

C-DATA Z_XPON HGU Products

4GE+2POTS+USB+Dual-Band WIFI

4GE+2POTS+CATV+USB+Dual-Band WIFI

User Manual

Version : V1.1

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1 Matters need attention

1.1 Installation Precaution

- Do not place the equipment near flammable or conductive items, high temperatures (such as direct sunlight) or in wet conditions, or on a PC chassis, and check that the surrounding appliances are stable.
- Check the cable for aging. Check and verify that the AC or DC input voltage is within the permissible range of the device and that the polarity of the DC is correct.
- Unless the manufacturer permit, use the type of power indicated on the label and the adapter supplied with the product.
- To prevent damage to the product from lightning, make sure that the ground of the power outlet and the power adapter is securely grounded. In the thunderstorm, be sure to unplug the power and all the connections.
- Equipment input voltage fluctuation should be less than 10%, the power plug, refrigerators, hair dryer and iron should not use the same socket.
- To avoid electric shock or fire due to overload of the power outlet, damage to the cord or damage to the plug, check the power cord regularly. If damage is found, replace it immediately.
- Please place the device on a flat surface and can not place items on the device.
- Equipment is easy to produce heat when working, should maintain the appropriate cooling space to avoid damage caused by overheating products. The elongated hole on the shell is designed for heat dissipation. Keep the ventilation clean and avoid falling from the heat sink into the equipment. Otherwise, the equipment may be damaged or fire. Do not spill liquid onto the surface of the equipment.

1.2 Precaution For Use

- Please read the user manual carefully before using the equipment and follow all the precautions on the user manual and the product.
- Avoid eye looked at the optical interface directly, so as to avoid the laser beam emitted by the interface damage the eyes. Please try to wear safety glasses to effectively protect your

eyes from damage. It is best to plug in the fiber optic interface jacket when the optical interface is not in use .

- Turn off the power when the device is not in use
- Before plugging the power supply, make sure that the power switch is turned off to avoid surge. Be careful when unplugging the power supply and the transformer temperature may be high.
- To ensure safety, do not open the shell of the device, especially when the device is powered up.
- Unplug the power supply before cleaning the equipment. Use a soft dry cloth to clean the equipment to avoid the use of liquids or sprays.
- Do not connect this product to any electronic product unless it is instructed by our customer engineer or your broadband supplier, as any incorrect connection may cause power or fire hazard.

2 Brief

ZTE solution series XPON HGU is satisfying with Telecom, Radio and Television, and Fiber To The Home (FTTH) multi service access. It's based on mature stable, cost-effective gigabit EPON/GPON technology, is a blend of correlates and gigabit Ethernet switching technology , VOIP、HFC、WLAN and powerful forward routing technology.High bandwidth, high reliable, easy to management and good quality of service (QoS) guarantees etc, equipment technical performance meet the ITU G. 984 and IEEE802.3 equipment technical requirements specification requirements, such as used with mainstream manufacturers office end OLT have good compatibility.

ZTE XPON HGU series can integrate wireless function with meet 802.11 a/n/b/g/ac technical standards and external high gain directional antenna. It has the characteristics of strong penetrating power and wide coverage. It can provide users with more efficient data transmission security.

Note: This manual is written in the form of 4GE+2POTS+CATV+USB+Dual-Band WIFI ONU, and 4GE+2POTS+USB+Dual-Band WIFI ONU can also be referenced.

2.1 Product Features

- Support both GPON and EPON mode adaptation
- single fiber access and providing Broadband,VOIP, IPTV and CATV service connect,etc.
- Exact match GPON ITU-T G.984 standar, using GPON uplink 1.25G, downlink 2.5G

standard.

- Wi-Fi series meet 802.11 a/n/b/g/ac technical standards, support 20Mhz/40Mhz/80Mhz
- Support PPPoE, DHCP, static IP broadband service connection.
- Support NAT, static routing, port forwarding.
- Support VLAN transparent transmission, vlan tag and untag functions
- Support up and down bandwidth limit function
- Support port loop-detection and port link-state detection
- Support upgrade through the OLT remote / local ONU WEB
- Support H.248 and SIP
- Different data ports are isolated from each other
- Support IGMP Snooping、 IGMP proxy
- Support port flow control
- Support Ethernet line performance statistics
- Support OLT as SNMP-agent way of the unified management of the network management, easy to install and maintain
- Provide a variety of fault alarm function, easy to fault diagnosis
- Support DBA technology and priority based on the dual management model to ensure that the user's minimum specified bandwidth requirements
- Support RJ-11 type voice interface
- Phone line Transmission distance: ≤ 1 km
- Support CATV service remote shutdown function
- Operating wavelength: 1100 - 1600nm
- Light reflection loss: >45 dB

2.2 Product Operation Introduction

The dual-mode ONU is a "combination" of GPON and EPON ONU. Compared with the single-mode EPON/GPON ONU, the main difference lies in the registration process. The dual-mode ONU adds a pre-judgment to the current application system (EPON/GPON). That is, the dual-mode ONU first switches mode, and then starts and completes registration process in the corresponding mode. When the ONU runs normally in the current system, its configuration and processing of various messages are basically the same as single-mode EPON/GPON ONU.

This product mode switch depends on the packet sent by the front-end OLT device to the ONU. When ONU receives OAM message sent by the EPON OLT, the ONU automatically

switches to the EPON mode after detecting it. In this case, the ONU can be regarded as the EPON ONU. When the ONU receives OMCI message sent by the GPON OLT, the ONU automatically switches to the GPON mode after detecting it. In this case, the ONU can be used as the GPON ONU.

2.3 Product Specifications

Ambient temperature: 0° C~50° C

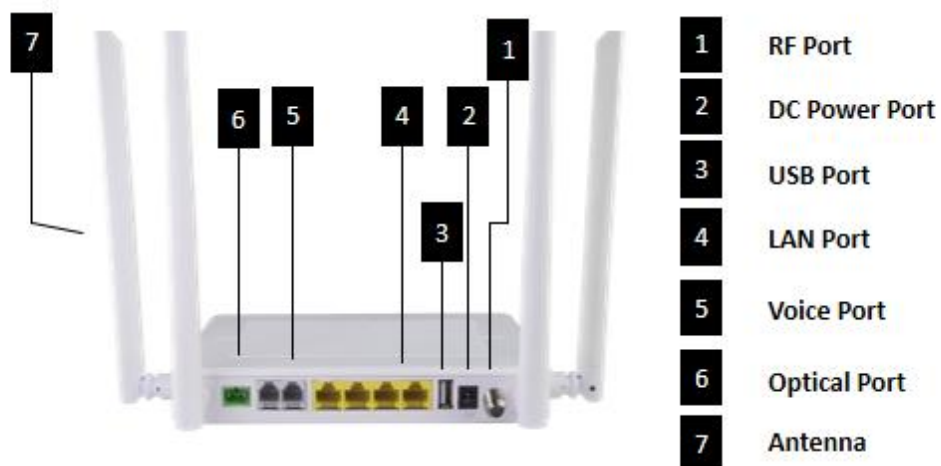
Relative humidity: 10% to 90% (non-condensing)

Power adapter input: 12 V/1.5A

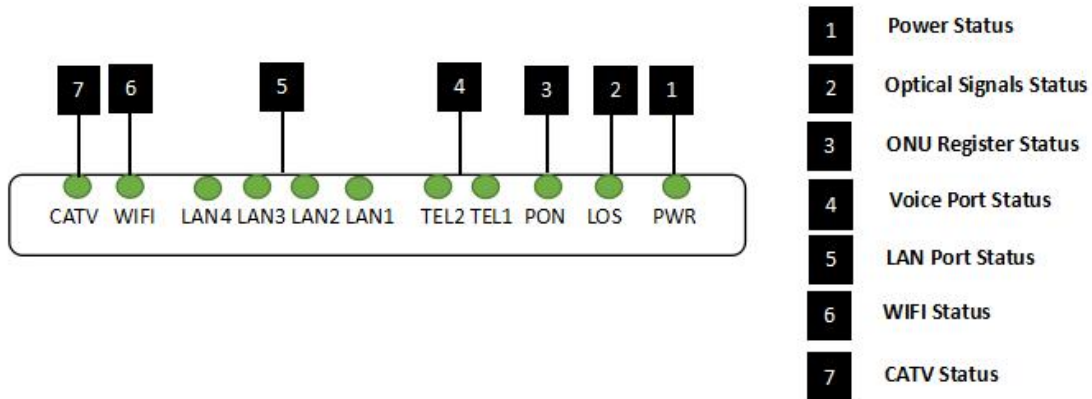
TX Optical Power: 0.5~5dBm

RX Optical Power: -28~-8dBm

2.4 Device interface definition



2.5 LED Description



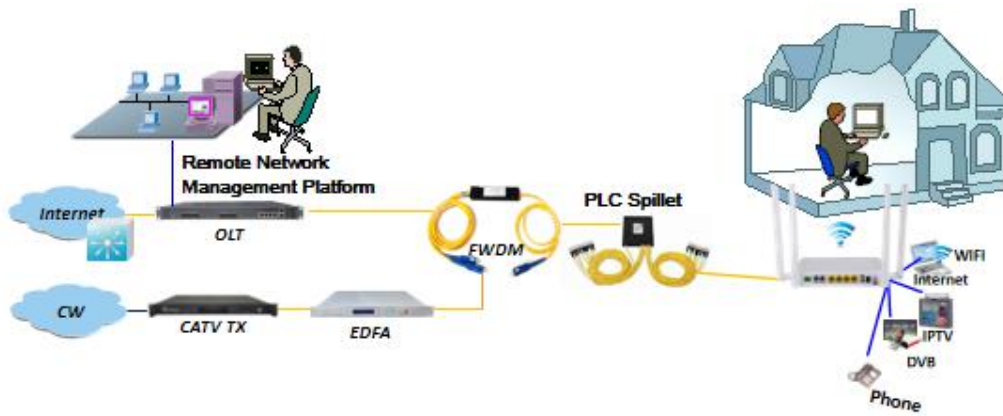
Indicator		Description	
1	PWR	Power status	On: The ONU is power on; Off: The ONU is Power off;
2	LOS	PON optical signals	On: Optical power lower than receiver sensitivity ; Off: Optical in normal
3	PON	ONU Register	On: Success to register to OLT; Blinking: In process of registering to OLT; Off: In process of registering to OLT;
4	TEL1-2	Telephone port status	On: The connection between the TEL port and the voice server has been set up Blinking: The voice service of the TEL port is established; Off: The connection between the TEL port and the voice server is not set up.
5	LAN1-4	LAN port status	On: Ethernet connection is normal; Blinking: Data is being transmitted through the Ethernet port; Off: Ethernet connection is not set up;
6	WIFI	WIFI	Blinking: Data is being transmitted On: Wi-Fi function Opens
7	CATV	CATV status	On: CATV optical normal Off: The CATV signals are not received

2.6 Device Connection

- Connect the fiber: Insert the SC fiber connector into the PON connector on the rear panel of the ONU.
- Connect the Ethernet cable: Connect the RJ-45 Ethernet cable to any LAN port and each home device, that is, the computer, IPTV set-top box, and so on.
- Connect line RJ-11: Connect the telephone with RJ-11 line to the TEL port of ONU.
- Connect coaxial cable: Connect the coaxial cable to the RF connector of the ONU.
- Connect USB device: Connect USB device with ONU USB interface.
- Connect the AC adapter: Plug the AC / DC adapter into the AC wall jack and the ONU 12V DC power jack.

