1. Check the CPU utilization:
   1) In the ANM2000, right-click the active HSWA card in the **Object Tree** pane.
   2) Select **Realtime Performance→CPU/Memory Proportion** in the shortcut menu.
   3) In the **Realtime Performance Collection** window, click the  button to collect the realtime CPU/Memory utilization ratio.
   4) Proceed to Step 2.
2. Observe for a period of time to check whether the CPU utilization ratio decreases.
   - If the CPU utilization ratio decreases, leave the alarm alone.
   - If the CPU utilization ratio does not decrease, proceed to Step 3.
3. Check whether the CPU utilization ratio threshold needs to be modified:

Threshold Value	Default Value (%)	Reasonable Value (%)
The threshold for CPU utilization ratio	90	90

- If the threshold needs to be modified, proceed to Step 4.
- If not, proceed to Step 5.

4. Modify the threshold of the CPU utilization ratio:
   1) In the ANM2000, right-click the HSWA card in the **Object Tree** pane.
   2) Select **Alarm Manage→Board CPU/memory Usage Threshold** in the shortcut menu.
   3) In the **Board CPU/memory Usage Threshold** window that appears, select the column in which the HSWA card locates.
   4) Enter the appropriate CPU utilization threshold value in the **CPU Usage Threshold** column.
   5) Click  to write the configuration to the equipment.
5. Please contact technicians of FiberHome.

6.1.2 MEM_USAGE_OVER_THRESHOLD

Alarm information

Alarm Name	Alarm Level	Alarm Type
MEM_USAGE_OVER_THRESHOLD	Prompt alarm	Equipment alarm

Influences on the system

The running speed of this card may lower, and the system may collapse.

Probable reasons

- The memory utilization threshold value setting is unreasonable.
- The programs running in the card are too many in quantity or some programs occupy too much memory space.

Handling steps

1. Check the memory utilization:
   1) In the ANM2000, right-click the HSWA card in the **Object Tree** pane.
   2) Select **Realtime Performance→CPU/Memory Proportion** in the shortcut menu.
   3) In the **Realtime Performance Collection** window, click the  button to collect the realtime CPU/Memory utilization ratio.
   4) Proceed to Step 2.
2. Observe for a period of time to check whether the memory utilization ratio decreases.
   - If the memory utilization ratio decreases, leave the alarm alone.
   - If the memory utilization ratio does not decrease, proceed to Step 3.
3. Check whether the memory utilization ratio threshold needs to be modified:

Threshold Value	Default Value (%)	Reasonable Value (%)
The threshold for memory utilization ratio	90	90

   - If the threshold needs to be modified, proceed to Step 4.
   - If the value does not need to be modified, proceed to Step 5.
4. Modify the threshold of the memory utilization ratio:
   1) In the ANM2000, right-click the HSWA card in the **Object Tree** pane.
   2) Select **Alarm Manage→Board CPU/memory Usage Threshold** in the shortcut menu.
   3) In the **Board CPU/memory Usage Threshold** window that appears, select the column in which the HSWA card locates.
   4) Enter the appropriate memory utilization threshold value in the **CPU Usage Threshold** column.
   5) Click  to write the configuration to the equipment.
5. Please contact technicians of FiberHome.

6.2 Prompt Alarms of the EC4B/EC8B Card

6.2.1 ILEGAL_ONU_REGISTE

Alarm information

Alarm Name	Alarm Level	Alarm Type
ILEGAL_ONU_REGISTE	Prompt alarm	Equipment alarm

Influences on the system

The ONU cannot be authorized; and it cannot provide services for subscribers.

Probable reasons

- In the authentication based on the physical ID white list, the physical ID of an ONU to be registered does not match the item in the physical ID white list.
- In the authentication based on the logical ID white list (without password), the logical ID of an ONU to be registered does not match the item in the logical ID white list.

Handling steps

- In the authentication based on the physical ID white list:
  1) Check whether the ONU's physical ID is in the physical ID white list: In the ANM2000, right-click the HSWA card in the **Object Tree** pane. Select **ONU Authentication→ONU Physic_IDaddress Whitelist** in the shortcut menu to check whether the current ONU's MAC address is in the physical ID white list.
     a) If the current ONU's MAC address is in the physical ID white list, proceed to step 3.
     b) If the current ONU's MAC address is not in the physical ID white list, proceed to step 2.
  2) Add the ONU's physical ID into the physical ID white list. In the ANM2000, right-click the HSWA card in the **Object Tree** pane. Select **ONU Authentication→ONU Physic_IDaddress Whitelist** in the shortcut menu. Select **Edit→Append** or click  button in the menu bar to get the **Please**

Input The Rows For Add: dialog box; and then enter **1** in the dialog box and click **OK** to create an item in the white list. Enter the corresponding physical address and select the Slot No., PON port and ONU type. After finishing the configuration, click the  button to write the configuration to the equipment.

a) If the alarm is removed after the physical ID is added, proceed to Step 6.

b) If the alarm still persists after the physical ID is added, proceed to Step 3.

3) Check whether the ONU authentication mode is the authentication based on the physical ID. In the ANM2000, right-click the HSWA card in the **Object Tree** pane. Select **ONU Authentication→ONU Physic_IDaddress Whitelist** in the shortcut menu to check whether the current authentication mode is the authentication based on the physical ID.

a) If yes, proceed to Step 5.

b) If not, proceed to Step 4.

4) Modify the ONU authentication mode as the authentication based on the physical ID. In the ANM2000, right-click the HSWA card in the **Object Tree** pane. Select **ONU Authentication→ONU Physic_IDaddress Whitelist** in the shortcut menu to modify the current authentication mode as the authentication based on the physical ID.

a) If the alarm is removed after the modification, proceed to Step 6.

b) If the alarm persists after the modification, proceed to Step 5.

5) Please contact technicians of FiberHome.

6) End.

◆ In the authentication based on the logical ID white list (without password):

1) Check whether the ONU's logical ID is in the logical ID white list:

a) In the ANM2000, right-click the HSWA card in the **Object Tree** pane.

b) Select **ONU Authentication→ONU SN: LOIDLogic SN Whitelist** in the shortcut menu.

c) Check whether the logical SN number is in the white list setting.

- If yes, proceed to Step3.

- If not, proceed to Step2.

2) Add the ONU's logical SN number to the logical SN white list.
   a) In the ANM2000, right-click the HSWA card in the **Object Tree** pane.
   b) Select **ONU Authentication→ONU SN: LOIDLogic SN Whitelist** in the shortcut menu.
   c) Select **Edit→Append** or click the  button in the menu bar to get the **Please Input The Rows For Add:** dialog box; and then enter **1** in the dialog box and click **OK** to create an item in the white list.
   d) Enter the corresponding SN number and select the slot number, PON port and ONU type.
   e) Click the  button after finishing the configuration to write the configuration to the equipment.
      - If the alarm is removed after the logical ID is added, proceed to Step 6.
      - If the alarm still persists after the logical ID is added, proceed to Step 3.
3) Check whether the PON port authentication mode is the authentication based on the logical ID (without password):
   a) In the ANM2000, right-click the HSWA card in the **Object Tree** pane.
   b) Select **ONU Authentication→PON Authentication Mode** in the shortcut menu.
   c) Check whether the current authentication mode is the authentication based on the logical ID (without password):
      - If yes, proceed to Step 5.
      - If not, proceed to Step 4.
4) Modify the PON port authentication mode as the authentication based on the logical ID (without password):
   a) In the ANM2000, right-click the HSWA card in the **Object Tree** pane.
   b) Select **ONU Authentication→PON Authentication Mode** in the shortcut menu.

c) Modify the current authentication mode as the authentication based on the logical ID (without password):

- If the alarm is removed after the modification, proceed to Step 6.
- If the alarm persists after the modification, proceed to Step 5.

5) Please contact technicians of FiberHome.

6) End.

6.2.2 ONU_UNAUTHENTICATED

Alarm information

Alarm Name	Alarm Level	Alarm Type
ONU_UNAUTHENTICATED	Prompt alarm	Equipment alarm

Influences on the system

The ONU can not provide access services for users.

Probable reasons

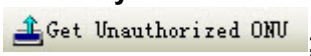
The EC4B / EC8B card has checked that an ONU is registered, but cannot find the corresponding item that matches this ONU's MAC address in the local authorization table.

Handling steps

1. Whether the ONU which generates the alarm needs to be authorized.
   - If the authorization is not needed, ignore the alarm and proceed to Step 4.
   - If the authorization is needed, proceed to Step 2.
2. Authorize the unauthorized ONU (take the authentication mode based on the physical ID as example):
   1) In the ANM2000, right-click the HSWA card in the **Object Tree** pane.
   2) Select **ONU Authentication→PON Authentication Mode** in the shortcut menu.

3) In the **PON Authentication Mode** window that appears, select the slot and the PON port of the EC4B / EC8B and set the corresponding authentication mode as **PHYSIC_ID AUTHENTICATION**. Then click the  button to write the configuration to the equipment.

4) After closing the **PON Authentication Mode** window, right-click the active HSWA card in the **Object Tree** pane, and then select **ONU Authentication→ONU Physic_IDaddress Whitelist** in the shortcut menu.

5) In the **Physical Address White List Setting** window that appears, click 

; and then in the **Get Unauthorized ONU** dialog box that appears, select the corresponding slot no. and the PON port no. Click the **Get Unauthorized ONU** button at the bottom part of the dialog box, the unauthorized ONUs will be displayed in the lower pane. Select the ONU that needs to be authorized and click the **OK** button, so as to authorize the unauthorized ONUs.

- If the alarm is removed, proceed to Step 4.
- If the alarm persists, proceed to Step 3.

3. Please contact technicians of FiberHome.
4. End.

6.2.3 ONU_AUTO_CONFIG_FAILED

Alarm information

Alarm Name	Alarm Level	Alarm Type
ONU_AUTO_CONFIG_FAILED	Prompt alarm	Management failure alarm

Influences on the system

The ONU cannot be authorized and it cannot provide services for subscribers.

Probable reasons

- ONUs with the same MAC address of the PON port have authorized.

- The PON port has connected 64 ONUs and the 64 authorization numbers have been assigned. If the 65th ONU is connected to the PON port, the OLT cannot assign the newly-added ONU with an authorization number.
- If the number of ONUs connected to a PON port is less than 64 but the sum of bandwidth assigned to these ONUs is greater than the total bandwidth of the PON port, then the OLT cannot assign the newly added ONU with an authorization number.

Handling steps

1. Check whether ONUs with the same MAC address registered.
   - If yes, proceed to Step 4.
   - If not, proceed to Step 2.
2. Check the PON port's total bandwidth and subscriber service bandwidth assignment:
   - If the service bandwidth is larger than the PON port's total bandwidth, adjust the service bandwidth and proceed to Step 3.
   - If the PON port's bandwidth is adequate, proceed to Step 3.
3. Authorize the ONU again manually under this OLT. Refer to AN5116-06B Optical Line Terminal Equipment EPON Configuration Guide for more details.
4. Please contact technicians of FiberHome.

6.2.4 CPU_USAGE_OVER_THRESHOLD

Alarm information

Alarm Name	Alarm Level	Alarm Type
CPU_USAGE_OVER_THRESHOLD	Prompt alarm	Equipment alarm

Influences on the system

The running speed of this card may lower, and the system may collapse because of the excessive utilization.

Probable reasons

- The CPU utilization threshold value setting is unreasonable.
- The programs running in the card are too many in quantity or too large in size.

Handling steps

1. Check the CPU utilization:
   1) In the ANM2000, right-click the EC4B/EC8B card in the **Object Tree** pane.
   2) Select **Realtime Performance→CPU/Memory Proportion** in the shortcut menu.
   3) In the **Realtime Performance Collection** window, click the  button to collect the realtime CPU/Memory utilization ratio.
   4) Proceed to Step 2.
2. Observe for a period of time to check whether the CPU utilization ratio decreases.
   - If the CPU utilization ratio decreases, leave the alarm alone.
   - If the CPU utilization ratio does not decrease, proceed to Step 3.
3. Check whether the CPU utilization ratio threshold needs to be modified:

Threshold Value	Default Value (%)	Reasonable Value (%)
The threshold for CPU utilization ratio	90	90

   - If the threshold needs to be modified, proceed to Step 4.
   - If the value does not need to be modified, proceed to Step 5.
4. Modify the threshold of the CPU utilization ratio:
   1) In the ANM2000, right-click the active HSWA card in the **Object Tree** pane.
   2) Select **Alarm Manage→Board CPU/memory Usage Threshold** in the shortcut menu.
   3) In the **Board CPU/memory Usage Threshold** window that appears, select the column in which the EC4B/EC8B card locates.
   4) Enter the appropriate CPU utilization threshold value in the **CPU Usage Threshold** column.

5) Click  to write the configuration to the equipment.

5. Check whether the performance statistic function needs to be disabled:
   - If the performance statistic function needs to be disabled, proceed to Step 6.
   - If the performance statistic function does not need to be disabled, proceed to Step 7.
6. Disable the performance statistic function:
   1) In the ANM2000, right-click the EC4B/EC8B card in the **Object Tree** pane.
   2) Select **Config→Performance Sort Switch** in the shortcut menu.
   3) Select **Disable** in the drop-down list of the **Switch** item.
   4) Click  to write the configuration to the equipment.
7. Please contact technicians of FiberHome.

6.2.5 MEM_USAGE_OVER_THRESHOLD

Alarm information

Alarm Name	Alarm Level	Alarm Type
MEM_USAGE_OVER_ THRESHOLD	Prompt alarm	Equipment alarm

Influences on the system

The running speed of this card may lower, and the system may collapse because of the excessive utilization.

Probable reasons

- The memory utilization threshold value setting is unreasonable.
- The programs running in the card are too many in quantity or some programs occupy too much memory space.

Handling steps

1. Check the memory utilization:

1) In the ANM2000, right-click the EC4B/EC8B card in the **Object Tree** pane.
2) Select **Realtime Performance→CPU/Memory Proportion** in the shortcut menu.
3) In the **Realtime Performance Collection** window, click the  button to collect the realtime CPU/Memory utilization ratio.
4) Proceed to Step 2.