2.7 Applications

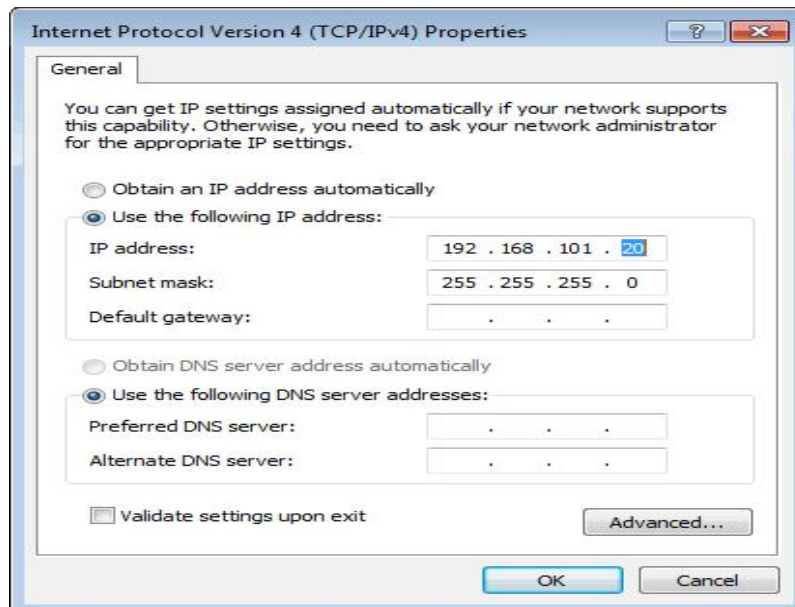
【4GE+2POTS+CATV+USB+Dual-Band WIFI ONU Application Diagram】



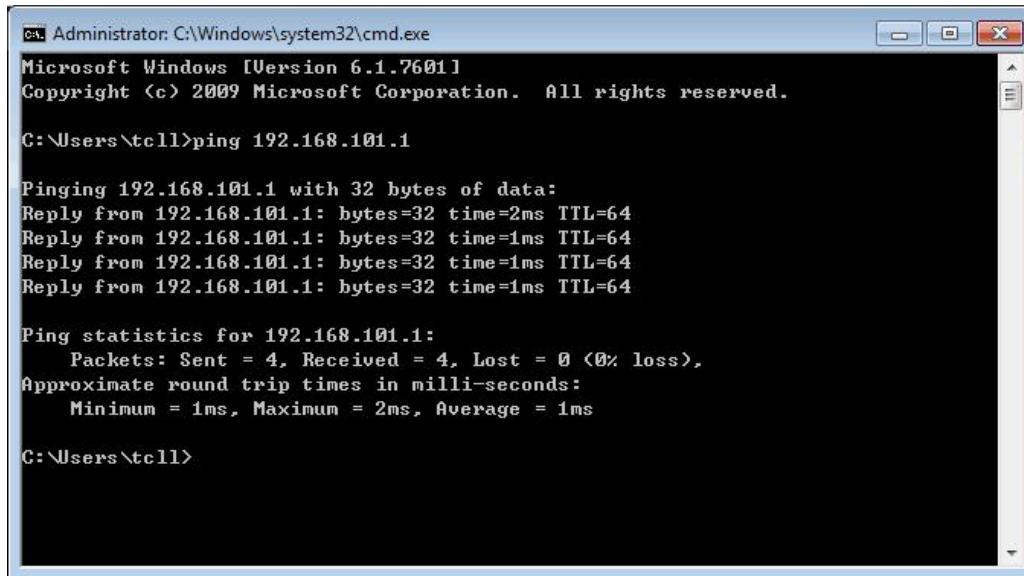
3 Login Web Management Locally

3.1 Physical Connection of ONU and PC

- Local NIC of PC connects to LAN port of ONU via wires.
- Set the IP address of PC's local NIC as **192.168.101.X (X: 2-254)**.

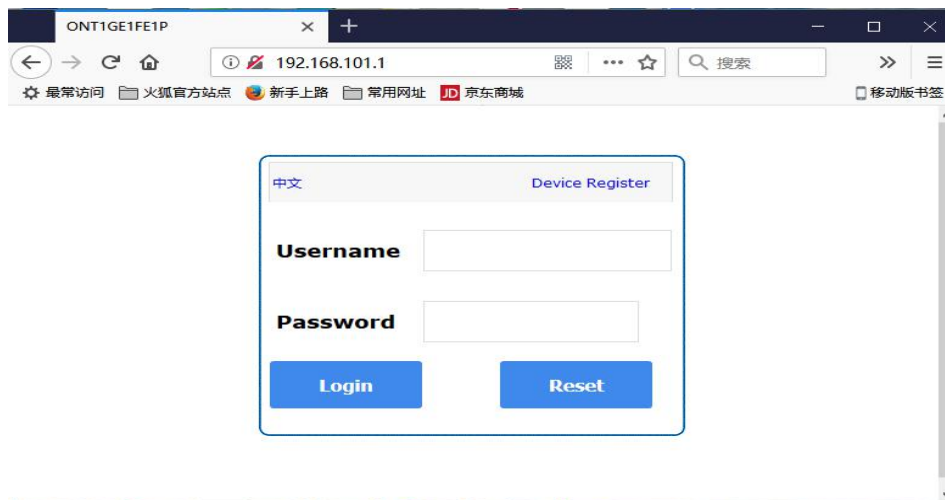


- Open the cmd windows and make sure that PC can ping the management IP (**192.168.101.1**) of ONU.



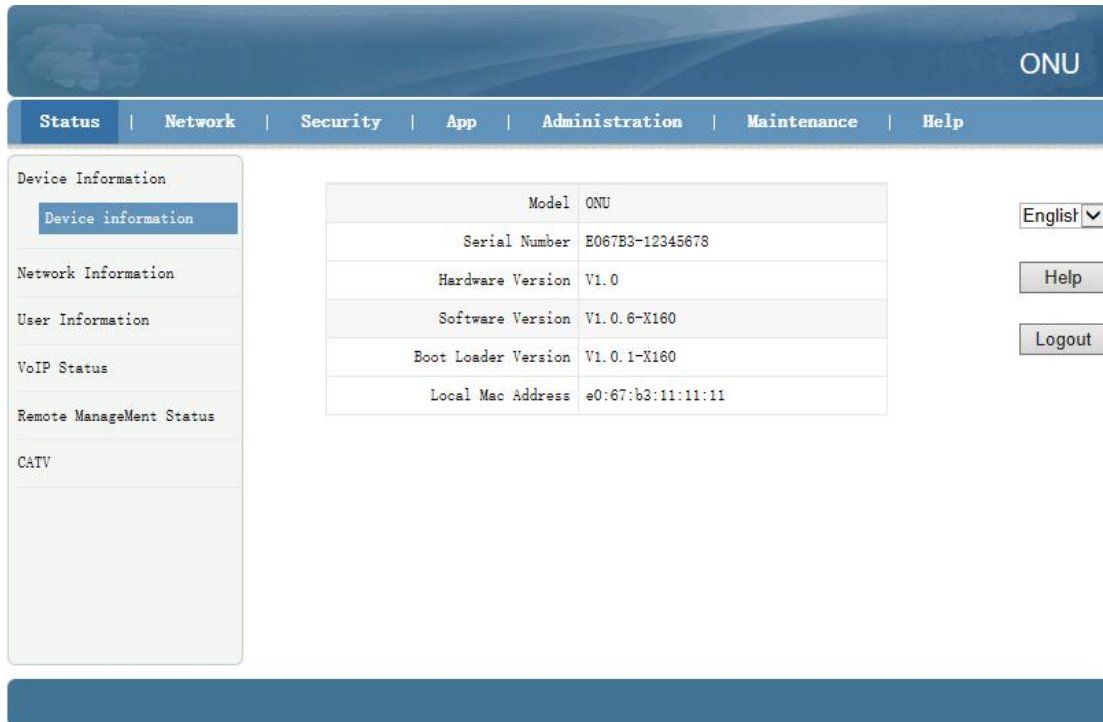
3.2 PC Access the WEB of ONU

Make sure you can ping the ONU like #3.1. Open the **IE Web browser (IE, Firefox, Google)**, copy and paste URL: <http://192.168.101.1>, the following pop-up Prompt landing page:



Input UserName: **adminisp** PassWord: **adminisp**

Click "**Login**" button. The product basics page appears, as follows:



The screenshot shows the ONU web management interface. At the top right, it says 'ONU'. Below that is a navigation bar with tabs: Status, Network, Security, App, Administration, Maintenance, and Help. On the left is a sidebar menu with categories: Device Information, Network Information, User Information, VoIP Status, Remote Management Status, and CATV. Under 'Device Information', 'Device information' is selected. The main content area displays a table of device details:

Model	ONU
Serial Number	E067B3-12345678
Hardware Version	V1.0
Software Version	V1.0.6-X160
Boot Loader Version	V1.0.1-X160
Local Mac Address	e0:67:b3:11:11:11

On the right side of the table, there are three buttons: 'English' (with a dropdown arrow), 'Help', and 'Logout'.

You can start further configuration now.

4 ONU Register Information Config(When adaptive to GPON mode)

4.1 Check the ONU Register Status

1. Login ONU's WEB, select **Status -> Network Information-> Link information**, view the ONU register status:

The screenshot shows the ONU web interface with the 'Link information' menu item selected. The main content area displays a table of optical power and other parameters. The 'GPON State' is 'Authentication Success', which is highlighted with a red box. Other parameters include FEC State (Enable), Optical Module Input Power (-24.8 dBm), Optical Module Output Power (2.5 dBm), Optical Module Supply Voltage (3313000 uV), Optical Transmitter Bias Current (11300 uA), Operating Temperature (29 C), Ethernet Port (GEMPORT1), Encryption mode (Disable), and statistics for frames and bytes received/sent.

GPON State	Authentication Success
FEC State	Enable
Optical Module Input Power (dBm)	-24.8
Optical Module Output Power (dBm)	2.5
Optical Module Supply Voltage (uV)	3313000
Optical Transmitter Bias Current (uA)	11300
Operating Temperature of the Optical Module (°C)	29
Ethernet Port	GEMPORT1
Encryption mode	Disable
Receive frame	0
Frame Sent	0
Bytes Received	0
Bytes Sent	0

4.2 View ONU Optical Power Information

1. Login ONU's WEB, select **Status -> Network Information -> Link information**, view Input power and Output power of ONU:

This screenshot is similar to the one above, but with a red box highlighting the 'Optical Module Input Power (-24.8 dBm)' and 'Optical Module Output Power (2.5 dBm)' rows in the table.

GPON State	Authentication Success
FEC State	Enable
Optical Module Input Power (dBm)	-24.8
Optical Module Output Power (dBm)	2.5
Optical Module Supply Voltage (uV)	3313000
Optical Transmitter Bias Current (uA)	11300
Operating Temperature of the Optical Module (°C)	29
Ethernet Port	GEMPORT1
Encryption mode	Disable
Receive frame	0
Frame Sent	0
Bytes Received	0
Bytes Sent	0

5 ONU Register Information Config(When adaptive to EPON mode)

5.1 Check the ONU Register Status

1. Login ONU's WEB, select **Status -> Network Information -> Link information**, view the ONU register status:

The screenshot shows the ONU web interface with the 'Link information' menu item selected. The main content area displays a table of ONU status and power information. The 'EPON State' is highlighted with a red box and shows 'Registered and certified'. Other parameters include FEC State (Disabled), Encryption mode (Disabled), Optical Module Input Power (-5.9 dBm), Optical Module Output Power (2.3 dBm), Optical Module Supply Voltage (3289000 uV), and Optical Transmitter Bias Current (11000 uA).

EPON State	Registered and certified
FEC State	Disabled
Encryption mode	Disabled
Optical Module Input Power (dBm)	-5.9
Optical Module Output Power (dBm)	2.3
Optical Module Supply Voltage (uV)	3289000
Optical Transmitter Bias Current (uA)	11000

5.2 View ONU Optical Power Information

1. Login ONU' s WEB, select **Status -> Network Information -> Link Information**, view Input power and Output power of ONU:

The screenshot shows the ONU web interface with the 'Link information' menu item selected. The main content area displays a table of ONU status and power information. The 'Optical Module Input Power' and 'Optical Module Output Power' rows are highlighted with a red box, showing values of -5.9 dBm and 2.3 dBm respectively. Other parameters include EPON State (Registered and certified), FEC State (Disabled), Encryption mode (Disabled), Optical Module Supply Voltage (3289000 uV), and Optical Transmitter Bias Current (11000 uA).