2. Observe for a period of time to check whether the memory utilization ratio decreases.
   - If the memory utilization ratio decreases, leave the alarm alone.
   - If the memory utilization ratio does not decrease, proceed to Step 3.
3. Check whether the memory utilization ratio threshold needs to be modified:

Threshold Value	Default Value (%)	Reasonable Value (%)
The threshold for memory utilization ratio	90	90

   - If the threshold needs to be modified, proceed to Step 4.
   - If the value does not need to be modified, proceed to Step 5.
4. Modify the threshold of the memory utilization ratio:
   1) In the ANM2000, right-click the HSWA card in the **Object Tree** pane.
   2) Select **Alarm Manage→Board CPU/memory Usage Threshold** in the shortcut menu.
   3) In the **Board CPU/memory Usage Threshold** window that appears, select the column in which the EC4B/EC8B card locates.
   4) Enter the appropriate memory utilization threshold value in the **Memory Usage Threshold** column.
   5) Click  to write the configuration to the equipment.
5. Check whether the performance statistic function needs to be disabled:
   - If the performance statistic function needs to be disabled, proceed to Step 6.
   - If the performance statistic function does not need to be disabled, proceed to Step 7.

6. Disable the performance statistic function:
   1) In the ANM2000, right-click the EC4B/EC8B card in the **Object Tree** pane.
   2) Select **Config→Performance Sort Switch** in the shortcut menu.
   3) Select **Disable** in the drop-down list of the **Switch** item.
   4) Click  to write the configuration to the equipment.
7. Please contact technicians of FiberHome.

6.2.6 OPTMODULE_TEMP_OVER

Alarm information

Alarm Name	Alarm Level	Alarm Type
OPTMODULE_TEMP_OVER	Prompt alarm	Equipment alarm

Influences on the system

The optical module does not work well and services of the PON port will be influenced. In severe cases, all ONU services may be interrupted.

Probable reasons

- The ambient temperature where the OLT is in is too high.
- The setting of the temperature threshold value of the optical module is unreasonable.

Handling steps

1. Check whether the OLT's fan card works normally.
   - If the fan card has faults or rotates too slowly, replace the fan card.
   - If the fan card works normally, proceed to Step 2.
2. Check the OLT's ambient temperature:
   - If the ambient temperature is too high, improve the ventilation and take cooling measures.
   - If the ambient temperature is normal, proceed to Step 3.

3. Check whether the setting of maximum and minimum threshold value for the temperature is reasonable:

   1) In the ANM2000, right-click the active HSWA card in the **Object Tree** pane and select **Alarm Management→Optmodule Alarm Threshold** in the shortcut menu.

   2) Check whether the setting of **Maximum Temperature Alarm Threshold (C)** and **Minimum temperature warning threshold(C)** is reasonable:

Threshold Value	Default Value (℃)	Reasonable Value (℃)
The alarm threshold for maximum temperature	100	100
The alarm threshold for minimum temperature	-40	-40

   - If the configuration is unreasonable, modify it and proceed to Step 5 after the alarm is removed.
   - If the configuration is reasonable, proceed to Step 4.

4. Please contact technicians of FiberHome.

5. End.

6.2.7 OPTMODULE_TEMP_OVER

Alarm information

Alarm Name	Alarm Level	Alarm Type
OPTMODULE_TEMP_OVER	Prompt alarm	Equipment alarm

Influences on the system

The optical module does not work well and services of the PON port will be influenced.In severe cases, all ONU services may be interrupted.

Probable reasons

- The interface card has faults.
- The setting of the temperature threshold value of the optical module is unreasonable.

Handling steps

1. Check whether the setting of maximum and minimum threshold value for the temperature is reasonable:
   1) In the ANM2000, right-click the active HSWA card in the **Object Tree** pane and select **Alarm Management→Optmodule Alarm Threshold**.
   2) Check whether the setting of **Maximum Voltage alarm** and **Minimum Voltage warning** is reasonable:

Threshold Value	Default Value (V)	Reasonable Value (V)
The alarm threshold for maximum voltage	3.60	3.60
The alarm threshold for minimum voltage	3.00	3.00

   - If the configuration is unreasonable, modify it and proceed to Step 4 after the alarm is removed.
   - If the configuration is reasonable, proceed to Step 2.
2. Check whether the interface card works normally. Replace the optical module.
   - If the alarm is removed, proceed to Step 4.
   - If the alarm persists, proceed to Step 3.
3. Please contact technicians of FiberHome.
4. End.

6.2.8 OPTMODULE_BIAS_OVER

Alarm information

Alarm Name	Alarm Level	Alarm Type
OPTMODULE_BIAS_OVER	Prompt alarm	Equipment alarm

Influences on the system

The optical module does not work well and services of the PON port will be influenced. In severe cases, all ONU services may be interrupted.

Probable reasons

- The optical module is aged or damaged.
- The setting of the alarm threshold value of the optical module's bias current is unreasonable.

Handling steps

1. Observe the alarm for 5 minutes to check whether the alarm is removed automatically.
   - If the alarm is removed, proceed to Step 5.
   - If the alarm persists, proceed to Step 2.
2. Test the optical power of the OLT and ONU optical modules using a dedicated PON optical power meter and a testing fiber to check whether the optical power is within the normal range:
   - If the optical power is not within the normal range, replace the optical module.
   - If the optical power is within the normal range, proceed to step 3.

Caution:

Checking the optical module’s optical power can interrupt services.

3. Check whether the setting of maximum and minimum threshold value for the temperature is reasonable:
   1) In the ANM2000, right-click the active HSWA card in the **Object Tree** pane and select **Alarm Management→Optmodule Alarm Threshold**.
   2) Check whether the setting of **Maximum Bias current alarm threshold** and **Minimum Bias current warning** is reasonable:

Threshold Value	Default Value (mA)	Reasonable Value (mA)
The maximum alarm threshold value for the bias current	100.0	100.0
The minimum alarm threshold value for the bias current	0.0	0.0

- If the configuration is unreasonable, modify it and proceed to Step 5 after the alarm is removed.
- If the configuration is reasonable, proceed to Step 4.

4. Please contact technicians of FiberHome.
5. End.

6.2.9 OPTMODULE_TXPOWER_OVER

Alarm information

Alarm Name	Alarm Level	Alarm Type
OPTMODULE_TXPOWER_OVER	Prompt alarm	Equipment alarm

Influences on the system

The optical module does not work well and services of the PON port will be influenced. In severe cases, all ONU services may be interrupted.

Probable reasons

- The optical module is aged or damaged.
- The setting of the alarm threshold value of the optical module's Tx optical power is unreasonable.

Handling steps

1. Observe the alarm for 5 minutes to check whether the alarm is removed automatically.
   - If the alarm is removed, proceed to Step 5.
   - If the alarm persists, proceed to Step 2.
2. Test the Tx optical power of the PON optical module on the EC4B/EC8B card using a dedicated PON optical power meter and a testing fiber to check whether the optical power is within the normal range:
   - If the Tx optical power exceeds the maximum threshold, replace the optical module or add the attenuator in the optical fiber line.

- If the Tx optical power is lower than the threshold value, replace the optical module.
- If the optical power is within the normal range, proceed to step 3.

Caution:

Checking the optical module's optical power can interrupt services.

3. Check whether the setting of maximum and minimum threshold value for the Tx optical power is reasonable:
   1) In the ANM2000, right-click the active HSWA card in the **Object Tree** pane and select **Alarm Management→Optmodule Alarm Threshold** in the shortcut menu.
   2) Check whether the setting of **Maximum TX_optical power alarm threshold(dBm)** and **Minimum TX_optical power warning threshold (dBm)** is reasonable:

Threshold Value	Default Value (dBm)	Reasonable Value (dBm)
The alarm threshold for maximum Tx optical power	8.00	8.00
The alarm threshold for minimum Tx optical power	0.00	0.00

   - If the configuration is unreasonable, modify it and proceed to Step 5 after the alarm is removed.
   - If the configuration is reasonable, proceed to Step 4.
4. Please contact technicians of FiberHome.
5. End.

Reference information

The normal range of the optical module's Tx optical power on the OLT side is shown in the following table:

Optical Module Parameter	Normal Range
Tx optical power	When the 1000BASE - PX10 is used, the normal range is from -3dBm to 2dBm. When the 1000BASE - PX20 is used, the normal range is from 2dBm to 7dBm.

Note:

PX10 means the 10km optical module and PX20 means the 20km optical module. Test the Tx optical power on the OLT side and the Rx optical power on the ONU side via the power meter with 1490nm wavelength. Test the Rx optical power on the OLT side and the Tx optical power on the ONU side via the power meter with 1310nm wavelength.

6.2.10 OPTMODULE_RXPOWER_OVER

Alarm information

Alarm Name	Alarm Level	Alarm Type
OPTMODULE_RXPOWER_OVER	Prompt alarm	Equipment alarm

Influences on the system

The optical module does not work well on the ONU side and services of the PON port will be influenced. In severe cases, all ONU services may be interrupted.

Probable reasons

- The ONU optical module is aged or damaged.
- The setting of the alarm threshold value of the ONU Rx optical power is unreasonable.

Handling steps

1. Observe the alarm for 5 minutes to check whether the alarm is removed automatically.

- If the alarm is removed, proceed to Step 5.
- If the alarm persists, proceed to Step 2.

2. Test the Rx optical power on the ONU side using a dedicated PON optical power meter and a testing optical fiber to check whether the optical power is within the normal range:
   - If the Rx optical power exceeds the maximum value, add the optical attenuator or replace the ONU optical module.
   - If the Rx optical power is lower than the threshold value, replace the ONU optical module.
   - If the optical power is within the normal range, proceed to step 3.

Caution:

Checking the optical module's optical power can interrupt services.

3. Check whether the setting of maximum and minimum threshold value for the Rx optical power is reasonable:
   1) In the ANM2000, right-click the active HSWA card in the **Object Tree** pane and select **Alarm Management→Optmodule Alarm Threshold** in the shortcut menu.
   2) Check whether the setting of **Maximum RX_optical power alarm threshold(dBm)** and **Minimum RX_optical power warning threshold (dBm)** is reasonable:

Threshold Value	Default Value (dBm)	Reasonable Value (dBm)
The alarm threshold for maximum Rx optical power	-5.00	-5.00
The alarm threshold for minimum Rx optical power	-32.00	-32.00

   - If the configuration is unreasonable, modify it and proceed to Step 5 after the alarm is removed.
   - If the configuration is reasonable, proceed to Step 4.

4. Please contact technicians of FiberHome.
5. End.

Reference information

The normal range of the optical module's Rx optical power is from -29dBm to -6dBm.

6.2.11 ONU_TO_OLT_RXPOWER_OVER

Alarm information

Alarm Name	Alarm Level	Alarm Type
ONU_TO_OLT_RXPOWER_OVER	Prompt alarm	Equipment alarm

Influences on the system

The optical module does not work well and services of the PON port will be influenced. In severe cases, all ONU services may be interrupted.

Probable reasons

- The ONU optical module is aged or damaged.
- The setting of the alarm threshold value of the Rx optical power from the ONU to OLT is unreasonable.

Handling steps

1. Check whether the Tx optical power on the ONU side is normal using a PON optical power meter and a testing fiber and check whether the optical module is aged or damaged.
   - If the Tx optical power exceeds the maximum value, add the optical attenuator or replace the ONU optical module.
   - If the Tx optical power is lower than the threshold value, replace the ONU optical module.
   - If the optical power is within the normal range, proceed to step 3.
2. Check whether the setting of maximum and minimum threshold value for the Rx optical power is reasonable:
   1) In the ANM2000, right-click the active HSWA card in the **Object Tree** pane and select **Alarm Management→Optmodule Alarm Threshold**.

2) Check whether the setting of **Maximum RX_optical power alarm threshold(dBm)** and **Minimum RX_optical power warning threshold (dBm)** is reasonable:

Threshold Value	Default Value (dBm)	Reasonable Value (dBm)
The alarm threshold for maximum Rx optical power	8.00	8.00
The alarm threshold for minimum Rx optical power	-32.00	-32.00

- If the configuration is unreasonable, modify it and proceed to Step 4 after the alarm is removed.
- If the configuration is reasonable, proceed to Step 3.

3. Please contact technicians of FiberHome.
4. End.

6.2.12 TOTAL_BANDWIDTH_OVER

Alarm information

Alarm Name	Alarm Level	Alarm Type
TOTAL_BANDWIDTH_OVER	Prompt alarm	Management failure alarm

Influences on the system

When a lot of subscriber services are running together, the quality of the subscriber services may decrease, even some subscriber services may be interrupted.

Probable reasons

Under the PON port, the sum of the minimum guaranteed bandwidth of subscriber services exceeds the maximum bandwidth of the system.

Handling steps

1. Check whether the other PON ports have available bandwidth.
   - If yes, assign the newly-added ONUs to the other PON ports.

- If not, add an OLT for the capacity expansion and assign the newly added ONU to the PON port of this OLT.

2. End.

6.3 Prompt Alarms of the GC4B/GC8B Card

6.3.1 ILEGAL_ONU_REGISTE

Alarm information

Alarm Name	Alarm Level	Alarm Type
ILEGAL_ONU_REGISTE	Prompt alarm	Equipment alarm

Influences on the system

The ONU cannot be authorized; and it cannot provide services for subscribers.

Probable reasons

- In the authentication based on the physical ID white list, the physical ID of an ONU to be registered does not match the item in the physical ID white list.
- In the authentication based on the password, the physical ID of an ONU to be registered does not match the item in the physical ID white list.

Handling steps

- In the authentication based on the physical ID white list:
  1) Check whether the ONU’s physical ID is in the physical ID white list:
     a) In the ANM2000, right-click the HSWA card in the **Object Tree** pane.
     b) Select **ONU Authentication→ONU SN: LOIDLogic SN Whitelist** in the shortcut menu.
     c) Check whether the current ONU’s MAC address is in the physical ID white list:
        - If the current ONU's MAC address is in the physical ID white list, proceed to step 3.

- If the current ONU's MAC address is not in the physical ID white list, proceed to step 2.