EPON State	Registered and certified
FEC State	Disabled
Encryption mode	Disabled
Optical Module Input Power (dBm)	-5.9
Optical Module Output Power (dBm)	2.3
Optical Module Supply Voltage (uV)	3289000
Optical Transmitter Bias Current (uA)	11000

Note: The configuration content after this chapter is similar to EPON and GPON, so it is not distinguished. Here is an example of adaptive GPON mode. When adaptive to EPON mode, it can also be referenced.

6 Basic Configuration for Internet and VOIP

Home Gateway Unit (HGU) ONU supports route function, so that there are route mode and bridge mode for internet. The difference between route mode and bridge mode are as follows :

Route mode: ONT as a home gateway equipment, ONT IP address can be obtained in three ways, which includes DHCP, Static IP Address and PPPoE. The IP address of the device on the user side is obtained through the DHCP address pool of the ONT, or by manually setting;

Bridge mode: broadband Internet access HGU itself does not obtain the IP address of the upper equipment distribution, also can not set the static IP address manually, the HGU is used as relay equipment, and does not process the data. The IP address of the user side device (PC) at the LAN port of HGU obtains through the OLT upper server, and the PC accesses the Internet via DHCP, PPPoE and static IP address respectively.

6.1 Route Mode Configuration

6.1.1 Configure PPPoE WAN Connection for Internet in Route Mode

1. Login ONU's WEB, select **Network->WAN->WAN Connection**, and then there are some parameters for us to configure as follows:

【IP Version】 Select 'Ipv4'; If there is Ipv6 in the network, we can select 'Ipv4/Ipv6'.

【Type】 Select "PPPoE".

【Connection Name】 Select "Create WAN Connection".

【 Port Binding 】 Band the physical ports (LAN1-4 Port) with PPPOE WAN connection. Besides, if user want to use wifi function, must bind any SSID with DHCP WAN connection, and turn on wireless wifi function. When user configures wifi function, could refer to WLAN configuration this chapter.

【 Enable DHCP Server 】 check this option; Normally, Terminal , connected to the HGU ONU, will get an IP address from the ONU's IP pool. Therefore, we need to check this option to get the IP address.

【 Enable NAT 】 Check 'NAT' feature; NAT is mainly used for address translation

function of local network and external network. The default is checked enable status. If you do not check this option, maybe you can't surf the internet.

【Service List】 Check "INTERNET" or "VOICE_INTERNET"; The broadband Internet of routing mode is usually check the "INTERNET", the latter supports voice functions.

【VLAN Type】 Configure this option according to our network plan. If the network plans the vlan of broadband Internet, this item needs to choose "Used"; If the network has no vlan planning for broadband Internet access, this option is "Unused" or "Transparency".

【Vlan ID】 This will appear after the selection "tag", and the vlan id of the network plan should be filled in.

【MTU】 The default is 1492; if we can ping the DNS but not access to the website via WEB browser, we need to lower the value of MTU, such as 1400.

【Username】 Type PPPoE account, normally offered by ISP, for Internet;

【Password】 Type PPPoE password, normally offered by ISP, for Internet;

Note: the default port is unbound, and all the LAN ports go through this WAN.

When the device has a bridge WAN and a route WAN at the same time, it needs to bind the port for each WAN (a LAN can only be bound to a WAN, can not bind to multiple WAN connections at the same time).

2. After configuration of PPPOE WAN, click the "**Create**" button to finish the setting.

The screenshot shows the ONU web interface for configuring a WAN connection. The navigation menu includes Status, Network, Security, App, Administration, Maintenance, and Help. The left sidebar lists various network settings like WAN Connection, 4in6 Tunnel Settings, ARP Setting, DHCP Release First, Binding, LAN Address Setting, Prefix Management, WLAN, Remote Management, PON, QoS, SNTP, and Routing. The main configuration area includes:

- IP Version: IPv4 (dropdown)
- Type: PPPoE (dropdown)
- Connection Name: Create WAN Connection (dropdown)
- Port Binding: LAN1, LAN2, LAN3, LAN4 (checkboxes)
- SSID: SSID1, SSID2, SSID3, SSID4 (checkboxes)
- Enable DHCP Server: checked
- Enable NAT: checked
- Service List: INTERNET (dropdown)
- VLAN Type: Tag (dropdown)
- VLAN ID: 100 (text input)
- 802.1p: 0 (dropdown)
- Enable DSCP: unchecked
- DSCP: (text input)
- MTU: 1492 (text input)
- Username: test (text input)
- Password: (masked)
- Enable Pass Through: unchecked
- Authentication Type: Auto (dropdown)
- Dial Mode: Always On (dropdown)
- Idle Timeout: 1200 (text input) sec

At the bottom right, there are 'Create' and 'Cancel' buttons. The 'Create' button is highlighted with a red box.

6.1.2 Configure DHCP WAN Connection for Internet in Route Mode

1. Login ONU's WEB, select **Network->WAN->WAN Connection**, and then there are some parameters for us to configure as follows:

【IP Version】 Select 'Ipv4'; If there is Ipv6 in the network, we can select 'Ipv4/Ipv6'.

【Type】 Select "DHCP".

【Connection Name】 Select "Create WAN Connection".

【 Port Binding 】 Band the physical ports (LAN1-4 Port) with DHCP WAN connection. Besides, if user want to use wifi function, must bind any SSID with DHCP WAN connection, and turn on wireless wifi function. When user configures wifi function, could refer to WLAN configuration this chapter.

【 Enable DHCP Server 】 check this option; Normally, Terminal , connected to the

HGU ONU, will get an IP address from the ONU's IP pool.

Therefore, we need to check this option to get the IP address.

【Enable NAT】 Check 'NAT' feature; NAT is mainly used for address translation function of local network and external network. The default is checked enable status. If you do not check this option, maybe you can't surf the internet.

【Service List】 Check "INTERNET" or "VOICE_INTERNET"; The broadband Internet of routing mode is usually check the "INTERNET", the latter supports voice functions.

【VLAN Type】 Configure this option according to our network plan. If the network plans the vlan of broadband Internet, this item needs to choose "Used"; If the network has no vlan planning for broadband Internet access, this option is "Unused" or "Transparency".

【Vlan ID】 This will appear after the selection "tag", and the vlan id of the network plan should be filled in.

【MTU】 The default is 1492; if we can ping the DNS but not access to the website via WEB browser, we need to lower the value of MTU, such as 1400.

Note: the default port is unbound, and all the LAN ports go through this WAN.

When the device has a bridge WAN and a route WAN at the same time, it needs to bind the port for each WAN (a LAN can only be bound to a WAN, can not bind to multiple WAN connections at the same time.)

2. After configuring the parameters of DHCP WAN connection as below, click 'Create' to finish the setting:

6.1.3 Configure Static IP Address WAN Connection for Internet in Route Mode

1. Login ONU's WEB, select **Network->WAN->WAN Connection**, and then there are some parameters for us to configure as follows:

【IP Version】 Select 'Ipv4'; If there is Ipv6 in the network, we can select 'Ipv4/Ipv6'.

【Type】 Select "Static".

【Connection Name】 Select "Create WAN Connection".

【Port Binding】 Band the physical ports (LAN1-4 Port) with Static ip WAN connection.

Besides, if user want to use wifi function, must bind any SSID with DHCP WAN connection, and turn on wireless wifi function. When user configures wifi function, could refer to WLAN configuration this chapter.

【Enable DHCP Server】check this option; Normally, Terminal , connected to the HGU ONU, will get an IP address from the ONU's IP pool. Therefore, we need to check this option to get the IP address.

【 Enable NAT 】 Check 'NAT' feature;NAT is mainly used for address translation

function of local network and external network. The default is checked enable status. If you do not check this option, maybe you can't surf the internet.

【Service List】Check "INTERNET" or "VOICE_INTERNET"; The broadband Internet of routing mode is usually check the "INTERNET", the latter supports voice functions.

【VLAN Type】Configure this option according to our network plan. If the network plans the vlan of broadband Internet, this item needs to choose "Used"; If the network has no vlan planning for broadband Internet access, this option is "Unused" or "Transparency".

【Vlan ID】This will appear after the selection "tag", and the vlan id of the network plan should be filled in.

【MTU】The default is 1492; if we can ping the DNS but not access to the website via WEB browser, we need to lower the value of MTU, such as 1400.

【IP Address】Set static IP address;

【Subnet Mask】Set the mask of static IP address;

【Default Gateway】Set the default gateway of static IP address;

【DNS1】Set static primary DNS address and secondary DNS address;

【DNS2】Set static second DNS address and secondary DNS address;

【DNS3】Set static third DNS address and secondary DNS address;

Note: the default port is unbound, and all the LAN ports go through this WAN.

When the device has a bridge WAN and a route WAN at the same time, it needs to bind the port for each WAN (a LAN can only be bound to a WAN, can not bind to multiple WAN connections at the same time.) .

2. After configuring the parameters of Static WAN connection as belows, click '**Create**' to finish the setting:

6.2 Configure Bridge WAN Connection for Internet

1.Login ONU's WEB, select **Network->WAN->WAN Connection**, and then there are some parameters for us to configure as follows:

【IP Version】 Select 'Ipv4'; If there is Ipv6 in the network, we can select 'Ipv4/Ipv6'.

【Type】 Select "Bridge".

【Connection Name】 Select "Create WAN Connection".

【Port Binding】 Band the physical ports (LAN1-4 Port) with Bridge WAN connection. Besides, if user want to use wifi function, must bind any SSID with DHCP WAN connection, and turn on wireless wifi function. When user configures wifi function, could refer to WLAN configuration this chapter.

【 Enable DHCP Server】 uncheck this option;Normally, the terminal which had

connected to the HGU ONU, will get an IP address from the ONU's IP pool. Therefore, we need uncheck this option to avoid the terminal get an IP from the ONU.

【Service List】 Check "INTERNET" or "VOICE_INTERNET"; The broadband Internet of routing mode is usually check the "INTERNET", the latter supports voice functions.

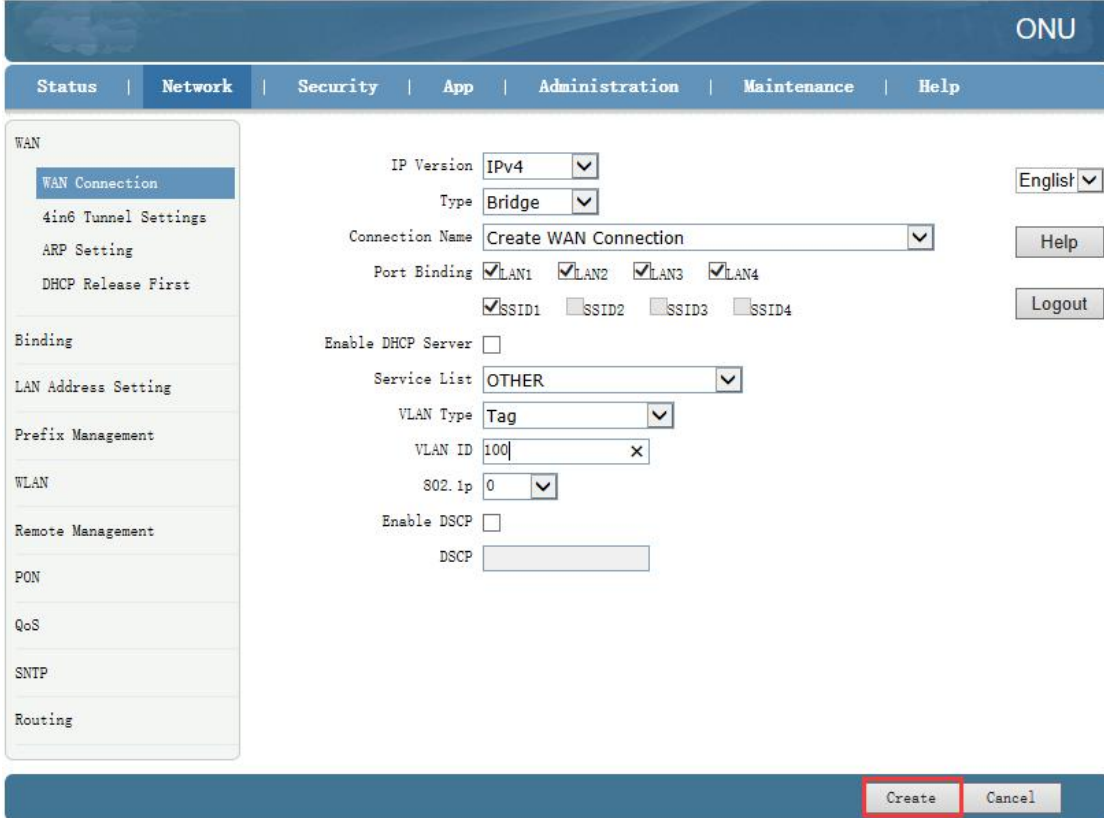
【VLAN Type】 Configure this option according to our network plan. If the network plans the vlan of broadband Internet, this item needs to choose "Used"; If the network has no vlan planning for broadband Internet access, this option is "Unused" or "Transparency".