2) Add the ONU's physical ID into the physical ID white list.
   a) In the ANM2000, right-click the HSWA card in the **Object Tree** pane.
   b) Select **ONU Authentication→ONU SN: LOIDLogic SN Whitelist** in the shortcut menu.
   c) Select **Edit→Append** or click the  button in the menu bar to get the **Please Input The Rows For Add:** dialog box; and then enter **1** in the dialog box and click **OK** to create an item in the white list.
   d) Enter the corresponding physical address and select the slot number, PON port and ONU type.
   e) Click the  button after finishing the configuration to write the configuration to the equipment.
      - If the alarm is removed after the physical ID is added, proceed to Step 6.
      - If the alarm still persists after the physical ID is added, proceed to Step 3.
3) Check whether the PON port authentication mode is the authentication based on the physical ID.
   a) In the ANM2000, right-click the HSWA card in the **Object Tree** pane.
   b) Select **ONU Authentication→PON Authentication Mode** in the shortcut menu.
   c) Check whether the current authentication mode is the authentication based on the physical ID.
      - If yes, proceed to Step 5.
      - If not, proceed to Step 4.
4) Modify the PON port authentication mode as the authentication based on the physical ID.
   a) In the ANM2000, right-click the HSWA card in the **Object Tree** pane.
   b) Select **ONU Authentication→PON Authentication Mode** in the shortcut menu.

c) Check whether the current authentication mode is the authentication based on the physical ID.

- If the alarm is removed after the modification, proceed to Step 6.
- If the alarm persists after the modification, proceed to Step 5.

5) Please contact technicians of FiberHome.

6) End.

◆ Authentication based on password

1) Check whether the password of the ONU is in the password white list

a) In the ANM2000, right-click the HSWA card in the **Object Tree** pane.

b) Select **ONU Authentication→ONU Password Whitelist** in the shortcut menu.

c) Check whether the password of the current ONU is in the password white list.

- If yes, proceed to step 3.
- If not, proceed to step 2.

2) Add the ONU's password in the passwork white list.

a) In the ANM2000, right-click the HSWA card in the **Object Tree** pane.

b) Select **ONU Authentication→ONU Password Whitelist** in the shortcut menu.

c) Select **Edit→Append** or click the  button in the menu bar to get the **Please Input The Rows For Add:** dialog box; and then enter **1** in the dialog box and click **OK** to create an item in the white list.

d) Enter the corresponding password and select the slot number, PON port and ONU type.

e) Click the  button after finishing the configuration to write the configuration to the equipment.

- If the alarm is removed after the password is added, proceed to Step 6.
- If the alarm still persists after the password is added, proceed to Step 3.

3) Check whether the PON port authentication mode is the authentication based on the password.

   a) In the ANM2000, right-click the HSWA card in the **Object Tree** pane.

   b) Select **ONU Authentication→PON Authentication Mode** in the shortcut menu.

   c) Check whether the current authentication mode is the authentication based on the password.

      - If yes, proceed to Step 5.
      - If not, proceed to Step 4.

4) Check whether the PON port authentication mode is the authentication based on the password.

   a) In the ANM2000, right-click the HSWA card in the **Object Tree** pane.

   b) Select **ONU Authentication→PON Authentication Mode** in the shortcut menu.

   c) Check whether the current authentication mode is the authentication based on the password.

      - If the alarm is removed after the modification, proceed to Step 6.
      - If the alarm persists after the modification, proceed to Step 5.

5) Please contact technicians of FiberHome.

6) End.

6.3.2 ONU_AUTO_CONFIG_FAILED

Alarm information

Alarm Name	Alarm Level	Alarm Type
ONU_AUTO_CONFIG_FAILED	Prompt alarm	Management failure alarm

Influences on the system

The ONU cannot be authorized and it cannot provide services for subscribers.

Probable reasons

- ONUs with the same MAC address of the PON port have been authorized.
- The PON port has connected 64 ONUs and the 64 authorization numbers have been assigned. If the 65th ONU is conencted to the PON port, the OLT cannot assign the newly-added ONU with an authorization number.
- If the number of ONUs connected to a PON port is less than 64 but the sum of bandwidth assigned to these ONUs is greater than the total bandwidth of the PON port, then the OLT cannot assign the newly added ONU with an authorization number.

Handling steps

1. Check whether ONUs with the same MAC address registered.
   - If yes, proceed to Step 4.
   - If not, proceed to Step 2.
2. Check the PON port's total bandwidth and subscriber service bandwidth assignment:
   - If the service bandwidth is larger than the PON port's total bandwidth, adjust the service bandwidth and proceed to Step 3.
   - If the PON port's bandwidth is adequate, proceed to Step 3.
3. Authorize the ONU again manually under this OLT. Refer to AN5116-06B Optical Line Terminal Equipment EPON Configuration Guide for more details.
4. Please contact technicians of FiberHome.

6.3.3 CPU_USAGE_OVER_THRESHOLD

Alarm information

Alarm Name	Alarm Level	Alarm Type
CPU_USAGE_OVER_THRESHOLD	Prompt alarm	Equipment alarm

Influences on the system

The running speed of this card may lower, and the system may collapse because of the excessive utilization.

Probable reasons

- The CPU utilization threshold value setting is unreasonable.
- The programs running in the card are too many in quantity or too large in size.

Handling steps

1. Check the CPU utilization:
   1) In the ANM2000, right-click the GC4B/GC8B card in the **Object Tree** pane.
   2) Select **Realtime Performance→CPU/Memory Proportion** in the shortcut menu.
   3) In the **Realtime Performance Collection** window, click the  button to collect the realtime CPU/Memory utilization ratio.
   4) Proceed to Step 2.
2. Observe for a period of time to check whether the CPU utilization ratio decreases.
   - If the CPU utilization ratio decreases, leave the alarm alone.
   - If the CPU utilization ratio does not decrease, proceed to Step 3.
3. Check whether the CPU utilization ratio threshold needs to be modified:

Threshold Value	Default Value (%)	Reasonable Value (%)
The threshold for CPU utilization ratio	90	90

   - If the threshold needs to be modified, proceed to Step 4.
   - If the value does not need to be modified, proceed to Step 5.
4. Modify the threshold of the CPU utilization ratio:
   1) In the ANM2000, right-click the active HSWA card in the **Object Tree** pane.
   2) Select **Alarm Manage→Board CPU/memory Usage Threshold** in the shortcut menu.
   3) In the **Board CPU/memory Usage Threshold** window that appears, select the column in which the GC4B/GC8B card locates.
   4) Enter the appropriate CPU utilization threshold value in the **CPU Usage Threshold** column.

5) Click to write the configuration to the equipment.

5. Check whether the performance statistic function needs to be disabled:
   - If the performance statistic function needs to be disabled, proceed to Step 6.
   - If the performance statistic function does not need to be disabled, proceed to Step 7.
6. Disable the performance statistic function:
   1) In the ANM2000, right-click the GC4B/GC8B card in the **Object Tree** pane.
   2) Select **Config→Performance Sort Switch** in the shortcut menu.
   3) Select **Disable** in the drop-down list of the **Switch** item.
   4) Click to write the configuration to the equipment.
7. Please contact technicians of FiberHome.

6.3.4 MEM_USAGE_OVER_THRESHOLD

Alarm information

Alarm Name	Alarm Level	Alarm Type
MEM_USAGE_OVER_ THRESHOLD	Prompt alarm	Equipment alarm

Influences on the system

The running speed of this card may lower, and the system may collapse because of the excessive utilization.

Probable reasons

- The memory utilization threshold value setting is unreasonable.
- The programs running in the card are too many in quantity or some programs occupy too much memory space.

Handling steps

1. Check the memory utilization:

1) In the ANM2000, right-click the GC4B/GC8B card in the **Object Tree** pane.
2) Select **Realtime Performance→CPU/Memory Proportion** in the shortcut menu.
3) In the **Realtime Performance Collection** window, click the  button to collect the realtime CPU/Memory utilization ratio.
4) Proceed to Step2.

2. Observe for a period of time to check whether the memory utilization ratio decreases.
   - If the memory utilization ratio decreases, leave the alarm alone.
   - If the memory utilization ratio does not decrease, proceed to Step 3.
3. Check whether the memory utilization ratio threshold needs to be modified:

Threshold Value	Default Value (%)	Reasonable Value (%)
The threshold for memory utilization ratio	90	90

   - If the threshold needs to be modified, proceed to Step 4.
   - If the value does not need to be modified, proceed to Step 5.
4. Modify the threshold of the memory utilization ratio:
   1) In the ANM2000, right-click the active HSWA card in the **Object Tree** pane.
   2) Select **Alarm Manage→Board CPU/memory Usage Threshold** in the shortcut menu.
   3) In the **Board CPU/memory Usage Threshold** window that appears, select the column in which the GC4B/GC8B card locates.
   4) Enter the appropriate memory utilization threshold value in the **Memory Usage Threshold** column.
   5) Click  to write the configuration to the equipment.
5. Check whether the performance statistic function needs to be disabled:
   - If the performance statistic function needs to be disabled, proceed to Step 6.
   - If the performance statistic function does not need to be disabled, proceed to Step 7.

6. Disable the performance statistic function:
   1) In the ANM2000, right-click the GC4B/GC8B card in the **Object Tree** pane.
   2) Select **Config→Performance Sort Switch** in the shortcut menu.
   3) Select **Disable** in the drop-down list of the **Switch** item.
   4) Click  to write the configuration to the equipment.
7. Please contact technicians of FiberHome.

6.3.5 ONU_UNAUTHENTICATED

Alarm information

Alarm Name	Alarm Level	Alarm Type
ONU_UNAUTHENTICATED	Prompt alarm	Equipment alarm

Influences on the system

After being authorized, the ONU can be connected to the OLT and put into operation.

Probable reasons

The GC4B / GC8B card has checked that an ONU is registered, but cannot find the corresponding item that matches this ONU's MAC address in the local authorization table.

Handling steps

1. Ignore the alarm and authorize the unauthorized ONU (take the authentication mode based on the physical ID as example):
   1) In the ANM2000, right-click the HSWA card in the **Object Tree** pane.
   2) Select **ONU Authentication→PON Authentication Mode** in the shortcut menu.
   3) In the **PON Authentication Mode** window that appears, select the slot and the PON port of the GC4B / GC8B and set the corresponding authentication mode as **PHYSIC_ID AUTHENTICATION**. Then click the  button to write the configuration to the equipment.

4) After closing the **PON Authentication Mode** window, right-click the active HSWA card in the **Object Tree** pane, and then select **ONU Authentication→ONU Physic_IDaddress Whitelist** in the shortcut menu.

5) In the **Physical Address White List Setting** window that appears, click 

; and then in the **Get Unauthorized ONU** dialog box that appears, select the corresponding slot no. and the PON port no. Click the **Get Unauthorized ONU** button at the bottom part of the dialog box, the unauthorized ONUs will be displayed in the lower pane. Select the ONU that needs to be authorized and click the **OK** button, so as to authorize the unauthorized ONUs.

2. End.

6.3.6 OPTMODULE_TEMP_OVER

Alarm information

Alarm Name	Alarm Level	Alarm Type
OPTMODULE_TEMP_OVER	Prompt alarm	Equipment alarm

Influences on the system

The optical module does not work well and services of the PON port will be influenced. In severe cases, all ONU services may be interrupted.

Probable reasons

- The ambient temperature where the OLT is in is too high.
- The setting of the temperature threshold value of the optical module is unreasonable.

Handling steps

1. Check whether the OLT's fan card works normally.
   - If the fan card has faults or rotates too slowly, replace the fan card.
   - If the air conditioner works normally, proceed to Step 2.
2. Check the OLT's ambient temperature:

- If the ambient temperature is too high, improve the ventilation and take cooling measures.
- If the ambient temperature is normal, proceed to Step 3.

3. Check whether the setting of maximum and minimum threshold value for the temperature is reasonable:
   1) In the ANM2000, right-click the active HSWA card in the **Object Tree** pane and select **Alarm Management→Optmodule Alarm Threshold** in the shortcut menu.
   2) Check whether the setting of **Maximum Temperature Alarm Threshold (C)** and **Minimum temperature warning threshold(C)** is reasonable:

Threshold Value	Default Value (℃)	Reasonable Value (℃)
The alarm threshold for maximum temperature	100	80
The alarm threshold for minimum temperature	-40	-10

   - If the configuration is unreasonable, modify it and proceed to Step 5 after the alarm is removed.
   - If the configuration is reasonable, proceed to Step 4.

4. Please contact technicians of FiberHome.
5. End.

6.3.7 OPTMODULE_TEMP_OVER

Alarm information

Alarm Name	Alarm Level	Alarm Type
OPTMODULE_TEMP_OVER	Prompt alarm	Equipment alarm

Influences on the system

The optical module does not work well and services of the PON port will be influenced. In severe cases, all ONU services may be interrupted.

Probable reasons

- The interface card has faults.
- The setting of the temperature threshold value of the optical module is unreasonable.

Handling steps

1. Check whether the setting of maximum and minimum threshold value for the temperature is reasonable:
   1) In the ANM2000, right-click the active HSWA card in the **Object Tree** pane and select **Alarm Management→Optmodule Alarm Threshold**.
   2) Check whether the setting of **Maximum Voltage alarm** and **Minimum Voltage warning** is reasonable:

Threshold Value	Default Value (V)	Reasonable Value (V)
The alarm threshold for maximum voltage	3.60	3.60
The alarm threshold for minimum voltage	3.00	3.00

   - If the configuration is unreasonable, modify it and proceed to Step 4 after the alarm is removed.
   - If the configuration is reasonable, proceed to Step 2.
2. Check whether the interface card works normally. Replace the optical module.
   - If the alarm is removed, proceed to Step 4.
   - If the alarm persists, proceed to Step 3.
3. Please contact technicians of FiberHome.
4. End.

6.3.8 OPTMODULE_BIAS_OVER

Alarm information

Alarm Name	Alarm Level	Alarm Type
OPTMODULE_BIAS_OVER	Prompt alarm	Equipment alarm

Influences on the system

The optical module does not work well and services of the PON port will be influenced. In severe cases, all ONU services may be interrupted.

Probable reasons

- The optical module is aged or damaged.
- The setting of the alarm threshold value of the optical module's bias current is unreasonable.

Handling steps

1. Observe the alarm for 5 minutes to check whether the alarm is removed automatically.
   - If the alarm is removed, proceed to Step 5.
   - If the alarm persists, proceed to Step 2.
2. Test the optical power of the OLT and ONU optical modules using a dedicated PON optical power meter and a testing optical fiber to check whether the optical power is within the normal range:
   - If the optical power is not within the normal range, replace the optical module.
   - If the optical power is within the normal range, proceed to step 3.

Caution:

Checking the optical module's optical power can interrupt services.

3. Check whether the setting of maximum and minimum threshold value for the temperature is reasonable:
   1) In the ANM2000, right-click the active HSWA card in the **Object Tree** pane and select **Alarm Management→Optmodule Alarm Threshold**.
   2) Check whether the setting of **Maximum Bias current alarm threshold** and **Minimum Bias current warning** is reasonable:

Threshold Value	Default Value (mA)	Reasonable Value (mA)
The alarm threshold for maximum bias current	100.0	50.0
The alarm threshold for minimum bias current	0.0	0.0

- If the configuration is unreasonable, modify it and proceed to Step 5 after the alarm is removed.
- If the configuration is reasonable, proceed to Step 4.

4. Please contact technicians of FiberHome.
5. End.

6.3.9 OPTMODULE_TXPOWER_OVER

Alarm information

Alarm Name	Alarm Level	Alarm Type
OPTMODULE_TXPOWER_OVER	Prompt alarm	Equipment alarm

Influences on the system

The optical module does not work well and services of the PON port will be influenced. In severe cases, all ONU services may be interrupted.

Probable reasons

- The optical module is aged or damaged.
- The setting of the alarm threshold value of the optical module's Tx optical power is unreasonable.

Handling steps

1. Observe the alarm for 5 minutes to check whether the alarm is removed automatically.
   - If the alarm is removed, proceed to Step 5.
   - If the alarm persists, proceed to Step 2.

2. Test the Tx optical power of the PON optical module on the GC4B/GC8B card using a dedicated PON optical power meter and a testing optical fiber to check whether the optical power is within the normal range:
   - If the Tx optical power exceeds the maximum threshold, replace the optical module or add the attenuator in the optical fiber line.
   - If the Tx optical power is lower than the threshold value, replace the optical module.
   - If the optical power is within the normal range, proceed to step 3.

Caution:

Checking the optical module's optical power can interrupt services.

3. Check whether the setting of maximum and minimum threshold value for the Tx optical power is reasonable:
   1) In the ANM2000, right-click the active HSWA card in the **Object Tree** pane and select **Alarm Management→Optmodule Alarm Threshold** in the shortcut menu.
   2) Check whether the setting of **Maximum TX_optical power alarm threshold(dBm)** and **Minimum TX_optical power warning threshold (dBm)** is reasonable:

Threshold Value	Default Value (dBm)	Reasonable Value (dBm)
The alarm threshold for maximum TX optical power	8.00	8.00
The alarm threshold for minimum Tx optical power	0.00	0.00

   - If the configuration is unreasonable, modify it and proceed to Step 5 after the alarm is removed.
   - If the configuration is reasonable, proceed to Step 4.
4. Please contact technicians of FiberHome.
5. End.

Reference information

The normal range of the optical module's Tx optical power on the OLT side is shown in the following table:

Optical Module Parameter	Normal Range
Tx optical power	When the 1000BASE - PX10 is used, the normal range is from -3dBm to 2dBm. When the 1000BASE - PX20 is used, the normal range is from 2dBm to 7dBm.

Note:

PX10 means the 10km optical module and PX20 means the 20km optical module. Test the Tx optical power on the OLT side and the Rx optical power on the ONU side via the power meter with 1490nm wavelength. Test the Rx optical power on the OLT side and the Tx optical power on the ONU side via the power meter with 1310nm wavelength.

6.3.10 OPTMODULE_RXPOWER_OVER

Alarm information

Alarm Name	Alarm Level	Alarm Type
OPTMODULE_RXPOWER_OVER	Prompt alarm	Equipment alarm

Influences on the system

The optical module does not work well on the ONU side and services of the PON port will be influenced. In severe cases, all ONU services may be interrupted.

Probable reasons

- The ONU optical module is aged or damaged.
- The setting of the alarm threshold value of the ONU Rx optical power is unreasonable.

Handling steps

1. Observe the alarm for 5 minutes to check whether the alarm is removed automatically.
   - If the alarm is removed, proceed to Step 5.
   - If the alarm persists, proceed to Step 2.
2. Test the Tx optical power on the ONU side using a dedicated PON optical power meter and a testing fiber to check whether the optical power is within the normal range:
   - If the Tx optical power exceeds the maximum value, add the optical attenuator or replace the ONU optical module.
   - If the Tx optical power is lower than the threshold value, replace the ONU optical module.
   - If the optical power is within the normal range, proceed to step 3.

Caution:

Checking the optical module's optical power can interrupt services.

3. Check whether the setting of maximum and minimum threshold value for the Rx optical power is reasonable:
   1) In the ANM2000, right-click the active HSWA card in the **Object Tree** pane and select **Alarm Management→Optmodule Alarm Threshold** in the shortcut menu.
   2) Check whether the setting of **Maximum RX_optical power alarm threshold(dBm)** and **Minimum RX_optical power warning threshold (dBm)** is reasonable:

Threshold Value	Default Value (dBm)	Reasonable Value (dBm)
The alarm threshold for maximum Rx optical power	-5.00	-5.00
The alarm threshold for minimum Rx optical power	-32.00	-32.00

   - If the configuration is unreasonable, modify it and proceed to Step 5 after the alarm is removed.

- If the configuration is reasonable, proceed to Step 4.

4. Please contact technicians of FiberHome.
5. End.

Reference information

The normal range of the optical module's Rx optical power is from -29dBm to -6dBm.

6.3.11 ONU_TO_OLT_RXPOWER_OVER

Alarm information

Alarm Name	Alarm Level	Alarm Type
ONU_TO_OLT_RXPOWER_OVER	Prompt alarm	Equipment alarm

Influences on the system

The optical module does not work well and services of the PON port will be influenced and all services may be interrupted.

Probable reasons

- The optical module is aged or damaged.
- The setting of the alarm threshold value of the ONU Rx optical power is unreasonable.

Handling steps

1. Check whether the optical power is normal using a PON optical power meter and a testing optical fiber and check whether the optical module is aged or damaged.
   - If the optical power is abnormal, replace the optical module.
   - If the optical power is normal, proceed to Step 2.
2. Check whether the setting of maximum and minimum threshold value for the Rx optical power is reasonable:

1) In the ANM2000, right-click the active HSWA card in the **Object Tree** pane and select **Alarm Management→Optmodule Alarm Threshold** in the shortcut menu.

2) Check whether the setting of **Maximum RX_optical power alarm threshold(dBm)** and **Minimum RX_optical power warning threshold (dBm)** is reasonable:

Threshold Value	Default Value (dBm)	Reasonable Value (dBm)
The alarm threshold for maximum Rx optical power	8.00	8.00
The alarm threshold for minimum Rx optical power	-32.00	-32.00

- If the configuration is unreasonable, modify it and proceed to Step 4 after the alarm is removed.
- If the configuration is reasonable, proceed to Step 3.

3. Please contact technicians of FiberHome.
4. End.

6.3.12 TOTAL_BANDWIDTH_OVER

Alarm information

Alarm Name	Alarm Level	Alarm Type
TOTAL_BANDWIDTH_OVER	Prompt alarm	Management failure alarm

Influences on the system

When a lot of subscriber services are running together, the quality of the subscriber services may decrease, even some subscriber services may be interrupted.

Probable reasons

Under the PON port, the sum of the minimum guaranteed bandwidth of subscriber services exceeds the maximum bandwidth of the system.

Handling steps

1. Check whether the other PON ports have available bandwidth.
   - If yes, assign the newly-added ONUs to the other PON ports.
   - If not, add an OLT for the capacity expansion and assign the newly added ONU to the PON port of this OLT.
2. End.

6.4 Prompt Alarm of the CE1B Card

6.4.1 CPU_USAGE_OVER_THRESHOLD

Alarm information

Alarm Name	Alarm Level	Alarm Type
CPU_USAGE_OVER_THRESHOLD	Prompt alarm	Equipment alarm

Influences on the system

The running speed of this card may lower, and the system may collapse.

Probable reasons

- The CPU utilization threshold value setting is unreasonable.
- The programs running in the card are too many in quantity or too large in size.

Handling steps

1. Check the CPU utilization:
   1) In the ANM2000, right-click the CE1B card in the **Object Tree** pane.
   2) Select **Realtime Performance→CPU/Memory Proportion** in the shortcut menu.
   3) In the **Realtime Performance Collection** window, click the  button to collect the realtime CPU/Memory utilization ratio.
   4) Proceed to Step2.

2. Observe for a period of time to check whether the CPU utilization ratio decreases.
   - If the CPU utilization ratio decreases, leave the alarm alone.
   - If the CPU utilization ratio does not decrease, proceed to Step 3.
3. Check whether the CPU utilization ratio threshold needs to be modified:

Threshold Value	Default Value (%)	Reasonable Value (%)
The threshold for CPU utilization ratio	90	90

   - If the threshold needs to be modified, proceed to Step 4.
   - If the value does not need to be modified, proceed to Step 5.
4. Modify the threshold of the CPU utilization ratio:
   1) In the ANM2000, right-click the active HSWA card in the **Object Tree** pane.
   2) Select **Alarm Manage→CPU/memory Usage Threshold** in the shortcut menu.
   3) In the **CPU/memory Usage Threshold** window that appears, select the column in which the CE1B card locates.
   4) Enter the appropriate CPU utilization threshold value in the **CPU Usage Threshold (%)** column.
   5) Click  to write the configuration to the equipment.
5. Check whether the performance statistic function needs to be disabled:
   - If the performance statistic function needs to be disabled, proceed to Step 6.
   - If the performance statistic function does not need to be disabled, proceed to Step 7.
6. Disable the performance statistic function:
   1) In the ANM2000, right-click the CE1B card in the **Object Tree** pane.
   2) Select **Config→Performance Sort Switch** in the shortcut menu.
   3) Select **Disable** in the drop-down list of the **Switch** item.
   4) Click  to write the configuration to the equipment.
7. Please contact technicians of FiberHome.

6.4.2 MEM_USAGE_OVER_THRESHOLD

Alarm information

Alarm Name	Alarm Level	Alarm Type
MEM_USAGE_OVER_THRESHOLD	Prompt alarm	Equipment alarm

Influences on the system

The running speed of this card may lower, and the system may collapse.

Probable reasons

- The memory utilization threshold value setting is unreasonable.
- The programs running in the card are too many in quantity or some programs occupy too much memory space.

Handling steps

1. Check the memory utilization:
   1) In the ANM2000, right-click the CE1B card in the **Object Tree** pane.
   2) Select **Realtime Performance→CPU/Memory Proportion** in the shortcut menu.
   3) In the **Realtime Performance Collection** window, click the  button to collect the realtime CPU/Memory utilization ratio.
   4) Proceed to Step2.
2. Observe for a period of time to check whether the memory utilization ratio decreases.
   - If the memory utilization ratio decreases, leave the alarm alone.
   - If the memory utilization ratio does not decrease, proceed to Step 3.
3. Check whether the CPU utilization ratio threshold needs to be modified:

Threshold Value	Default Value (%)	Reasonable Value (%)
The threshold for memory utilization ratio	90	90

   - If the threshold needs to be modified, proceed to Step 4.
   - If the value does not need to be modified, proceed to Step 5.

4. Modify the threshold of the memory utilization ratio:
   1) In the ANM2000, right-click the active HSWA card in the **Object Tree** pane.
   2) Select **Alarm Manage→CPU/memory Usage Threshold** in the shortcut menu.
   3) In the **CPU/memory Usage Threshold** window that appears, select the column in which the CE1B card locates.
   4) Enter the appropriate memory utilization threshold value in the **Memory Usage Threshold** column.
   5) Click  to write the configuration to the equipment.
5. Check whether the performance statistic function needs to be disabled:
   - If the performance statistic function needs to be disabled, proceed to Step 6.
   - If the performance statistic function does not need to be disabled, proceed to Step 7.
6. Disable the performance statistic function:
   1) In the ANM2000, right-click the CE1B card in the **Object Tree** pane.
   2) Select **Config→Performance Sort Switch** in the shortcut menu.
   3) Select **Disable** in the drop-down list of the **Switch** item.
   4) Click  to write the configuration to the equipment.
7. Please contact technicians of FiberHome.

6.5 Prompt Alarm of the C155A Card

6.5.1 CPU_USAGE_OVER_THRESHOLD

Alarm information

Alarm Name	Alarm Level	Alarm Type
CPU_USAGE_OVER_THRESHOLD	Prompt alarm	Equipment alarm

Influences on the system

The running speed of this card may lower, and the system may collapse.

Probable reasons

- The CPU utilization threshold value setting is unreasonable.
- The programs running in the card are too many in quantity or too large in size.

Handling steps

1. Check the CPU utilization:
   1) In the ANM2000, right-click the C155A card in the **Object Tree** pane.
   2) Select **Realtime Performance→CPU/Memory Proportion** in the shortcut menu.
   3) In the **Realtime Performance Collection** window, click the  button to collect the realtime CPU/Memory utilization ratio.
   4) Proceed to Step2.
2. Observe for a period of time to check whether the CPU utilization ratio decreases.
   - If the CPU utilization ratio decreases, leave the alarm alone.
   - If the CPU utilization ratio does not decrease, proceed to Step 3.
3. Check whether the CPU utilization ratio threshold needs to be modified:

Threshold Value	Default Value (%)	Reasonable Value (%)
The threshold for CPU utilization ratio	90	90

   - If the threshold needs to be modified, proceed to Step 4.
   - If the value does not need to be modified, proceed to Step 5.
4. Modify the threshold of the CPU utilization ratio:
   1) In the ANM2000, right-click the active HSWA card in the **Object Tree** pane.
   2) Select **Alarm Manage→CPU/memory Usage Threshold** in the shortcut menu.

3) In the **CPU/memory Usage Threshold** window that appears, select the column in which the C155A card locates.