【Vlan ID】 This will appear after the selection "tag", and the vlan id of the network plan should be filled in.

Note: the default port is unbound, and all the LAN ports go through this WAN.

When the device has a bridge WAN and a route WAN at the same time, it needs to bind the port for each WAN (a LAN can only be bound to a WAN, can not bind to multiple WAN connections at the same time).

2. After configuring the parameters of Bridge WAN connection as below, click '**Create**' to finish the setting:



ONU

Status | Network | Security | App | Administration | Maintenance | Help

WAN

- WAN Connection
- 4in6 Tunnel Settings
- ARP Setting
- DHCP Release First

Binding

LAN Address Setting

Prefix Management

WLAN

Remote Management

PON

QoS

SNTP

Routing

IP Version: IPv4

Type: Bridge

Connection Name: Create WAN Connection

Port Binding: LAN1 LAN2 LAN3 LAN4

SSID1 SSID2 SSID3 SSID4

Enable DHCP Server:

Service List: OTHER

VLAN Type: Tag

VLAN ID: 100

802.1p: 0

Enable DSCP:

DSCP:

English

Help

Logout

Create Cancel

6.3 View the WAN Connection Status

1. Login ONU WEB, select **Status ->Network Information-> Ipv4 Connection**. In here, we can view the route WAN connection status, check the route WAN connection whether it gets an IP address , As follows:

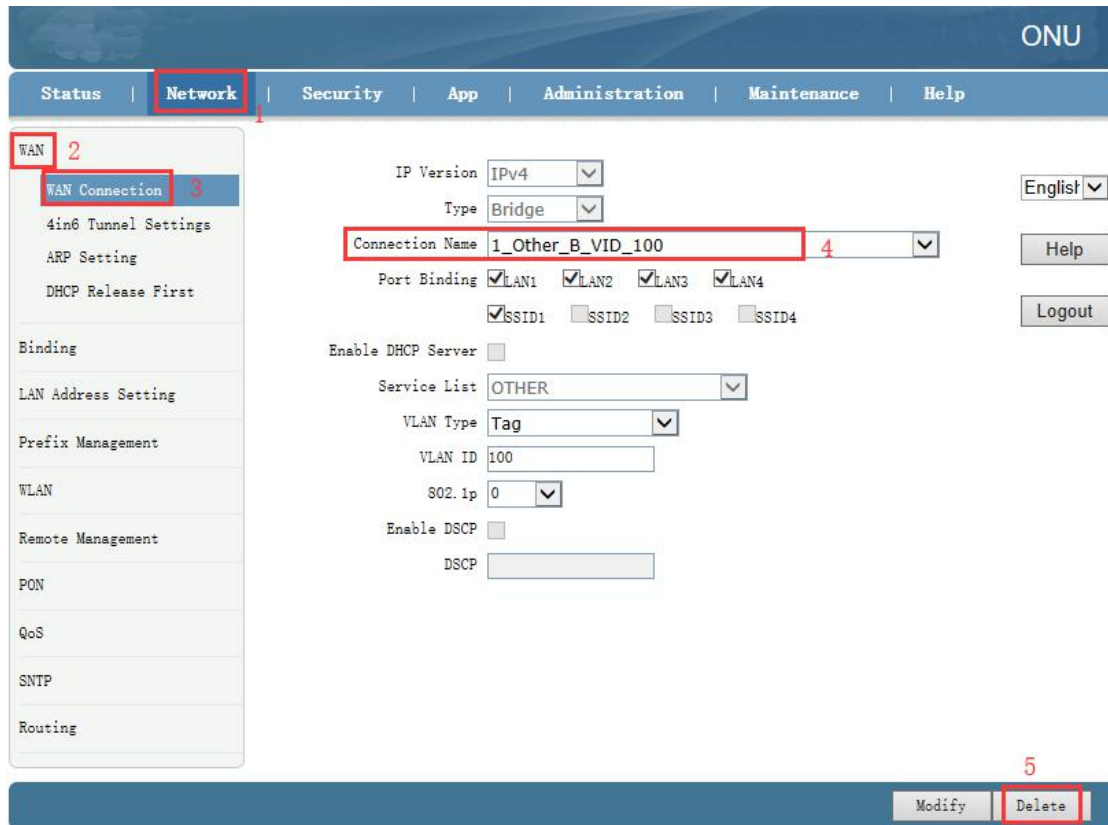


The screenshot shows the ONU web interface. At the top right, it says "ONU". Below that is a navigation bar with tabs: Status, Network, Security, App, Administration, Maintenance, and Help. On the left is a sidebar menu with categories: Device Information, Network Information, User Information, VoIP Status, Remote Management Status, and CATV. Under Network Information, "IPv4 Connection" is selected. The main content area displays a table of connection details for "1_INTERNET_R_VID_100". To the right of the table are buttons for "English" (with a dropdown arrow), "Help", and "Logout". At the bottom right of the interface is a "Refresh" button.

Type	Static
Connection Name	1_INTERNET_R_VID_100
NAT	Enabled
IP	192.168.5.199/255.255.255.0
DNS1	192.168.2.254
DNS2	202.96.134.33
DNS3	0.0.0.0
WAN MAC	E0:67:B3:11:11:12
Gateway	192.168.5.1
Connection Status	Connected

6.4 Delete the WAN Connection

1. Login ONU ' s WEB, select **Network->WAN->WAN Connection**, select the WAN connection that you want to delete in the "**Connection Name**",and then click "**Delete**" button to finish deleting.



7 ONU LAN Configuration

7.1 DHCP Settings

1.Login onu's web ,select **Network->LAN Address Setting->DHCP Server**, and configure the parameters as follows:

【LAN IP Address】 Set local management IP address of ONU. The default IP address is 192.168.101.1.

【Subnet Mask】 Set the mask of local management IP address of ONU

【Enable DHCP Server】 Enable or disable ONU DHCP Server function.

【Enable Option125】 Check.

【Lease Time】 Set the DHCP server allocated ip's lease time,the configuration is one day.

【DHCP Start/End IP Address】 Configure the IP address interval that allocated to the terminal. The address interval must be on the same network segment as the management IP

address of the ONU.

The screenshot shows the ONU web interface with the following configuration details:

- Navigation Menu:** WAN, Binding, LAN Address Setting (selected), DHCP Server (selected), DHCP Binding, DHCP Conditional Serving Pool, DHCP Port Service, RA Service, DHCP Server (IPv6), Prefix Management (IPv6), Prefix Management, WLAN, Remote Management, PON, QoS, SNTP, Routing.
- Main Configuration Area:**
 - LAN IP Address: 192.168.101.1
 - Subnet Mask: 255.255.255.0
 - Enable DHCP Server:
 - Enable Option125:
 - Lease Time: One day
 - DHCP Start IP Address: 192.168.101.2
 - DHCP End IP Address: 192.168.101.254
 - DNS1 Server: 192.168.101.1
 - DNS2 Server: 0.0.0.0
 - DNS3 Server: 0.0.0.0
- NOTE:** if device accessed is not specified type, the address will be allocated from address pool .
- Allocated Address Table:**

MAC Address	IP Address	Remaining Time	Host Name	Port
04:79:70:8F:35:D6	192.168.101.3	86393	TRT-AL00A	SSID1
- Buttons:** English, Help, Logout, Submit (highlighted), Cancel.

2.After configuring the parameters of LAN address as above, click **Submit** to finish the setting

7.2 View LAN Client

1.Login onu's web,select **Status->User Information->Ethernet**,View the IP address of the client that is connected via a LAN port.

The screenshot shows the ONU web management interface. At the top right, it says 'ONU'. Below that is a navigation bar with 'Status', 'Network', 'Security', 'App', 'Administration', 'Maintenance', and 'Help'. On the left is a sidebar menu with 'Device Information', 'Network Information', 'User Information', 'WLAN', 'Ethernet' (highlighted), 'USB', 'VoIP Status', 'Remote Management Status', and 'CATV'. The main content area displays 'DHCP address information' and 'Ethernet port state'.

DHCP address information

IP Address	MAC Address	Device Type	LAN
192.168.101.3	04:79:70:8F:35:D6	Computer	SSID1

Ethernet port state

LAN	Status	Rate	Link	Received		Sent	
				Bytes	frame	Bytes	frame
Network port1	Full Duplex	1000M	Equipment connected	603841	6089	11727795	13061
Network port2	Half Duplex	Auto	Equipment disconnected	0	0	7476	72
Network port3	Half Duplex	Auto	Equipment disconnected	0	0	7215	73
Network port4	Half Duplex	Auto	Equipment disconnected	0	0	7043	72

Additional interface elements include 'English' dropdown, 'Help', 'Logout', and 'Refresh' buttons.

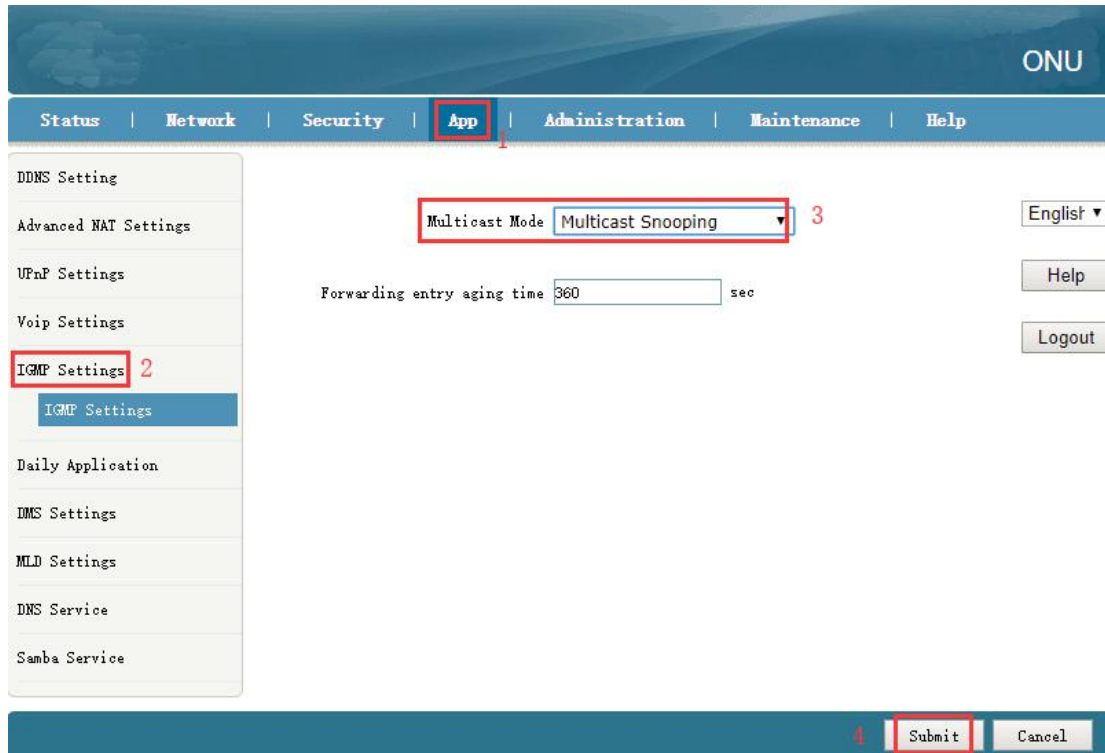
8 Multicast/IPTV Configuration

8.1 Multicast/IPTV Service Setting

Firstly, configure a bridge WAN connection to carry IGMP/IPTV service according to #5.2 and select 'Other' in **Service List**. After configuring the bridge WAN connection, The configuration, related to other multicast protocols and multicast vlan, can refer to the following # 7.2- # 7.3 configuration.