4) Enter the appropriate CPU utilization threshold value in the **CPU Usage Threshold (%)** column.

5) Click  to write the configuration to the equipment.

5. Check whether the performance statistic function needs to be disabled:

   - If the performance statistic function needs to be disabled, proceed to Step 6.
   - If the performance statistic function does not need to be disabled, proceed to Step 7.

6. Disable the performance statistic function:

   1) In the ANM2000, right-click the C155A card in the **Object Tree** pane.

   2) Select **Config→Performance Sort Switch** in the shortcut menu.

   3) Select **Disable** in the drop-down list of the **Switch** item.

   4) Click  to write the configuration to the equipment.

7. Please contact technicians of FiberHome.

6.5.2 MEM_USAGE_OVER_THRESHOLD

Alarm information

Alarm Name	Alarm Level	Alarm Type
MEM_USAGE_OVER_THRESHOLD	Prompt alarm	Equipment alarm

Influences on the system

The running speed of this card may lower, and the system may collapse.

Probable reasons

- The memory utilization threshold value setting is unreasonable.
- The programs running in the card are too many in quantity or some programs occupy too much memory space.

Handling steps

1. Check the memory utilization:
   1) In the ANM2000, right-click the C155A card in the **Object Tree** pane.
   2) Select **Realtime Performance→CPU/Memory Proportion** in the shortcut menu.
   3) In the **Realtime Performance Collection** window, click the  button to collect the realtime CPU/Memory utilization ratio.
   4) Proceed to Step2.
2. Observe for a period of time to check whether the memory utilization ratio decreases.
   - If the memory utilization ratio decreases, leave the alarm alone.
   - If the memory utilization ratio does not decrease, proceed to Step 3.
3. Check whether the memory utilization ratio threshold needs to be modified:

Threshold Value	Default Value (%)	Reasonable Value (%)
The threshold for memory utilization ratio	90	90

   - If the threshold needs to be modified, proceed to Step 4.
   - If the value does not need to be modified, proceed to Step 5.
4. Modify the threshold of the memory utilization ratio:
   1) In the ANM2000, right-click the active HSWA card in the **Object Tree** pane.
   2) Select **Alarm Manage→CPU/memory Usage Threshold** in the shortcut menu.
   3) In the **CPU/memory Usage Threshold** window that appears, select the column in which the C155A card locates.
   4) Enter the appropriate memory utilization threshold value in the **Memory Usage Threshold (%)** column.
   5) Click  to write the configuration to the equipment.
5. Check whether the performance statistic function needs to be disabled:

- If the performance statistic function needs to be disabled, proceed to Step 6.
- If the performance statistic function does not need to be disabled, proceed to Step 7.

6. Disable the performance statistic function:
   1) In the ANM2000, right-click the C155A card in the **Object Tree** pane.
   2) Select **Config→Performance Sort Switch** in the shortcut menu.
   3) Select **Disable** in the drop-down list of the **Switch** item.
   4) Click  to write the configuration to the equipment.
7. Please contact technicians of FiberHome.

6.6 Prompt Alarm of the PUBA Card

6.6.1 User_defined_alarm1 to User_defined_alarm14

Alarm information

Alarm Name	Alarm Level	Alarm Type
User_defined_alarm1 to User_defined_ alarm14	Prompt alarm	Environmental alarm

Influences on the system

An exception may be raised in the running environment of the equipment. To ensure the long-period and stable running of the equipment, users need to handle this alarm immediately.

Probable reasons

- The PUBA card checks that the signals at the dry contact change.
- The setting for the alarm reporting condition is wrong.

Handling steps

1. Check whether the monitored object of the dry contact is normal:
   - If the monitored object is abnormal, restore its normal conditions.

- If the monitored object is normal, proceed to Step 2.

2. Check the alarm reporting condition setting:
   1) In the ANM2000, right-click the PUBA card in the **Object Tree** pane.
   2) Select **Config→PUBA User Defined Alarm Config** in the shortcut menu and the **PUBA User Defined Alarm Config** window appears.
3. Check the alarm reporting conditions:
   - If the alarm reporting condition setting is wrong, refer to Configuring Custom Alarm Reporting Conditions for the specific operation of modify alarm reporting conditions.
   - If the alarm reporting condition setting is correct, proceed to Step 4.
4. Please contact technicians of FiberHome.

6.7 Prompt Alarms of the Uplink Card

6.7.1 PORT_DISCONNECTED

Alarm information

Alarm Name	Alarm Level	Alarm Type
PORT_DISCONNECTED	Prompt alarm	Equipment alarm

Note:

The alarm only occurs in the uplink card whose unplink port is the Ethernet interface.

Influences on the system

All services on the unplink card port will be interrupted in the OLT system.

Probable reasons

The uplink card port disconnects or the auto negotiation is unsuccessful.

Handling steps

1. Make sure whether the port is disabled manually or the network cable is unplugged.
   - If yes, it is normal and unnecessary to process the alarm.
   - If not, proceed to Step 2.
2. Check whether the connection of the optical fiber or the network cable of the uplink card and the far end equipment is normal.
   - If the connection is abnormal, restore the connection and proceed to Step 5 after the alarm is removed.
   - If the connection is normal, proceed to Step 3.
3. Check whether the far end equipment is powered on normally.
   - If the equipment fails to power on, power on the equipment. If the alarm is removed, proceed to Step 5.
   - If the equipment is powered on normally, the equipment port is damaged or the auto negotiation is unsuccessful, proceed to Step 4.
4. Please contact technicians of FiberHome.
5. End.

6.8 Prompt Alarm of the ONUs

6.8.1 OPTICAL_POWER_LOW

Alarm information

Alarm Name	Alarm Level	Alarm Type
OPTICAL_POWER_LOW	Prompt alarm	Equipment alarm

Influences on the system

The optical module works unstably and the ONU service is influenced. In severe cases, all ONU services may be interrupted.

Probable reasons

The optical module is aged or damaged.

Handling steps

1. Observe the alarm for 5 minutes to check whether the alarm is removed automatically.
   - If the alarm is removed, proceed to Step 5.
   - If the alarm persists, proceed to Step 2.
2. Test the optical power of the OLT and ONU optical modules using a PON dedicated optical power meter and a testing fiber to check whether the optical power is within the normal range:
   - If the optical power is not within the normal range, replace the optical module.
   - If the optical power is within the normal range, proceed to step 3.

Caution:

Checking the optical module's optical power can interrupt services.

3. Please contact technicians of FiberHome.
4. End.

6.8.2 NETWORK_SERVICE_QUALITY_LOWER

Alarm information

Alarm Name	Alarm Level	Alarm Type
NETWORK_SERVICE_QUALITY_LOWER	Prompt alarm	Equipment alarm

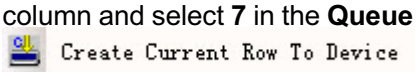
Influences on the system

The voice quality is poor.

Probable reasons

The network quality is poor and the communication quality of the voice service communication decreases.

Handling steps

1. Improve the downlink voice service priority:
   1) In the ANM2000, right-click the HSWA card in the **Object Tree** pane and select **Qos Config→Qos Profiles** in the shortcut menu.
   2) Create a new profile or modify the old profile. Select the corresponding voice VLAN ID in the **VLAN ID** column, and select **Forward** in the **CMD** column and select **7** in the **Queue** column and click 

to deliver the configuration to the OLT.
   - If the alarm is removed, proceed to Step 4.
   - If the alarm persists, proceed to Step 2.
2. Add the bandwidth of the ONU or PON port:
   1) In the ANM2000, right-click the EC4B/EC8B or GC4B/GC8B in the **Object Tree** pane and select **Config→Bandwidth** to modify the uplink total bandwidth of the PON port.
   2) Click the EC4B/EC8B or GC4B/GC8B card in the object tree of the **Logical Tree** pane. Right-click the ONU to be set in the ONU list that appears, and select **Config→ONU bandwidth** to add the uplink and downlink bandwidth of the ONU or PON port.
      - If the alarm is removed, proceed to Step 4.
      - If the alarm persists, proceed to Step 3.
3. Please contact technicians of FiberHome.
4. End.

6.8.3 PROTECT_VOICE_SERVICE_ONLY

Alarm information

Alarm Name	Alarm Level	Alarm Type
PROTECT_VOICE_SERVICE_ONLY	Prompt alarm	Equipment alarm

Influences on the system

When the storage battery voltage is too low, the ONU fails to work normally. Only voice services are guaranteed for users.

Probable reasons

The voltage of the ONU standby battery is overlow.

Handling steps

1. Check whether the alarm is removed after replacing the ONU standby battery:
   - If the alarm is removed, proceed to Step 3.
   - If the alarm persists, proceed to Step 2.
2. Please contact technicians of FiberHome.
3. End.

6.8.4 User_defined_alarm1 to User_defined_alarm5

Alarm information

Alarm Name	Alarm Level	Alarm Type
User_defined_alarm1 to User_defined_alarm5	Prompt alarm	Environmental alarm

Influences on the system

The running environment of the equipment may change. The change in some environmental parameters may lead to the equipment running instability, even may result in the equipment failure. To ensure the long-period and stable running of the equipment, users need to handle this alarm immediately.

Probable reasons

- The ONU checks that the signals at the dry contact change.
- The setting for the alarm reporting condition is wrong.

Note:

The FTTH-type ONU supports two custom alarms (User_defined_alarm1 to User_defined_alarm2); and the FTTB-type ONU supports five custom alarms.

Handling steps

1. Check whether the monitored object of the dry contact is normal:
   - If the monitored object is abnormal, restore its normal conditions.
   - If the monitored object is normal, proceed to Step 2.
2. Check the alarm reporting condition setting:
   1) In the **Object Tree** of the ANM2000 window, click the PON port connected with the ONU.
   2) In the **ONU List** tab that appears subsequently, right-click the ONU and select **Config→Custom Alarm Config** in the shortcut menu to bring up the **Custom Alarm Config** window.
3. Check the alarm reporting conditions:
   - If the alarm reporting condition setting is wrong, refer to Configuring Custom Alarm Reporting Conditions for the specific operation of modify alarm reporting conditions.
   - If the alarm reporting condition setting is correct, proceed to Step 4.
4. Please contact technicians of FiberHome.

6.8.5 ONU LOF

Alarm information

Alarm Name	Alarm Level	Alarm Type
ONU LOF	Prompt alarm	Equipment alarm

Note:

This alarm occurs only in ONUs such as the AN5506-01-A, AN5506-04-A/B/C/F and AN5506-06.

Influences on the system

The data flow synchronization loss occurs during the delimitation process, which may cause ONU disconnection.

Probable reasons

The OLT does not receive any frame that is validly delimited from the ONU within 4 successive frames due to the loss on the optical fiber, bad connection at the interface and optical module fault.

Handling steps

1. Restart the ONU and observe for 5 minutes continuously to see whether the alarm is removed.
   - If the alarm is removed, proceed to Step 5.
   - If the alarm persists, proceed to Step 2.
2. Check the connection of the optical fiber and the interface.
   - If optical fiber loss occurs or the interfaces are not firmly connected, replace the optical fiber or restore the normal connection on the interface. If the alarm is removed, proceed to Step 5.
   - If the alarm persists, proceed to Step 3.
3. Test whether the ONU's optical module is normal using a dedicated PON optical power meter and a testing optical fiber.
   - If not, replace the optical module. If the alarm is removed after the replacement, proceed to Step 5; otherwise, proceed to Step 4.
   - If the equipment works normally, proceed to Step 4.

Caution:

Checking the optical module's optical power can interrupt services.

4. Please contact technicians of FiberHome.
5. End.

6.8.6 ONU DOW

Alarm information

Alarm Name	Alarm Level	Alarm Type
ONU DOW	Prompt alarm	Equipment alarm

Note:

Alarms occur in the ONU of the AN5506-01-A, AN5506-04-A/B/C/F and AN5506-06.

Influences on the system

The services of the ONU may be interrupted and the ONU may even be disconnected.

Probable reasons

The Tx signals of the ONU do not arrive at the expected positions due to the loss on the optical fiber, bad connection at the interface and optical module fault.

Handling steps

1. Restart the ONU and observe for 5 minutes continuously to see whether the alarm is removed.
   - If the alarm is removed, proceed to Step 5.
   - If the alarm persists, proceed to Step 2.
2. Check the connection of the optical fiber and the interface.

- If optical fiber loss occurs or the interfaces are not firmly connected, replace the optical fiber or restore the normal connection on the interface. If the alarm is removed, proceed to Step 5.
- If the alarm persists, proceed to Step 3.

3. Test whether the ONU's optical module is normal using a dedicated PON optical power meter and a testing optical fiber.
   - If not, replace the optical module. If the alarm is removed after the replacement, proceed to Step 5; otherwise, proceed to Step 4.
   - If the equipment works normally, proceed to Step 4.

Caution:

Checking the optical module's optical power can interrupt services.

4. Please contact technicians of FiberHome.
5. End.

6.8.7 ONU SF

Alarm information

Alarm Name	Alarm Level	Alarm Type
ONU SF	Prompt alarm	Equipment alarm

Note:

Alarms occur in the ONU of the AN5506-01-A, AN5506-04-A/B/C/F and AN5506-06.

Influences on the system

The services of the ONU may be interrupted and the ONU may even be disconnected.

Probable reasons

The bit error rate of the ONU's uplink service flow≥10^{-X} (8≥X≥3) due to the loss on the optical fiber, bad connection at the interface and optical module fault.

Handling steps

1. Restart the ONU and observe for 5 minutes continuously to see whether the alarm is removed.
   - If the alarm is removed, proceed to Step 5.
   - If the alarm persists, proceed to Step 2.
2. Check the connection of the optical fiber and the interface.
   - If optical fiber loss occurs or the interfaces are not firmly connected, replace the optical fiber or restore the normal connection on the interface. If the alarm is removed, proceed to Step 5.
   - If the alarm persists, proceed to Step 3.
3. Test whether the ONU's optical module is normal using a dedicated PON optical power meter and a testing optical fiber.
   - If not, replace the optical module. If the alarm is removed after the replacement, proceed to Step 5; otherwise, proceed to Step 4.
   - If the equipment works normally, proceed to Step 4.

Caution:

Checking the optical module's optical power can interrupt services.

4. Please contact technicians of FiberHome.
5. End.

6.8.8 ONU SD

Alarm information

Alarm Name	Alarm Level	Alarm Type
ONU SD	Prompt alarm	Equipment alarm

Note:

Alarms occur in the ONU of the AN5506-01-A, AN5506-04-A/B/C/F and AN5506-06.

Influences on the system

The services of the ONU may be interrupted and the ONU may even be disconnected.

Probable reasons

The bit error rate of the ONU's uplink service flow≥10^{-Y} (9≥Y≥4, and Y should be larger than the X in the ONU_SF alarm) due to the loss on the optical fiber, bad connection at the interface and optical module fault.

Handling steps

1. Restart the ONU and observe for 5 minutes continuously to see whether the alarm is removed.
   - If the alarm is removed, proceed to Step 5.
   - If the alarm persists, proceed to Step 2.
2. Check the connection of the optical fiber and the interface.
   - If optical fiber loss occurs or the interfaces are not firmly connected, replace the optical fiber or restore the normal connection on the interface. If the alarm is removed, proceed to Step 5.
   - If the alarm persists, proceed to Step 3.
3. Test whether the ONU's optical module is normal using a dedicated PON optical power meter and a testing optical fiber.
   - If not, replace the optical module. If the alarm is removed after the replacement, proceed to Step 5; otherwise, proceed to Step 4.
   - If the equipment works normally, proceed to Step 4.

Caution:

Checking the optical module's optical power can interrupt services.

4. Please contact technicians of FiberHome.
5. End.

6.8.9 LCDG

Alarm information

Alarm Name	Alarm Level	Alarm Type
LCDG	Prompt alarm	Equipment alarm

Note:

Alarms occur in the ONU of the AN5506-01-A, AN5506-04-A/B/C/F and AN5506-06.

Influences on the system

The services of the ONU may be interrupted and the ONU may even be disconnected.

Probable reasons

Loss of GEM channel delineation occurs on the ONU due to the loss on the optical fiber, bad connection at the interface and optical module fault.

Handling steps

1. Restart the ONU and observe for 5 minutes continuously to see whether the alarm is removed.
   - If the alarm is removed, proceed to Step 5.
   - If the alarm persists, proceed to Step 2.
2. Check the connection of the optical fiber and the interface.

- If optical fiber loss occurs or the interfaces are not firmly connected, replace the optical fiber or restore the normal connection on the interface. If the alarm is removed, proceed to Step 5.
- If the alarm persists, proceed to Step 3.

3. Test whether the ONU's optical module is normal using a dedicated PON optical power meter and a testing optical fiber.
   - If not, replace the optical module. If the alarm is removed after the replacement, proceed to Step 5; otherwise, proceed to Step 4.
   - If the equipment works normally, proceed to Step 4.

Caution:

Checking the optical module's optical power can interrupt services.

4. Please contact technicians of FiberHome.
5. End.

6.8.10 RDI

Alarm information

Alarm Name	Alarm Level	Alarm Type
RDI	Prompt alarm	Equipment alarm

Note:

Alarms occur in the ONU of the AN5506-01-A, AN5506-04-A/B/C/F and AN5506-06.

Influences on the system

The services of the ONU may be interrupted and the ONU may even be disconnected.

Probable reasons

The ONU has checked that the data from the OLT have faults due to the loss on the optical fiber, bad connection at the interface and optical module fault.

Handling steps

1. Restart the ONU and observe for 5 minutes continuously to see whether the alarm is removed.
   - If the alarm is removed, proceed to Step 5.
   - If the alarm persists, proceed to Step 2.
2. Check the connection of the optical fiber and the interface.
   - If optical fiber loss occurs or the interfaces are not firmly connected, replace the optical fiber or restore the normal connection on the interface. If the alarm is removed, proceed to Step 5.
   - If the alarm persists, proceed to Step 3.
3. Test whether the ONU's optical module is normal using a dedicated PON optical power meter and a testing optical fiber.
   - If not, replace the optical module. If the alarm is removed after the replacement, proceed to Step 5; otherwise, proceed to Step 4.
   - If the equipment works normally, proceed to Step 4.

Caution:

Checking the optical module's optical power can interrupt services.

4. Please contact technicians of FiberHome.
5. End.

6.8.11 SUF

Alarm information

Alarm Name	Alarm Level	Alarm Type
SUF	Prompt alarm	Equipment alarm

Note:

Alarms occur in the ONU of the AN5506-01-A, AN5506-04-A/B/C/F and AN5506-06.

Influences on the system

The services can only be configured after the ONU ranging is successful.

Probable reasons

After the OLT has received the optical pulse from the ONU, the ONU ranging has been failed twice.

Handling steps

1. Restart the ONU and observe for 5 minutes continuously to see whether the alarm is removed.
   - If the alarm is removed, proceed to Step 5.
   - If the alarm persists, proceed to Step 2.
2. Check the connection of the optical fiber and the interface.
   - If optical fiber loss occurs or the interfaces are not firmly connected, replace the optical fiber or restore the normal connection on the interface. If the alarm is removed, proceed to Step 5.
   - If the alarm persists, proceed to Step 3.
3. Test whether the ONU's optical module is normal using a dedicated PON optical power meter and a testing optical fiber.
   - If not, replace the optical module. If the alarm is removed after the replacement, proceed to Step 5; otherwise, proceed to Step 4.
   - If the equipment works normally, proceed to Step 4.

Caution:

Checking the optical module's optical power can interrupt services.

4. Please contact technicians of FiberHome.
5. End.

Reference information

Ranging: A procedure of measuring the logical distance between the OLT and each of its subtending ONUs. Ranging aims to accurately time the individual ONU uplink transmission bursts so that these bursts arrive at the OLT in a collision-free sequential fashion. The OLT ranges the ONUs, measures the relative distance from each ONU to the OLT according to the round-trip delay. The OLT adjusts the uplink transmission time of each ONU according to the ranging, in order to make the ONUs appear to be at an equal distance from the OLT.

6.8.12 LOA

Alarm information

Alarm Name	Alarm Level	Alarm Type
LOA	Prompt alarm	Equipment alarm

Note:

Alarms occur in the ONU of the AN5506-01-A, AN5506-04-A/B/C/F and AN5506-06.

Influences on the system

This event does not influence the system.

Probable reasons

The OLT has not received the uplink confirmation information that should be sent from the ONU due to the loss on the optical fiber, bad connection at the interface and optical module fault.

Handling steps

1. Restart the ONU and observe for 5 minutes continuously to see whether the alarm is removed.
   - If the alarm is removed, proceed to Step 5.
   - If the alarm persists, proceed to Step 2.
2. Check the connection of the optical fiber and the interface.
   - If optical fiber loss occurs or the interfaces are not firmly connected, replace the optical fiber or restore the normal connection on the interface. If the alarm is removed, proceed to Step 5.
   - If the alarm persists, proceed to Step 3.
3. Test whether the ONU's optical module is normal using a dedicated PON optical power meter and a testing optical fiber.
   - If not, replace the optical module. If the alarm is removed after the replacement, proceed to Step 5; otherwise, proceed to Step 4.
   - If the equipment works normally, proceed to Step 4.

Caution:

Checking the optical module's optical power can interrupt services.

4. Please contact technicians of FiberHome.
5. End.

6.8.13 PLOAM

Alarm information

Alarm Name	Alarm Level	Alarm Type
PLOAM	Prompt alarm	Equipment alarm

Note:

Alarms occur in the ONU of the AN5506-01-A, AN5506-04-A/B/C/F and AN5506-06.

Influences on the system

The services of the ONU may be interrupted and the ONU may even be disconnected.

Probable reasons

After transmitting the SendPLOAMU frame, the OLT has not received the PLOAM frames sent from the ONU for successively three times due to the loss on the optical fiber, bad connection at the interface and optical module fault.

Handling steps

1. Restart the ONU and observe for 5 minutes continuously to see whether the alarm is removed.
   - If the alarm is removed, proceed to Step 5.
   - If the alarm persists, proceed to Step 2.
2. Check the connection of the optical fiber and the interface.
   - If optical fiber loss occurs or the interfaces are not firmly connected, replace the optical fiber or restore the normal connection on the interface. If the alarm is removed, proceed to Step 5.
   - If the alarm persists, proceed to Step 3.
3. Test whether the ONU's optical module is normal using a dedicated PON optical power meter and a testing optical fiber.
   - If not, replace the optical module. If the alarm is removed after the replacement, proceed to Step 5; otherwise, proceed to Step 4.
   - If the equipment works normally, proceed to Step 4.

Caution:

Checking the optical module's optical power can interrupt services.

4. Please contact technicians of FiberHome.
5. End.

Reference information

- PLOAM: Used for transmitting the OAM function information between the ONU and the OLT.
- PLOAMu: Uplink PLOAM.

6.8.14 MEM

Alarm information

Alarm Name	Alarm Level	Alarm Type
MEM	Prompt alarm	Equipment alarm

Note:

Alarms occur in the ONU of the AN5506-01-A, AN5506-04-A/B/C/F and AN5506-06.

Influences on the system

This event does not influence the system.

Probable reasons

The OLT receives unknown messages from the ONU due to the loss on the optical fiber, bad connection at the interface and optical module fault.

Handling steps

1. Restart the ONU and observe for 5 minutes continuously to see whether the alarm is removed.
   - If the alarm is removed, proceed to Step 5.
   - If the alarm persists, proceed to Step 2.
2. Check the connection of the optical fiber and the interface.
   - If optical fiber loss occurs or the interfaces are not firmly connected, replace the optical fiber or restore the normal connection on the interface. If the alarm is removed, proceed to Step 5.

- If the alarm persists, proceed to Step 3.

3. Test whether the ONU's optical module is normal using a dedicated PON optical power meter and a testing optical fiber.
   - If not, replace the optical module. If the alarm is removed after the replacement, proceed to Step 5; otherwise, proceed to Step 4.
   - If the equipment works normally, proceed to Step 4.

Caution:

Checking the optical module's optical power can interrupt services.

4. Please contact technicians of FiberHome.
5. End.

6.8.15 PEE

Alarm information

Alarm Name	Alarm Level	Alarm Type
PEE	Prompt alarm	Equipment alarm

Note:

Alarms occur in the ONU of the AN5506-01-A, AN5506-04-A/B/C/F and AN5506-06.

Influences on the system

The services of the ONU may be interrupted and the ONU may even be disconnected.

Probable reasons

The OLT receives a PEE message from the ONU due to the loss on the optical fiber, bad connection at the interface and optical module fault.

Handling steps

1. Restart the ONU and observe for 5 minutes continuously to see whether the alarm is removed.
   - If the alarm is removed, proceed to Step 5.
   - If the alarm persists, proceed to Step 2.
2. Check the connection of the optical fiber and the interface.
   - If optical fiber loss occurs or the interfaces are not firmly connected, replace the optical fiber or restore the normal connection on the interface. If the alarm is removed, proceed to Step 5.
   - If the alarm persists, proceed to Step 3.
3. Test whether the ONU's optical module is normal using a dedicated PON optical power meter and a testing optical fiber.
   - If not, replace the optical module. If the alarm is removed after the replacement, proceed to Step 5; otherwise, proceed to Step 4.
   - If the equipment works normally, proceed to Step 4.

Caution:

Checking the optical module's optical power.

4. Please contact technicians of FiberHome.
5. End.

Reference information

PEE: Physical Equipment Error, indicating to the OLT that this ONU cannot simultaneously transmit the GEM frame and the OMCC frame from the GEM layer to the TC layer.

6.8.16 MIS

Alarm information

Alarm Name	Alarm Level	Alarm Type
MIS	Prompt alarm	Equipment alarm

Note:

Alarms occur in the ONU of the AN5506-01-A, AN5506-04-A/B/C/F and AN5506-06.

Influences on the system

The services of the ONU may be interrupted and the ONU may even be disconnected.

Probable reasons

The OLT checks that the received PST is different from the transmitted PST.

Handling steps

1. Restart the ONU and observe for 5 minutes continuously to see whether the alarm is removed.
   - If the alarm is removed, proceed to Step 5.
   - If the alarm persists, proceed to Step 2.
2. Check the connection of the optical fiber and the interface.
   - If optical fiber loss occurs or the interfaces are not firmly connected, replace the optical fiber or restore the normal connection on the interface. If the alarm is removed, proceed to Step 5.
   - If the alarm persists, proceed to Step 3.
3. Test whether the ONU's optical module is normal using a dedicated PON optical power meter and a testing optical fiber.
   - If not, replace the optical module. If the alarm is removed after the replacement, proceed to Step 5; otherwise, proceed to Step 4.
   - If the equipment works normally, proceed to Step 4.

Caution:

Checking the optical module's optical power can interrupt services.

4. Please contact technicians of FiberHome.
5. End.

Reference information

PST: Checks the connection status of the ONU and OLT in the PON protection configuration structure and implements the APS.

6.8.17 UP_BIP8_OVER_THRESHOLD

Alarm information

Alarm Name	Alarm Level	Alarm Type
UP_BIP8_OVER_THRESHOLD	Prompt alarm	Equipment alarm

Note:

Alarms occur in the ONU of the AN5506-01-A, AN5506-04-A/B/C/F and AN5506-06.

Influences on the system

The services of the ONU may be interrupted and the ONU may even be disconnected.

Probable reasons

The quantity of the BIP8s (load bit errors) within the uplink data received by the OLT exceeds the configured threshold due to the loss on the optical fiber, bad connection at the interface and optical module fault.

Handling steps

1. Restart the ONU and observe for 5 minutes continuously to see whether the alarm is removed.
   - If the alarm is removed, proceed to Step 5.
   - If the alarm persists, proceed to Step 2.

2. Check the connection of the optical fiber and the interface.
   - If optical fiber loss occurs or the interfaces are not firmly connected, replace the optical fiber or restore the normal connection on the interface. If the alarm is removed, proceed to Step 5.
   - If the alarm persists, proceed to Step 3.
3. Test whether the ONU's optical module is normal using a dedicated PON optical power meter and a testing optical fiber.
   - If not, replace the optical module. If the alarm is removed after the replacement, proceed to Step 5; otherwise, proceed to Step 4.
   - If the equipment works normally, proceed to Step 4.