8.2 IGMP Snooping Setting

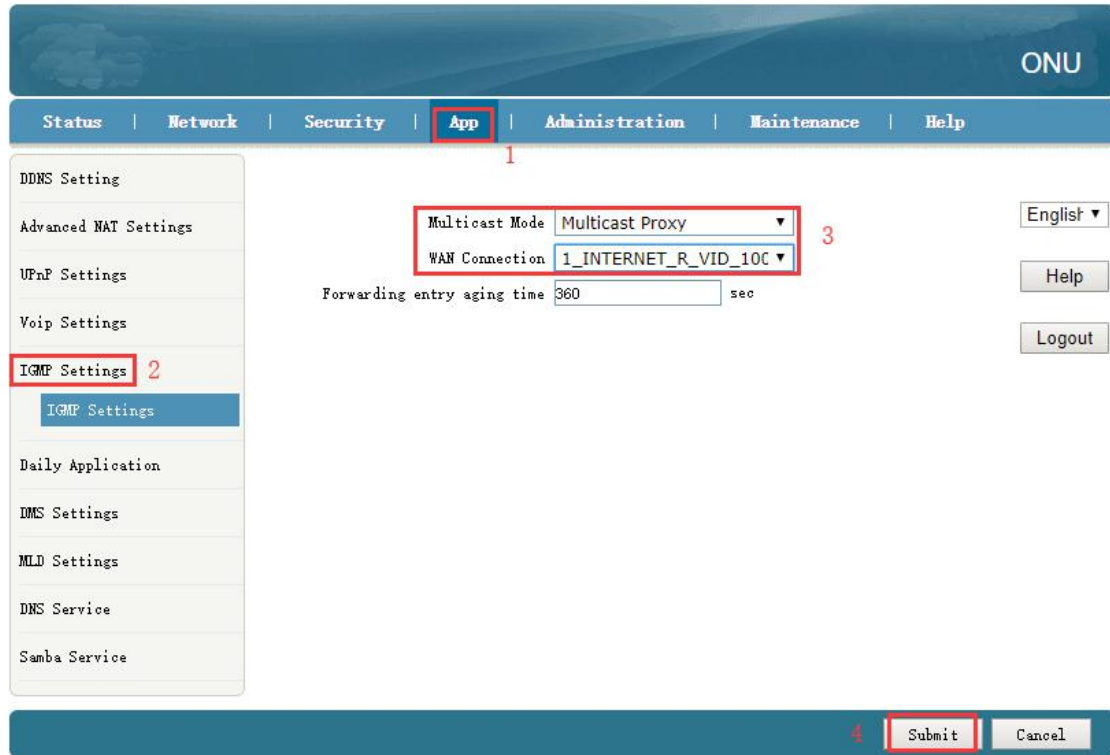
1. Login ONU WEB, select **App -> IGMP Settings**. Enable or disable IGMP Snooping function and click '**Submit**' button to finish the setting as follows:



8.3 IGMP Proxy

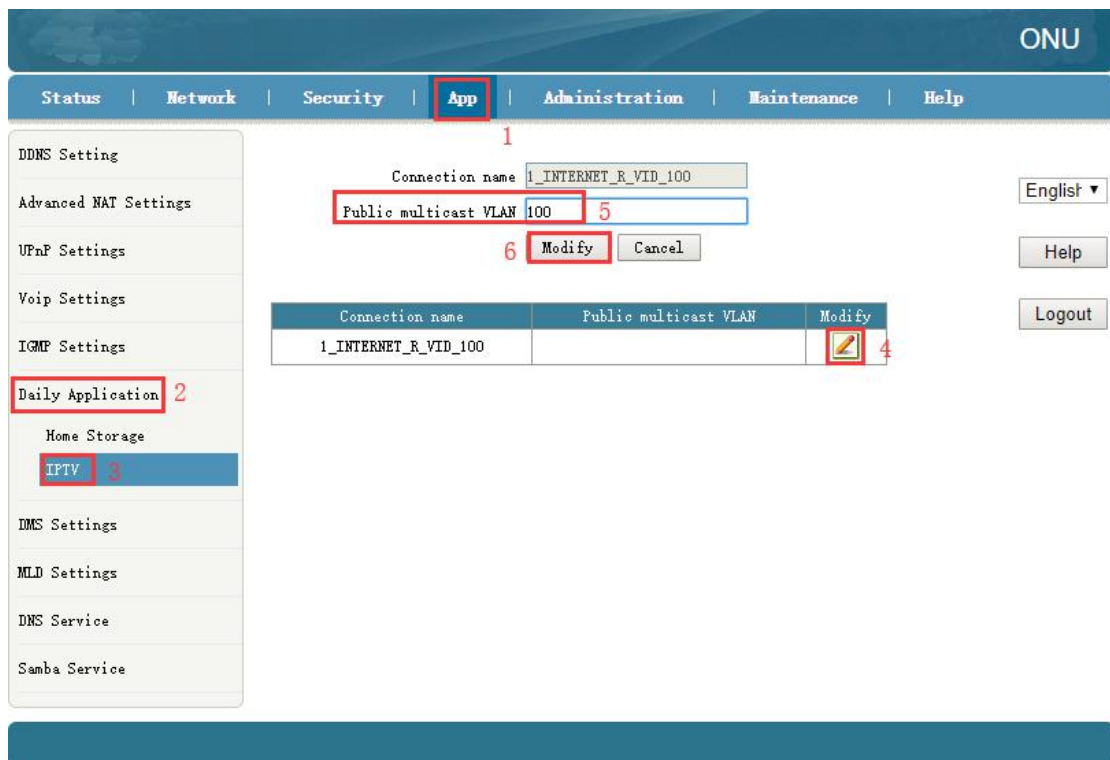
1. Login ONU WEB, select **App -> IGMP Settings**. Enable or disable IGMP Proxy function and click '**Submit**' button to finish the setting as follows:

Note: Normally, IGMP Proxy would be used in route mode and carrying Multicast/IPTV service, because the ONU would be acted as multicast agent. There isn't IGMP Proxy concept in the bridge mode.



8.4 IGMP VLAN Configuration

1.Login ONU's WEB, select **App->Daily Application->IPTV**, select the corresponding WAN, click '**Modify Icon**', configure multicast vlan, click '**Modify**' button. :



9 WLAN Configuration

9.1 WLAN Basic Configuration

1. Login ONU WEB, select **Network->WLAN ->Basic**, and then there are some parameters for us to configure as follows:

【Enable Wireless RF】 Enable or disable the wireless function;

【Enable Isolation】 Unchecked by default; this option is used to isolate communication between individual SSID;

【Mode】 When choose SSID1-4, the default option is Mixed(802.11b+802.11g+802.11n); when choose SSID5-8, the default option is Mixed(802.11a+802.11n+802.11ac);

【Country/Region】 The default is Mixed(802.11b+802.11g+802.11n);

【Band Width】 When choose SSID1-4, the default value is 20/40MHz, but sometimes, it is best to select 20MHz, because many PC don't support 40MHz; Sometimes, PCs can't connect to the WIFI if we select 40MHz or 20MHz/40MHz. When choose SSID 5-8, the default is 80MHz;

【Channel】 The default is Auto; We can select a channel without glitches by manual according to the surrounding environment;

【SGI Enable】 Check by default, the default GI value 800us;

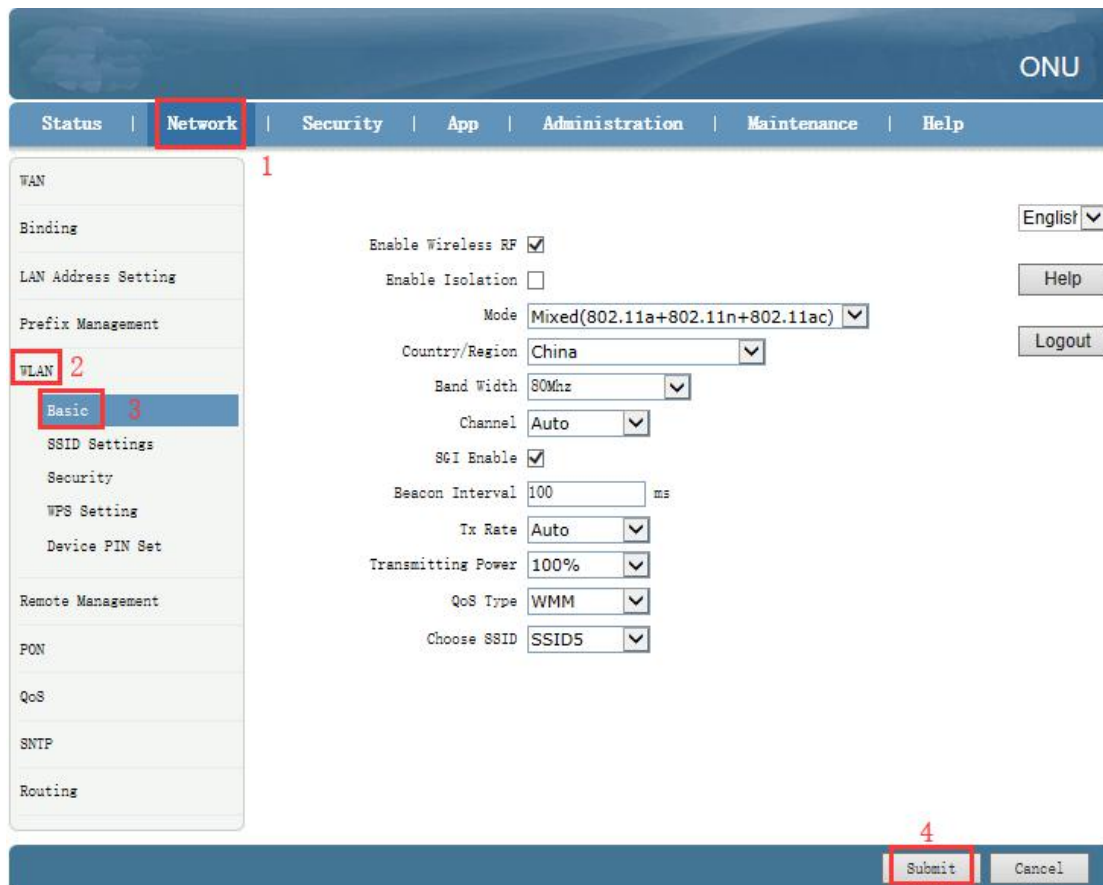
【Beacon Interval】 Choose the default 100ms

【Tx Rate】 Choose the default "auto"

【Transmitting Power】 Choose the default "100%";

【QoS Type】 Choose the default "WMM";