Caution:

Checking the optical module's optical power can interrupt services.

4. Please contact technicians of FiberHome.
5. End.

6.8.18 DOWN_BIP8_OVER_THRESHOLD

Alarm information

Alarm Name	Alarm Level	Alarm Type
DOWN_BIP8_OVER_THRESHOLD	Prompt alarm	Equipment alarm

Note:

Alarms occur in the ONU of the AN5506-01-A, AN5506-04-A/B/C/F and AN5506-06.

Influences on the system

The services of the ONU may be interrupted and the ONU may even be disconnected.

Probable reasons

The quantity of the BIP8s (load bit errors) within the uplink data received by the OLT exceeds the configured threshold due to the loss on the optical fiber, bad connection at the interface and optical module fault.

Handling steps

1. Restart the ONU and observe for 5 minutes continuously to see whether the alarm is removed.
   - If the alarm is removed, proceed to Step 5.
   - If the alarm persists, proceed to Step 2.
2. Check the connection of the optical fiber and the interface.
   - If optical fiber loss occurs or the interfaces are not firmly connected, replace the optical fiber or restore the normal connection on the interface. If the alarm is removed, proceed to Step 5.
   - If the alarm persists, proceed to Step 3.
3. Test whether the ONU's optical module is normal using a dedicated PON optical power meter and a testing optical fiber.
   - If not, replace the optical module. If the alarm is removed after the replacement, proceed to Step 5; otherwise, proceed to Step 4.
   - If the equipment works normally, proceed to Step 4.

Caution:

Checking the optical module's optical power can interrupt services.

4. Please contact technicians of FiberHome.
5. End.

6.8.19 INNER_TEMP_HIGH

Alarm information

Alarm Name	Alarm Level	Alarm Type
INNER_TEMP_HIGH	Prompt alarm	Equipment alarm

Influences on the system

The ONU service is influenced or in severe cases, all ONU services may be interrupted because the optical module cannot work well.

Probable reasons

- The ONU fan has faults or the speed is too low.
- The ambient temperature where the ONU is in is too high.

Handling steps

1. Check whether the ONU fan works normally.
   - If the fan has faults or rotates too slowly, replace the fan.
   - If the fan works normally, proceed to Step 2.
2. Check the ONU's ambient temperature and improve the ventilation.
   - If the ambient temperature is too high, improve the ventilation and take cooling measures.
   - If the ambient temperature is normal, proceed to Step 3.
3. Test the Rx optical power on the ONU side and the Tx optical power of the ONU optical module using a dedicated PON optical power meter and a testing optical fiber to check whether the optical power is within the normal range:
   - If the optical power is not within the normal range, replace the optical module.
   - If the optical power is within the normal range, proceed to step 4.

Caution:

Checking the optical module's optical power can interrupt services.

4. Please contact technicians of FiberHome.
5. End.

6.8.20 INNER_TEMP_LOW

Alarm information

Alarm Name	Alarm Level	Alarm Type
INNER_TEMP_LOW	Prompt alarm	Equipment alarm

Influences on the system

The ONU service is influenced or in severe cases, all ONU services may be interrupted because the optical module cannot work well.

Probable reasons

The ambient temperature where the ONU is in is too low.

Handling steps

1. Check the ONU's ambient temperature:
   - If the ambient temperature is too low, take heating measures.
   - If the ambient temperature is normal, proceed to Step 2.
2. Please contact technicians of FiberHome.
3. End.

7 Critical Events

- Critical Events of the HSWA Card
- Critical Events of the Card
- Critical Events of the ONU

7.1 Critical Events of the HSWA Card

7.1.1 OLT_REGISER_FAILED

Event information

Event Name	Event Level
OLT_REGISER_FAILED	Critical Events

Influences on the system

Faults occur when the OLT is being added into the resource management system and resource management system of the network operator fails to manage the OLT.

Probable reasons

The communication between the ANM2000 and the resource management system of the network operator is interrupted.

Handling steps

1. Test whether the physical link between the ANM2000 and the resource management system of the network operator is normal.
   - If the physical link has faults, repair the physical link faults.
   - If the physical link is normal, proceed to Step 2.
2. Please contact technicians of FiberHome.
3. End.

7.2 Critical Events of the Card

7.2.1 PULL_OUT_CARD

Event information

Event Name	Event Level
PULL_OUT_CARD	Critical Events

Influences on the system

All functions of this card are disabled and all services on this card are interrupted; that is, the card cannot provide the relevant services and functions.

Probable reasons

A card is unplugged.

Handling steps

1. Confirm whether it is necessary to insert the unplugged card in the equipment again:
   - If yes, insert the card into the equipment again. The system will raise a critical event, i.e. the **INSERT_CARD** event after the card is started.
   - If not, proceed to Step 2.
2. End.

7.2.2 INSERT_CARD

Event information

Event Name	Event Level
INSERT_CARD	Critical Events

Influences on the system

The card cannot provide the corresponding services and functions before it is started.

Probable reasons

A card is plugged in the equipment.

Handling steps

Users do not need to handle the event.

7.3 Critical Events of the ONU

7.3.1 HG_REGISTER_FAILED

Event information

Event Name	Event Level
HG_REGISTER_FAILED	Critical Events

Influences on the system

Faults occur when the home gateway is being added into the resource management system and resource management system of the network operator fails to manage the home gateway.

Probable reasons

The communication between the ANM2000 and the resource management system of the network operator is interrupted.

Handling steps

1. Test whether the physical link between the ANM2000 and the resource management system of the network operator is normal.
   - If the physical link has faults, repair the physical link faults.
   - If the physical link is normal, proceed to Step 2.
2. Please contact technicians of FiberHome.
3. End.

7.3.2 ONU_REGISTER_FAILED

Event information

Event Name	Event Level
ONU_REGISTER_FAILED	Critical Events

Influences on the system

Faults occur when the ONU is being added into the resource management system and resource management system of the network operator fails to manage the ONU.

Probable reasons

The communication between the ANM2000 and the resource management system of the network operator is interrupted.

Handling steps

1. Test whether the physical link between the ANM2000 and the resource management system of the network operator is normal.
   - If the physical link has faults, repair the physical link faults.
   - If the physical link is normal, proceed to Step 2.
2. Please contact technicians of FiberHome.
3. End.

7.3.3 UPGRADE_FILE_DISMATCH

Event information

Event Name	Event Level
UPGRADE_FILE_DISMATCH	Critical Events

Influences on the system

The ONU fails to provide services for users because the ONU cannot be upgraded.

Probable reasons

The file type of the ONU upgrade files does not match that of the ONU to be ungraded.

Handling steps

1. Check whether the file type of the ONU upgrade files matches that of the ONU to be ungraded.

- If not, use the correct upgrade files to upgrade the ONU.
- If yes, proceed to Step 2.

2. Please contact technicians of FiberHome.
3. End.

7.3.4 UPGRADE_FAILURE

Event information

Event Name	Event Level
UPGRADE_FAILURE	Critical Events

Influences on the system

The ONU fails to provide services for users because the ONU cannot be upgraded.

Probable reasons

- The file type of the ONU upgrade files does not match that of the ONU to be ungraded.
- The connection between the AN5116-06B and the ONU is interrupted and the upgrade files fails to be delivered to the ONU to be upgraded.
- The ONU fails to use the new upgrade files.

Handling steps

1. Check whether the file type of the ONU upgrade files matches that of the ONU to be ungraded.
   - If not, use the correct upgrade files to upgrade the ONU.
   - If yes, proceed to Step 2.
2. Check whether the FTP server works normally.
   - If not, configure and start the FTP server again.
   - If yes, proceed to Step 3.
3. Check whether the ONU has fiber cut alarms.
   - If yes, refer to LINK_LOSS for troubleshooting.

- If not, proceed to Step 4.

4. Select **Control Command→Reset ONU** in the shortcut menu of the EC4B/EC8B or GC4B/GC8B card. Restart the ONU to be upgraded and proceed to Step 5 after waiting for 2 minutes.
5. Select **Get Information→ONU Information** in the shortcut menu of the EC4B/EC8B or GC4B/GC8B card to check whether the new software version is enabled.
   - If yes, proceed to Step 7.
   - If not, proceed to Step 6.
6. Please contact technicians of FiberHome.
7. End.

7.3.5 AUTO_UPGRADE_FAILURE

Event information

Event Name	Event Level
AUTO_UPGRADE_FAILURE	Critical Events

Influences on the system

The ONU fails to provide services for users because the ONU cannot be upgraded.

Probable reasons

- The file type of the ONU cannot be identified or the checking of the upgrade file is faulty.
- The file type of the ONU upgrade files does not match that of the ONU to be ungraded.
- The FTP server or the delivered files has faults.
- The core switch card and the interface card have communication faults.
- The interface card and the ONU have communication faults.

Handling steps

1. Check additional alarm information to ascertain the type of faults via alarms and perform corresponding troubleshootings. Five faults are listed below:
   - If the prompt is **Unknown upgrade file type or wrong crc of file.**, check the upgrade files.
     - If not, use the correct upgrade files to upgrade the ONU.
     - If yes, proceed to Step 2.
   - If the prompt is **Unconsistent upgrade file type with ONU type.**, check the ONU type.
     - If not, use the correct upgrade files to upgrade the ONU.
     - If yes, proceed to Step 2.
   - If the prompt is **Error occurs when download files from FTP server.**, check the configuration of the FTP server.
     - If not, configure and start the FTP server again.
     - If yes, proceed to Step 2.
   - If the prompt is **Poor communication between GSW and line cards**, check the communication status between the core switch card and the interface card.
     - Log into the CLI network management system. If logging in the interface card via the telnet command fails, proceed to Step 4.
     - Log into the CLI network management system. If logging in the interface card via the telnet command succeeds, proceed to Step 2.
   - If the prompt is **Poor communication between line cards and ONUs.**, check the communication status between the core switch card and the ONU.
     - If the line between the interface card and the ONU is normal and no fiber cut alarm and far end ONU communication interruption occur, proceed to Step 2.
     - If the line between the interface card and the ONU is abnormal and no fiber cut alarm and far end ONU communication interruption occur, refer to LINK_LOSS.

2. Select **Control Command→Reset ONU** in the shortcut menu of the EC4B/ EC8B or GC4B/GC8B card. Restart the ONU to be upgraded and proceed to Step 3 after waiting for 2 minutes.
3. In the shortcut menu of the EC4B / EC8B card, select **Get Information→ONU information** to check whether the ONU starts up the new software version:
   - If yes, proceed to Step 5.
   - If not, proceed to Step 4.
4. Please contact technicians of FiberHome.
5. End.

8 Minor Events

☑ Minor Events of the ONU

8.1 Minor Events of the ONU

8.1.1 NGN_SET_FAIL

Event information

Event Name	Event Level
NGN_SET_FAIL	Minor Events

Influences on the system

The ONU fails to provide voice services for users.

Probable reasons

- The ONU authentication fails.
- The voice service configuration is wrong.

Handling steps

1. Check whether the ONU works normally.
   1) Right-click the EC4B/EC8B or GC4B/GC8B card in the Object Tree and select **Get Information→ONU Authcated Table** in the shortcut menu.
   2) Check the ONU authentication table to find whether the ONU is in the ONU authentication table.
      - If yes, proceed to Step 2.
      - If not, check whether the fiber cut alarm exist in the ONU and re-authorize the ONU.
2. Check whether the voice service configuration of the OLT and ONU is correct and whether the voice service configuration is consistent with the data planning.
   - If the voice service configuration is inconsistent with the data planning, modify the voice service configuration.
   - If the voice service configuration is consistent with the data planning, proceed to Step 3.
3. Please contact technicians of FiberHome.

4. End.

9 Prompt Events

- Prompt Events of the HSWA Card
- Prompt Events of the EC4B/EC8B/GC4B/GC8B Card
- Prompt Events of the ONU

9.1 Prompt Events of the HSWA Card

9.1.1 CPU_INVERSION_SUCCESSFUL

Event information

Event Name	Event Level
CPU_INVERSION_SUCCESSFUL	Prompt Events

Influences on the system

This event does not influence the system.

Probable reasons

- A switchover between the active and the standby core switch card via the ANM2000.
- A switchover between the active and the standby core switch card via the CLI.
- The active core switch card is unplugged, which causes the switching occurs in the core switch card.
- The active core switch card is automatically and abnormally restarted, which causes the switching occurs in the system.

Handling steps

1. Confirm whether the manual switching is performed via the ANM2000.
   - If the switching is executed manually, no handling is needed.
   - If the switching is initiated automatically, proceed to Step 2.
2. Check whether the active core switch card has faults:
   - If yes, replace the card.
   - If not, proceed to Step 3.
3. Please contact technicians of FiberHome.

9.1.2 Core Switch Card Status Change

Event information

Event Name	Event Level
Core switch card status change	Prompt Events

Influences on the system

This event does not influence the system.

Probable reasons

- Switching occurs in the active and standby HSWA card.
- The system is started.

Handling steps

No handling is needed.

9.1.3 UPLINK_INVERSION

Event information

Event Name	Event Level
UPLINK_INVERSION	Prompt Events

Influences on the system

This event does not influence the system.

Probable reasons

Manual switching or automatic switching occurs on an uplink port.

Handling steps

1. Check whether the switching for the uplink port is initiated manually:
   - If the switching is executed manually, no handling is needed.
   - If the switching is initiated automatically, proceed to Step 2.

2. Check whether the uplink port's physical connection is normal:
   - If not, perform the connection again.
   - If yes, proceed to Step 3.
3. Check the optical module with an optical power meter:
   - If the optical module cannot receive and transmit the optical signals normally, replace the optical module.
   - If the optical module works normally, proceed to Step 4.
4. Please contact technicians of FiberHome.
5. End.

9.1.4 SIGNAL_TRACE

Event information

Event Name	Event Level
SIGNAL_TRACE	Prompt Events

Influences on the system

This event does not influence the system.

Probable reasons

The signaling tracing function of the core switch card is enabled.

Handling steps

No handling is needed.

9.1.5 TIME_REQ

Event information

Event Name	Event Level
TIME_REQ	Prompt Events

Influences on the system

The equipment time is not synchronized with the NTP server time.

Probable reasons

Reconfigure the SNMP time mode in the ANM2000.

Handling steps

Execute the time calibration command:

1. In the ANM2000, right-click the AN5116-06B system in the **Logical Tree** pane and select **Config→Time Calibration** in the shortcut menu.
2. In the **Sending Commands...** window that appears subsequently, click the **OK** button to execute the time calibration command.

9.1.6 COLD_START

Event information

Event Name	Event Level
COLD_START	Prompt Events

Influences on the system

The restart of the HSWA card may cause the loss of unsaved configuration.

Probable reasons

- Reset of the active HSWA card via the ANM2000.
- Reset of the active HSWA card via the CLI.
- When no standby card is in the system, the HSWA card is unplugged and then it is inserted again.

Handling steps

No handling is needed.

9.1.7 TIME_ACK

Event information

Event Name	Event Level
TIME_ACK	Prompt Events

Influences on the system

The system timing is successful.

Probable reasons

The configuration of the OLT equipment system time mode changes.

Handling steps

No handling is needed.

9.1.8 HG_REGISTER

Event information

Event Name	Event Level
HG_REGISTER	Prompt Events

Influences on the system

This event does not influence the system.

Probable reasons

The home gateway being added into the resource management system of the network operator is successful.

Handling steps

No handling is needed.

9.1.9 OLT_REGISTER

Event information

Event Name	Event Level
OLT_REGISTER	Prompt Events

Influences on the system

This event does not influence the system.

Probable reasons

The OLT being added into the resource management system of the network operator is successful.

Handling steps

No handling is needed.

9.1.10 PEER_INSERT

Event information

Event Name	Event Level
PEER_INSERT	Prompt Events

Influences on the system

The event does not influence the system and only prompts the standby card poweron.

Probable reasons

The standby core switch card is powered on successfully.

Handling steps

No handling is needed.

9.1.11 PRECONFIG REQUEST

Event information

Event Name	Event Level
PRECONFIG REQUEST	Prompt Events

Influences on the system

The event does not influence the system and only prompts the AN5116-06B to initial the pre-configure request of data to the ANM2000.

Probable reasons

After powering on, the AN5116-06B initials the pre-configure request of data to the ANM2000.

Handling steps

No handling is needed.

9.1.12 LINECARD_SWITCH

Event information

Event Name	Event Level
LINECARD_SWITCH	Prompt Events

Influences on the system

This event does not influence the system.

Probable reasons

- The line card's forced switch is executed manually.
- The active line card has faults.

Handling steps

1. Check whether the active line card has faults.

- If no faults exist, proceed to Step 3.
- If the equipment works normally, proceed to Step 2.

Caution:

Checking the optical module's optical power can interrupt services.

2. Check whether the active line card's forced switch is executed:
   - If the forced switch is executed, check whether the operation is legal. If the operation is illegal, process it. If the operation is legal, proceed to Step 4.
   - If no switch exists, proceed to Step 3.
3. Please contact technicians of FiberHome.
4. End.

9.2 Prompt Events of the EC4B/EC8B/GC4B/GC8B Card

9.2.1 PON_PORT_PROTECTION_GROUP_STATUS_CHANGE

Event information

Event Name	Event Level
PON_PORT_PROTECTION_GROUP_STATUS_CHANGE	Prompt Events

Influences on the system

The event does not influence the system and only prompts the status change of the protection group of the PON port.

Probable reasons

- Restart of the AN5116-06B.
- The setting of the PON protection group succeeds.
- The switching of the PON protection group succeeds.

Handling steps

No handling is needed.

9.2.2 PRE_REGISTER_FAILURE

Event information

Event Name	Event Level
PRE_REGISTER_FAILURE	Prompt event

Influences on the system

The ONU pre-registers unsuccessfully in the PON port can not provide services for users.

Probable reasons

- The PON port of the OLT and ONU has faults.
- Faults occur on the physical link of the optical fiber.

Handling steps

1. Test the Tx optical power of the ONU and OLT using a dedicated PON optical power meter and a testing optical fiber to check whether the optical power is within the normal range:
   - If the optical power is not within the normal range, replace the optical module.
   - If the optical power is within the normal range, proceed to step 2.

Caution:

Checking the optical module's optical power can interrupt services.

2. Test whether the physical link of the optical fiber with the optical power meter is normal:
   - If the optical power is too low or no optical signals exist and faults occur on the optical fiber link or optical splitter, repair the physical link of the optical fiber.

- If the optical power is normal, proceed to Step 3.

3. Please contact technicians of FiberHome.
4. End.

9.2.3 PON_INVERSION_SUCCESSFUL

Event information

Event Name	Event Level
PON_INVERSION_SUCCESSFUL	Prompt Events

Influences on the system

The event does not influence the system and is only a prompt that the PON port switching is successful.

Probable reasons

- The active PON port checks that the optical signal is abnormal and stops working. The standby PON port is in the working status.
- The service interface card is off-line and the services on the PON port switch.

Handling steps

No handling is needed.

9.2.4 PON_INVERSION_FAILED

Event information

Event Name	Event Level
PON_INVERSION_FAILED	Prompt Events

Influences on the system

The switching to the standby PON port fails. If the active PON port has faults, all user services of the PON port will be interrupted.

Probable reasons

- The setting of the PON protection group is wrong.
- The standby PON port is not enabled or has faults.

Handling steps

1. Check whether the configuration of the OLT PON protection group is correct.
   1) In the ANM2000, right-click the active HSWA card in the **Object Tree** pane and select **Reliability Config→PON Protection Group Config→PON Protection Group Config** in the shortcut menu.
   2) Check whether the configuration of the corresponding group number and PON port is correct.
      - If the configuration is wrong, modify the configuration.
      - If the configuration is correct, proceed to Step 2.
2. Please contact technicians of FiberHome.
3. End.

9.3 Prompt Events of the ONU

9.3.1 AUTO_UPGRADE_SUCCESS

Event information

Event Name	Event Level
AUTO_UPGRADE_SUCCESS	Prompt Events

Influences on the system

The ONU uses the new software version.

Probable reasons

The ONU upgrades successfully.

Handling steps

No handling is needed.

9.3.2 REPLACE_TYPE_MISMATCH

Event information

Event Name	Event Level
REPLACE_TYPE_MISMATCH	Prompt Events

Influences on the system

The ONU can not register to the OLT and provide services for users.

Probable reasons

When replacing the ONU, the type of the new ONU is different from that of the ONU to be replaced.

Handling steps

1. Check whether the replaced ONU type is correct.
   - If the ONU type is correct, proceed to Step 2.
   - If the ONU type is incorrect, replace the ONU.
2. Please contact technicians of FiberHome.
3. End.

Note:

The event ends automatically after 3 minutes.

9.3.3 PHYSIC_ADDRESS_REPLACE_SUCCESSFUL

Event information

Event Name	Event Level
PHYSIC_ADDRESS_REPLACE_SUCCESSFUL	Prompt Events

Influences on the system

The event does not influence the system and is only a prompt that the ONU is replaced successfully.

Probable reasons

When the ONU has faults or needs to be replaced, the ONU is replaced and registers successfully.

Handling steps

No handling is needed.

9.3.4 SN_REPLACE_SUCCESS

Event information

Event Name	Event Level
SN_REPLACE_SUCCESS	Prompt Events

Influences on the system

The event does not influence the system and is only a prompt that the ONU is replaced successfully.

Probable reasons

When the ONU has faults or needs to be replaced, the ONU is replaced and registers.

Handling steps

No handling is needed.

9.3.5 ONU_REPLACE_SUCCESSFUL

Event information

Event Name	Event Level
ONU_REPLACE_SUCCESSFUL	Prompt Events

Influences on the system

The event does not influence the system.

Probable reasons

The ONU replacement is completed.

Handling steps

No handling is needed.

 Note:

The event ends automatically after 3 minutes.

9.3.6 ONU_REPLACE_EVENT

Event information

Event Name	Event Level
ONU_REPLACE_EVENT	Prompt Events

Influences on the system

This event does not influence the system.

Probable reasons

The far end ONU of the EPON equipment is replaced successfully.

Handling steps

No handling is needed.

9.3.7 REPLACE_REPLY_FAILED

Event information

Event Name	Event Level
REPLACE_REPLY_FAILED	Prompt Events

Influences on the system

The event does not influence the system.

Probable reasons

After the ONU is replaced, the ANM2000 fails to report the operation to the resource management system.

Handling steps

No handling is needed.

9.3.8 EQUIPMENT_TYPE_CHANGE

Event information

Event Name	Event Level
EQUIPMENT_TYPE_CHANGE	Prompt Events

Influences on the system

The event does not influence the system.

Probable reasons

Users replace the succeeding equipment connected with the ONU FE port and the equipment type changes.

Handling steps

No handling is needed.

9.3.9 EQUIPMENT_ALARM

Event information

Event Name	Event Level
EQUIPMENT_ALARM	Prompt Events

Influences on the system

The ONU fails to register and provide services for users.

Probable reasons

The ONU has faults.

Handling steps

Please contact technicians of FiberHome.

9.3.10 SELF_TEST_FAILURE

Event information

Event Name	Event Level
SELF_TEST_FAILURE	Prompt Events

Influences on the system

The ONU fails to register and fails to provide services for users.

Probable reasons

The ONU testing is failed.

Handling steps

Please contact technicians of FiberHome.

9.3.11 ONU_AUTO_CONFIG_SUCCESS

Event information

Event Name	Event Level
ONU_AUTO_CONFIG_SUCCESS	Prompt Events

Influences on the system

This event does not influence the system.

Probable reasons

The system authorizes an ONU successfully.

Handling steps

No handling is needed.

9.3.12 AUTH SUCCESS

Event information

Event Name	Event Level
AUTH SUCCESS	Prompt Events

Influences on the system

The ONU cannot work normally and cannot provide services for subscribers.

Probable reasons

The system deauthorizes an ONU successfully.

Handling steps

No handling is needed.

9.3.13 ONU_AUTH_SUCCESS

Event information

Event Name	Event Level
ONU_AUTH_SUCCESS	Prompt Events

Influences on the system

This event does not influence the system.

Probable reasons

The system authorizes an ONU successfully.

Handling steps

No handling is needed.

9.3.14 DISCONNECT

Event information

Event Name	Event Level
DISCONNECT	Prompt Events

Influences on the system

The services on the ONU port are interrupted.

Probable reasons

The network link on the ONU port is interrupted.

Handling steps

1. Check the status of the ADSL/VDSL or the FE port.
   - If the ADSL/VDSL ports have faults, proceed to Step 2.
   - If the ETH ports have faults, proceed to Step 3.

2. Right-click the AD32/VD24 card in the **Object Tree** pane. Select **Get Information→DSL Port Status** in the shortcut menu to check the **Operation Status** item.
   - If **Data** or **Low Power Consumption Mode** is displayed, proceed to Step 4.
   - If other statuses are displayed, check the physical link connection.
3. Right-click the ETH card in the **Object Tree** pane. Select **Get Information→ ETH Port Status** in the shortcut menu to check the **Operation Status** item.
   - If **Connection Failed** is displayed, check the physical link connection.
   - If **Connection Successful** is displayed, proceed to Step 4.
4. Please contact technicians of FiberHome.
5. End.

9.3.15 CONNECT

Event information

Event Name	Event Level
CONNECT	Prompt Events

Influences on the system

This event does not influence the system.

Probable reasons

The network link of the port is restored.

Handling steps

No handling is needed.

9.3.16 MAC_SPOOFING_ATTACK

Event information

Event Name	Event Level
MAC_SPOOFING_ATTACK	Prompt Events

Influences on the system

This event does not influence the system.

Probable reasons

A user accesses illegally the Internet via the other user's MAC address.

Handling steps

No handling is needed, and the AN5116-06B will handle the event automatically.

Product Documentation Customer Satisfaction Survery

Thank you for reading and using the product documentation provided by FiberHome. Please take a moment to complete this survey. Your answers will help us to improve the documentation and better suit your needs. Your responses will be confidential and given serious consideration. The personal information requested is used for no other purposes than to respond to your feedback.

Name	
Phone Number	
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Company	

To help us better understand your needs, please focus your answers on a single documentation or a complete documentation set.

Documentation Name	
Code and Version	

Usage of the product documentation:

1. How often do you use the documentation?

☐ Frequently ☐ Rarely ☐ Never ☐ Other (please specify) _____

2. When do you use the documentation?

☐ in starting up a project ☐ in installing the product ☐ in daily maintenance ☐ in trouble shooting ☐ Other (please specify) _____

3. What is the percentage of the operations on the product for which you can get instruction from the documentation?

☐ 100% ☐ 80% ☐ 50% ☐ 0% ☐ Other (please specify) _____

4. Are you satisfied with the promptness with which we update the documentation?

☐ Satisfied ☐ Unsatisfied (your advice) _____

5. Which documentation form do you prefer?

☐ Print edition ☐ Electronic edition ☐ Other (please specify) _____

Quality of the product documentation:

1. Is the information organized and presented clearly?

☐ Very ☐ Somewhat ☐ Not at all (your advice) _____

2. How do you like the language style of the documentation?

☐ Good ☐ Normal ☐ Poor (please specify) _____

3. Are any contents in the documentation inconsistent with the product?

_____

4. Is the information complete in the documentation?

☐ Yes

☐ No (Please specify) _____

5. Are the product working principles and the relevant technologies covered in the documentation sufficient for you to get known and use the product?

☐ Yes

☐ No (Please specify) _____

6. Can you successfully implement a task following the operation steps given in the documentation?

☐ Yes (Please give an example) _____

☐ No (Please specify the reason) _____

7. Which parts of the documentation are you satisfied with?

_____

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_____

9. What is your opinion on the Figures in the documentation?

☐ Beautiful ☐ Unbeautiful (your advice) _____

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10. What is your opinion on the layout of the documentation?

☐ Beautiful ☐ Unbeautiful (your advice) _____

11. Thinking of the documentations you have ever read offered by other companies, how would you compare our documentation to them?

Product documentations from other companies:_____

Satisfied (please specify) _____

Unsatisfied (please specify) _____

12. Additional comments about our documentation or suggestions on how we can improve:

_____

_____

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