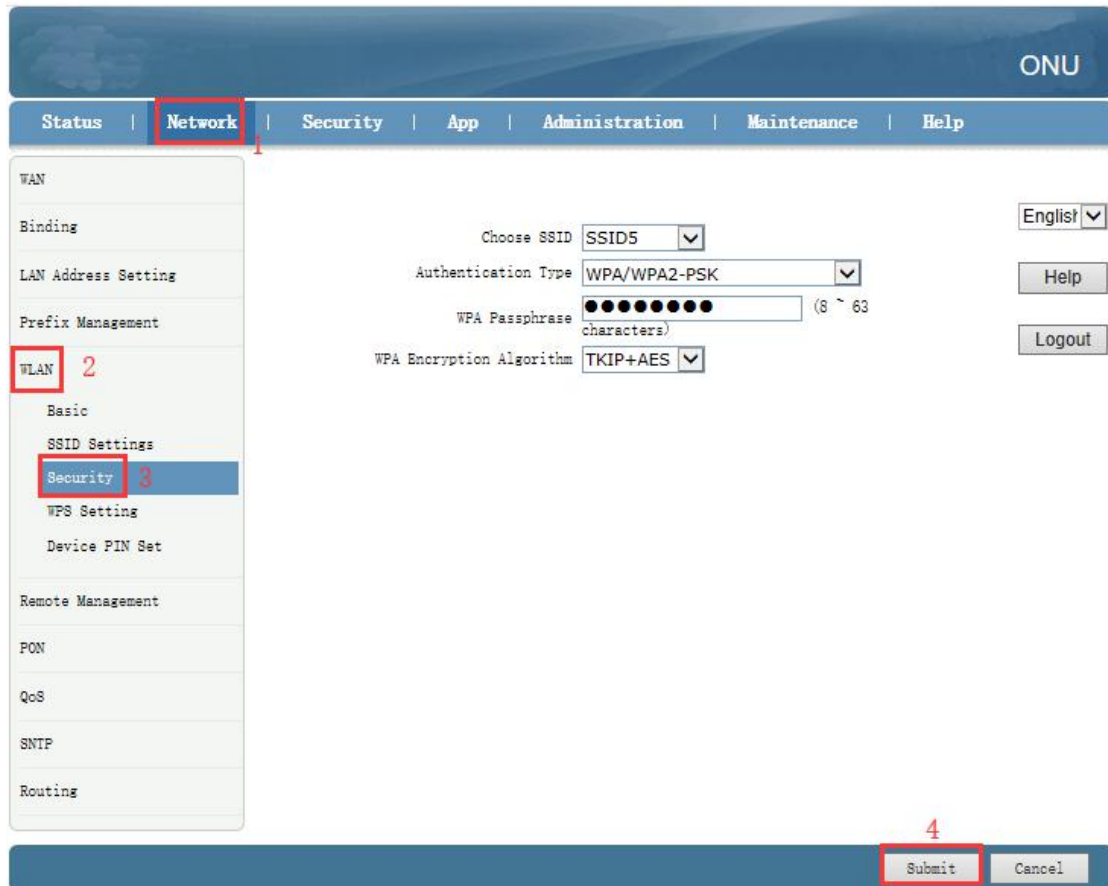
【Choose SSID】 Choose the SSID you want to configure;



2. After setting wireless configuration, click 'Submit' button to finish setting.

9.2 WLAN Password Configuration

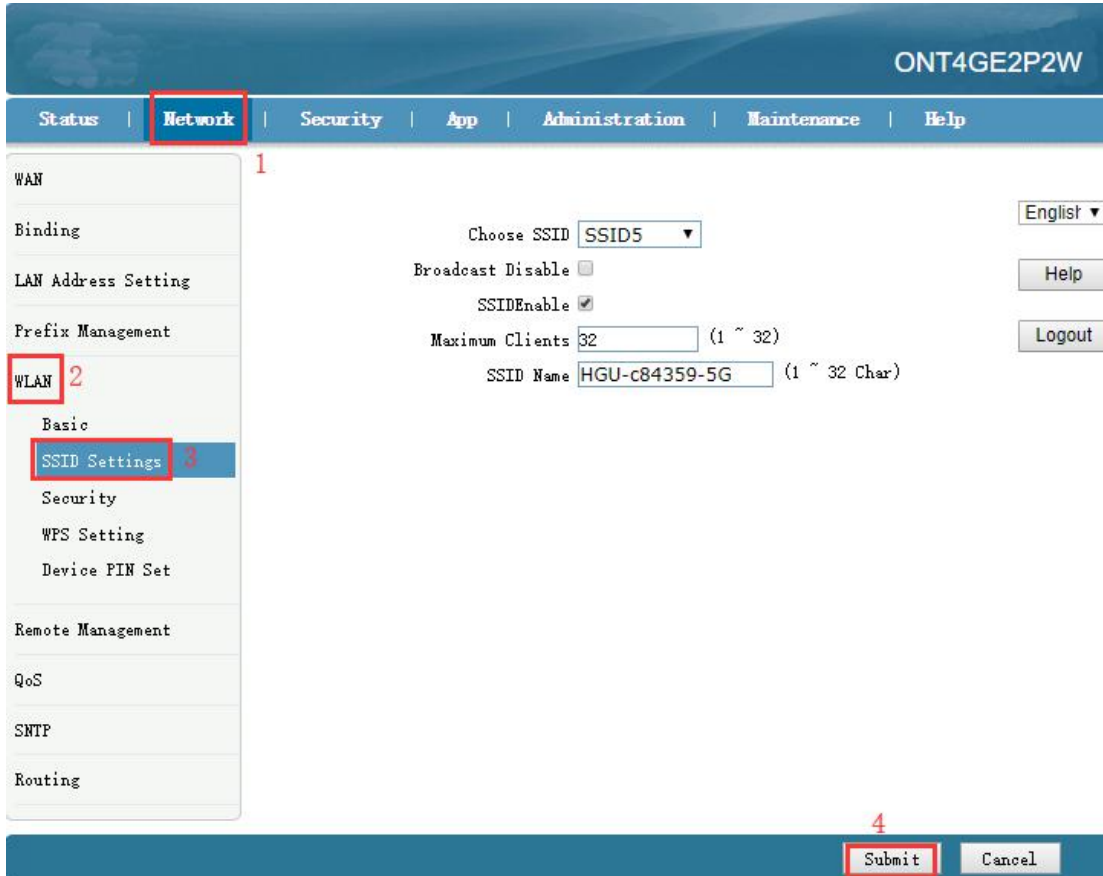
1. Login ONU WEB, select **Network->WLAN ->Security**, then enter this page, user can configure 'Authentication Type', 'WPA Passphrase' and "WPA Encryption Algorithm".



2. After setting wireless password configuration, click ‘Submit’ button to finish setting.

9.3 WLAN Virtual SSID

1. Login ONU WEB, select **Network-> WLAN ->SSID Settings**, enter this page. We can turn on or off SSID function, and configure SSID MaxUserNum, and name :



ONT4GE2P2W

Status | **Network** | Security | App | Administration | Maintenance | Help

WAN

Binding

LAN Address Setting

Prefix Management

WLAN

Basic

SSID Settings

Security

WPS Setting

Device PIN Set

Remote Management

QoS

SNTP

Routing

Choose SSID: SSID5

Broadcast Disable:

SSIDEnable:

Maximum Clients: 32 (1 ~ 32)

SSID Name: HGU-c84359-5G (1 ~ 32 Char)

English

Help

Logout

Submit Cancel

2. After setting wireless password configuration, click ‘**Submit**’ button to finish setting.

10 CATV Configuration

CATV management is mainly applied to ONU with light machine, we need to configure the ONU optical machine parameters through the ONU’s WEB.

10.1 Configure CATV Port Parameter

1. Select **Administration** → **CATV Mngement**. In this page, we can enable or disable CATV port. After setting the the parameters, click ‘**Submit**’ button to finish the setting.

The screenshot shows the ONU Administration interface. The top navigation bar includes 'Status', 'Network', 'Security', 'App', 'Administration', 'Maintenance', and 'Help'. The 'Administration' menu is selected and highlighted with a red box and the number '1'. On the left sidebar, 'CATV Management' is selected and highlighted with a red box and the number '2', with a sub-menu 'CATV Config' also highlighted. In the main content area, the 'Enable CATV' checkbox is checked and highlighted with a red box and the number '3'. A 'Restore Default' button is visible below it. On the right side, there are buttons for 'English', 'Help', and 'Logout'. At the bottom of the page, there are 'Submit' and 'Cancel' buttons, with 'Submit' highlighted by a red box and the number '4'.

10.2 View CATV Information

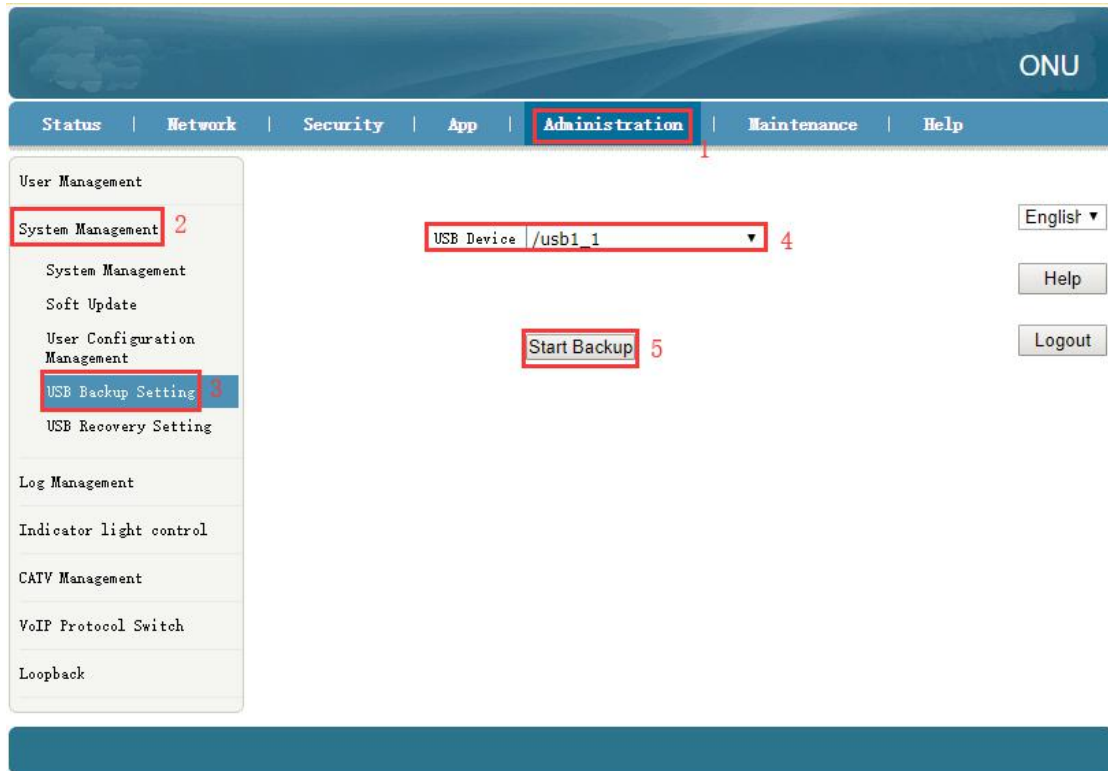
1. Login ONU WEB, select **Status** ->CATV. In this page, we can view the CATV port status:

The screenshot shows the ONU CATV Status page. The top navigation bar includes 'Status', 'Network', 'Security', 'App', 'Administration', 'Maintenance', and 'Help'. The left sidebar lists various information categories, with 'CATV Status' selected and highlighted. The main content area displays 'CATV Info' with a status indicator 'OnOff on', where 'OnOff' is highlighted with a red box. On the right side, there are buttons for 'English', 'Help', and 'Logout'. At the bottom of the page, there is a 'Refresh' button.

11 USB Interface Management

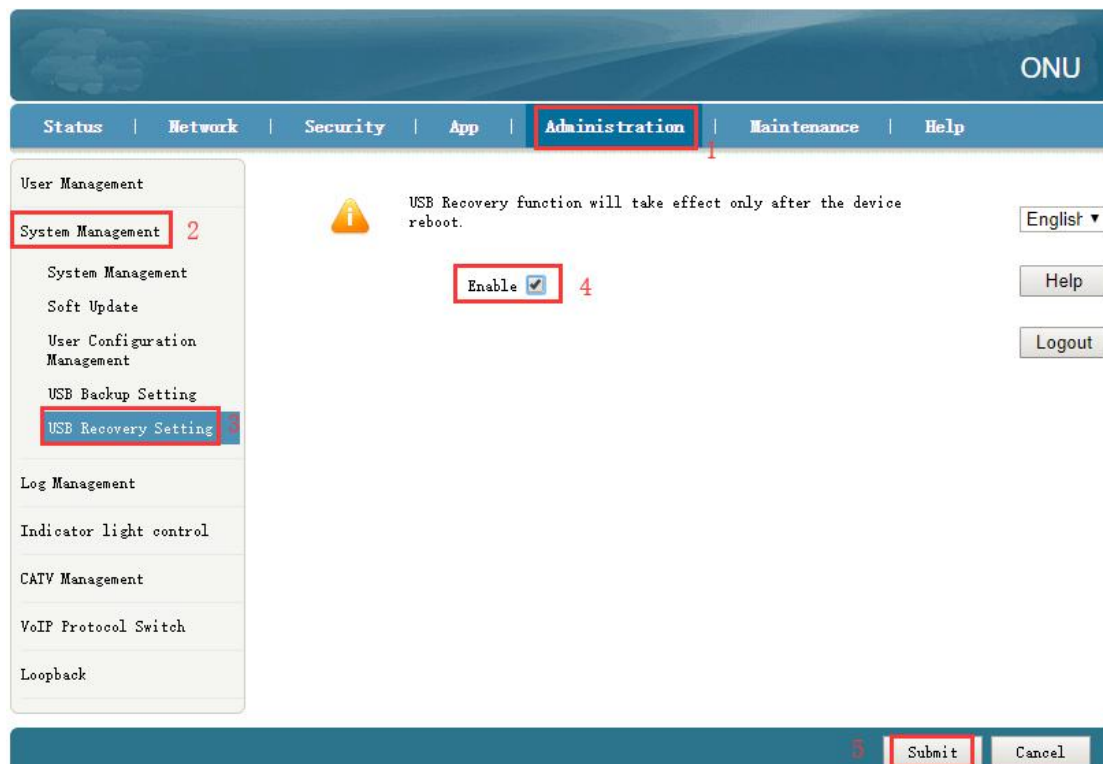
11.1 USB Backup Configuration

Select **Administration** → **System Management** → **USB backup Setting**. Enter this page, first choose the corresponding USB device, second click “**Start Backup**” button:



11.2 USB Recovery Configuration

Select **Administration** → **System Management** → **USB Recovery Setting**. Enter this page, first check “**Enable**” , second click “**Submit**” button. After setting, you need to restart device manually:



12 VOICE Setting

12.1 The Configuration for VoIP

12.1.1 SIP Settings

1. Firstly, login onu's web and configure a WAN connection to carry Voice service according to #5.1 or 5.2 and select "VOICE" or "VOICE_INTERNET" or "TR069_VOICE" or "TR069_VOICE_INTERNET" in Service List. Then select **App->Voip Settings->SIP**, and then there are some parameters for us to configure as follows:

【Enable】 check the box to enable Voip function.

【Sip Protocol】 The default is "Soft Switching SIP". Other protocols can be selected in the list.

【Primary Register Server】 Fill in the Primary Register Server's ip address.

【Primary Proxy Server】 Fill in the Primary Proxy Server's ip address.

【Primary Outbound Proxy Server】 Fill in the Primary Outbound Proxy Server's ip address.

【Secondary Register Server】 Fill in the Secondary Register Server's ip address(optional).

【 Secondary Proxy Server 】 Fill in the Secondary Proxy Server's ip address(optional).

【 Secondary Outbound Proxy Server 】 Fill in the Secondary Outbound Proxy Server's ip address(optional).

The screenshot shows the configuration page for SIP settings on an ONU. The interface includes a navigation menu with 'App' selected. The left sidebar lists various settings, with 'Voip Settings' and 'SIP' highlighted. The main content area contains the following configuration options:

- Enable:**
- Sip Protocol:** Soft Switching
- Local Port:** 5060 (0 ~ 65535)
- Primary Register Server:** 192.168.2.201
- Primary Proxy Server:** 0.0.0.0
- Primary Outbound Proxy Server:** 0.0.0.0
- Primary Proxy Port:** 5060 (0 ~ 65535)
- Secondary Register Server:** 0.0.0.0
- Secondary Proxy Server:** 0.0.0.0
- Secondary Outbound Proxy Server:** 0.0.0.0
- Secondary Proxy Port:** 5060 (0 ~ 65535)
- Register Expires:** 3600 sec
- Unregister On Reboot:**
- Enable Link Test:**
- Link Test Interval:** 60 sec
- Enable # Escaping:**
- Register Retry Interval:** 60 sec
- Enable session update period:**
- Session update period:** 30 Minutes
- Subscription switch:** Disable

A note at the bottom states: "Note: This associated with the core network type, it closed when SIP NGN, and open when SIP IMS." At the bottom right, there are 'Submit' and 'Cancel' buttons.

2. After configuring the parameters of SIP Setting as below, click '**Submit**' to finish the setting.

12.1.2 SIP Accounts Setting

1. select **App->Voip configuration->SIP Accounts**, and then there are some parameters for us to configure as follows:

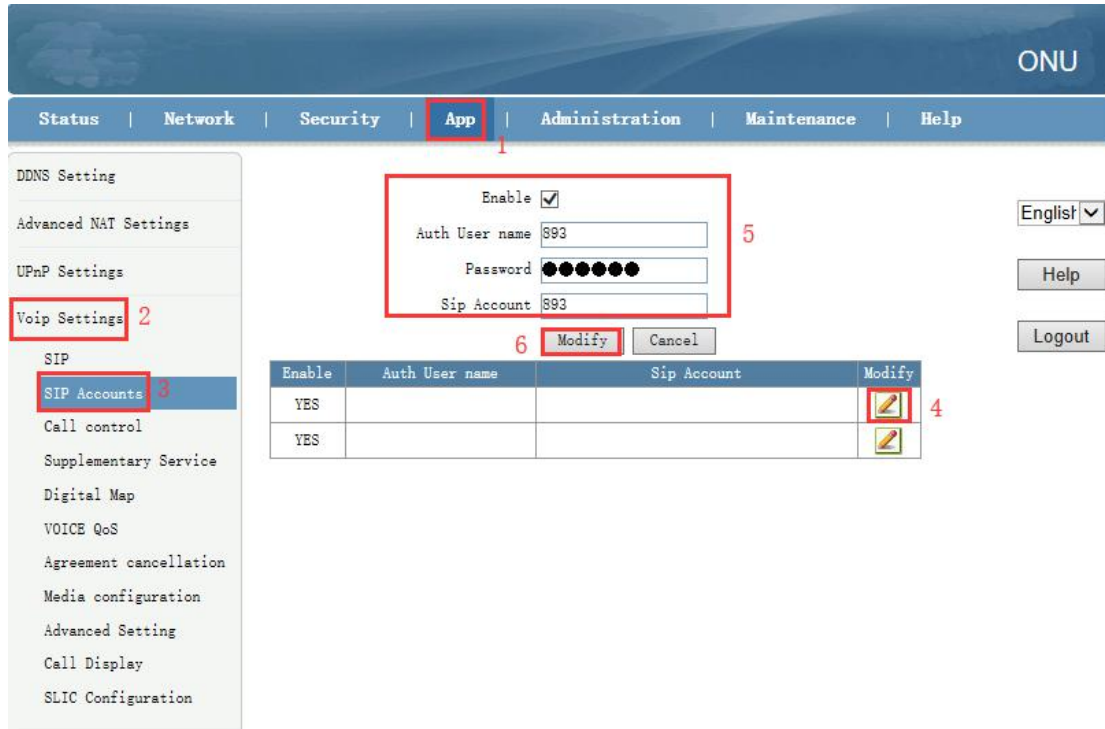
【Enable】 Check,enable this phone number.

【Sip Account】 Fill in the telephone number.

【Password】 Fill in the password that can register to the voice server.

【Auth User name】 Fill in the Auth User name that can register to the voice server.



2. After configuring the parameters of SIP Setting as below, click '**Modify**' to finish the configure.



English ▾

Help

Logout

Enable	Auth User name	Sip Account	Modify
YES			
YES			

12.2 Check The VoIP Register Status And Phone Number

1. login onu's web,select **Status->VoIP Status->Register Status** .

The screenshot shows the ONU web interface. The top navigation bar includes 'Status', 'Network', 'Security', 'App', 'Administration', 'Maintenance', and 'Help'. The left sidebar lists various sections: Device Information, Network Information, User Information, VoIP Status, Remote Management Status, and CATV. Under 'VoIP Status', 'Register Status' is selected. The main content area displays a table with the following data:

Phone	Phone1
Register Status	Registered
Phone	Phone2
Register Status	Registered

On the right side, there are buttons for 'English' (with a dropdown arrow), 'Help', and 'Logout'. A 'Refresh' button is located at the bottom right of the main content area.

2.Login onu's web,select **Status->VoIP Status->SIP Account** .

The screenshot shows the ONU web interface with 'SIP Account' selected under 'VoIP Status'. The main content area displays a table with the following data:

Phone	Phone1
SIP Account	893
Phone	Phone2
SIP Account	894

The right side features 'English', 'Help', and 'Logout' buttons. A 'Refresh' button is at the bottom right.

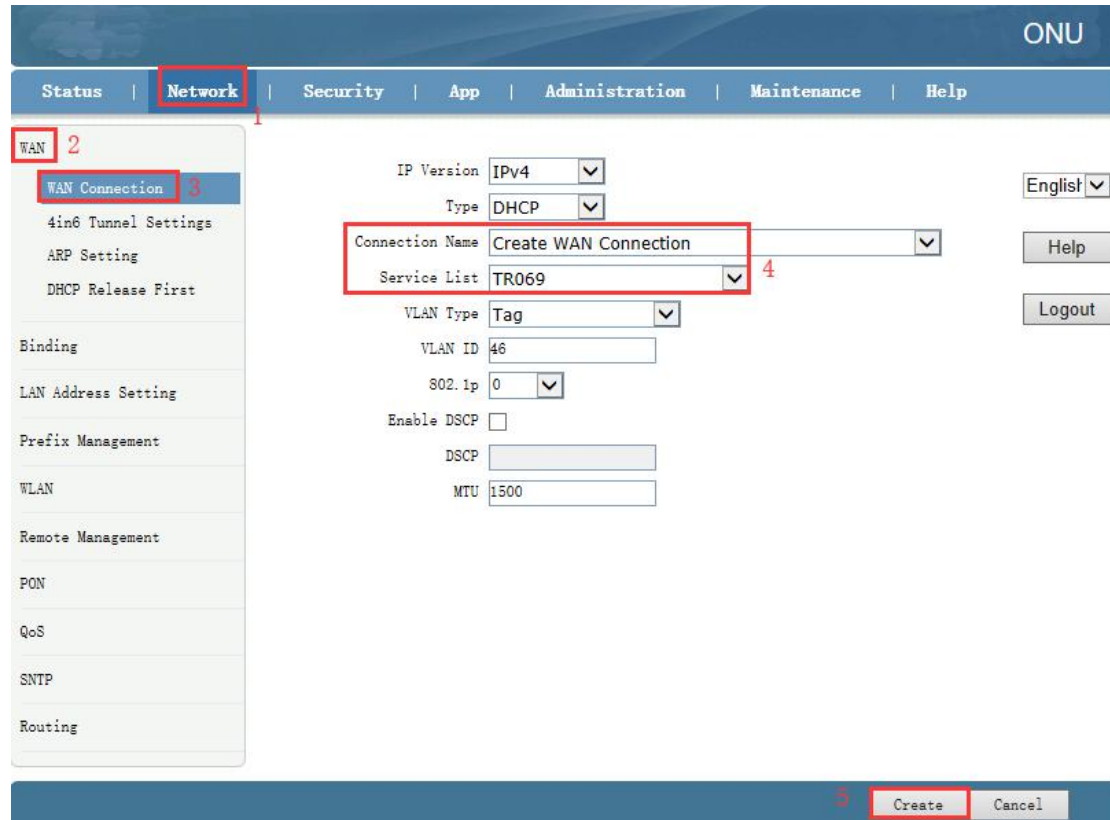
13 TR069 Remote Management

ONU TR069 remote management is mainly used for some network that support TR069 server centralized remote management, the current management is mainly used in

many large networks, ONU as TR069 remote management of the client need to do the following settings.

13.1 Configure Channel for TR069 Remote Management

Firstly, refer to #5.1, set a Route WAN connection with “**Service List**” as TR069, which is used to act as a channel for TR069 server.



13.2 TR069 Client Configuration

Login onu’s web,select **Network->Remote Management->Acs**. In this page, we can set ONU’s parameter of TR069 client (User Name, Password, URL address, Connection request user name and Connection request password).

Note: All of parameters of TR069 are offered by ISP.

The screenshot shows the ONU Administration interface. The top navigation bar includes Status, Network, Security, App, Administration, Maintenance, and Help. The left sidebar lists various settings: WAN, Binding, LAN Address Setting, Prefix Management, WLAN, Remote Management, ACS (highlighted), Certificate, PON, QoS, SNTP, and Routing. The main content area displays ACS settings with the following fields:

- ACS URL:
- Username:
- Password:
- Access to Onu URL:
- Access Username:
- Access Password:
- Enable Periodic Inform:
- Inform Period: sec
- Enable Certificate:

Additional elements include a language dropdown set to English, and buttons for Help, Logout, Submit, and Cancel.

14 Device Management

14.1 ONU Device Remote Access Settings

web login ONU and select the **Security -> Service Control**. In this page you can set the ONU telnet remote access and WEB remote access:

The screenshot shows the ONU Security -> Service Control settings page. The top navigation bar includes Status, Network, Security (highlighted), App, Administration, Maintenance, and Help. The left sidebar lists various settings: URL Filter, Firewall, MAC Filter, IP Filter, and Service Control (highlighted). The main content area displays Service Control settings with the following fields:

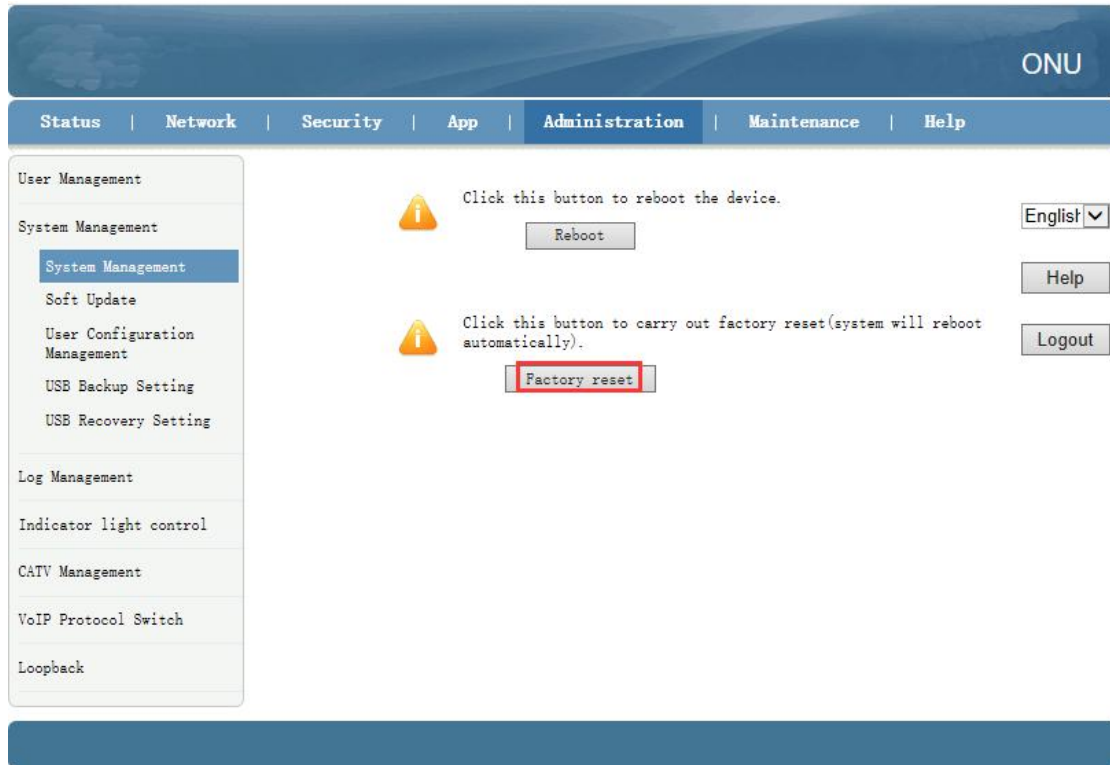
- Enable:
- Ingress:
- Start Source IP Address:
- End Source IP Address:
- Mode:
- Service List: HTTP, FTP, TELNET, HTTPS

Additional elements include buttons for Help, Logout, English, and Add. A table below the settings shows the current configuration:

Enable	Ingress	Start Source IP Address	End Source IP Address	Mode	Service List	Modify	Delete
✓	LAN			Permit	HTTP, TELNET		

14.2 Restore Default Setting

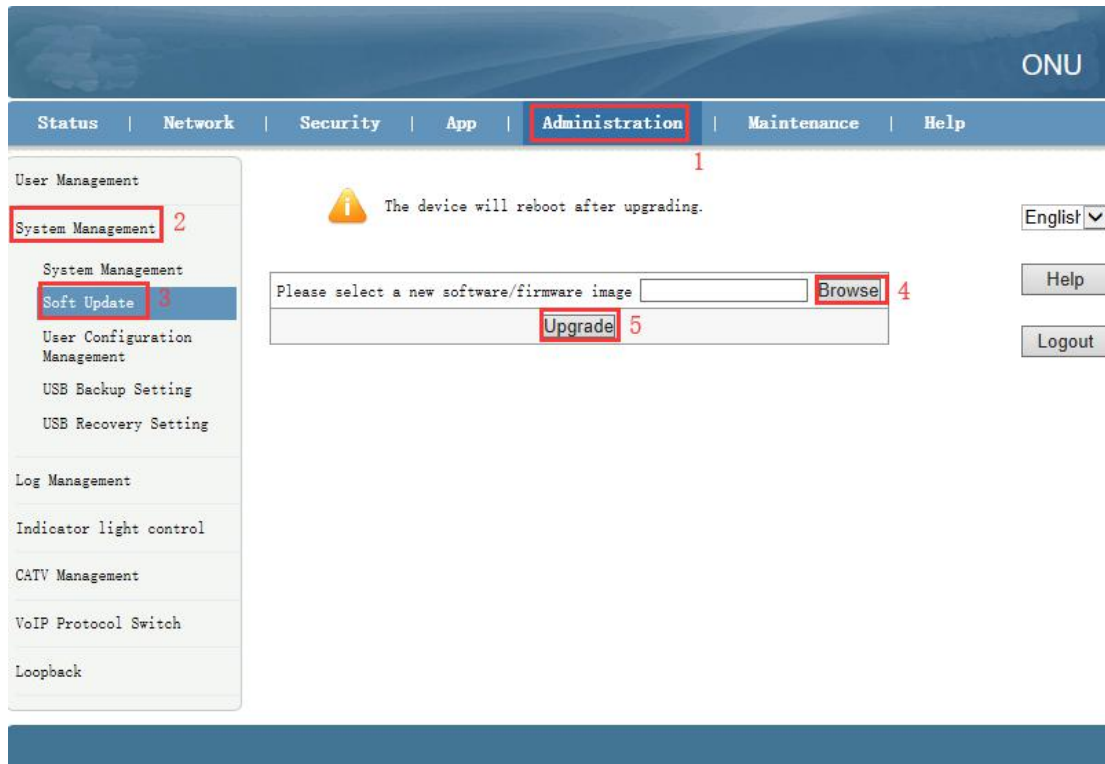
Login the ONU's WEB. Select **Administration->System Management -> System Management**. Click 'Factory reset' button. The device will restore the factory defaults after the application.



14.3 Firmware Upgrade

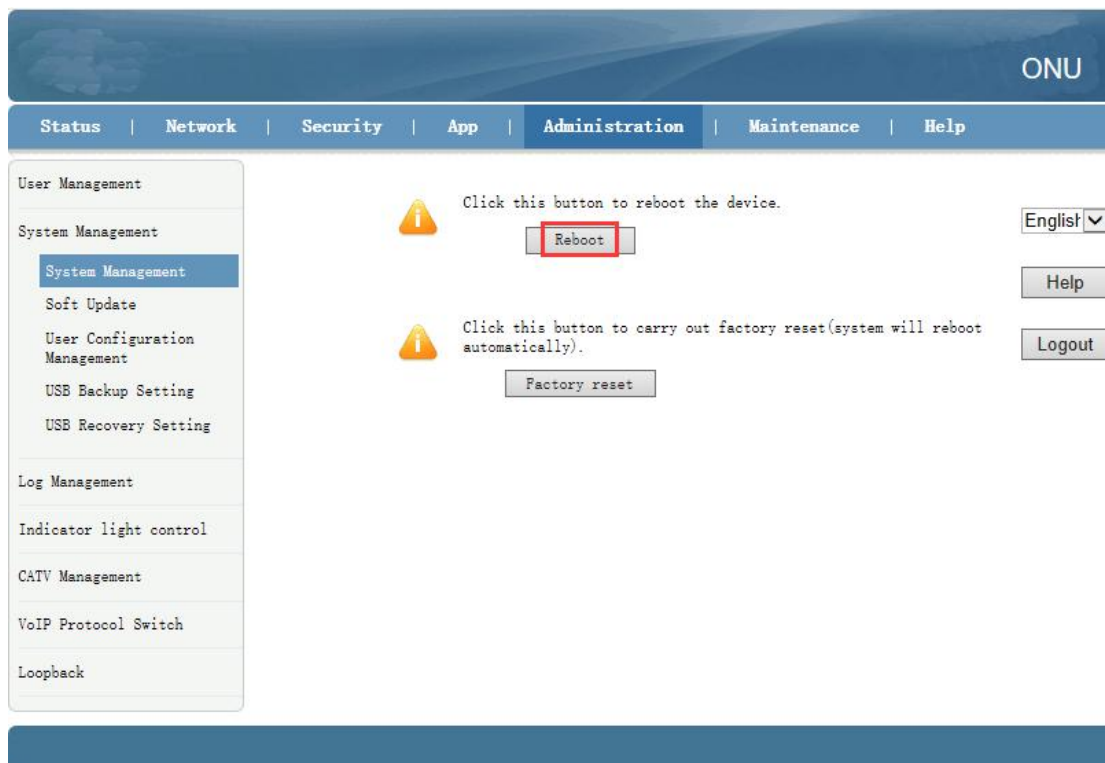
Login the onu's web by this URL,select **Administration->System Management ->Soft Update**,click "Browser" button to select an upgrade file,and then click the "Upgrade"button.

Note:After the upgrade, the ONU will be restarted automatically. It takes about 3 minutes for upgrading, do not need to restart the ONU manually.



14.4 Device Reboot

Login the ONU's WEB. Select **Administration->System Management -> System Management**. Click '**Reboot**' button. The device will reboot later.



Concluding Remarks

Thanks for using products of Shenzhen C-Data Technology Co. Ltd.

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