



AP201CWT GPON WiFi ONT

**Quick Reference
Guide**

Revision E

ACT AP201CWT GPON 1 GE + WiFi ONT

Quick Reference Guide

ACT Document Number: ACT AP201CWT Quick Reference Guide

Quick Reference Guide Revision E

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This document is produced to assist professional and properly trained personnel with installation and maintenance issues for the product. The capabilities, system requirements and/or compatibility with third-party products described herein are subject to change without notice.

For more information, contact ACT: support@ascentcomtec.com



Revision History

Revision	Date	Reason for Change
A	08/02/2016	Initial release
B	09/24/2016	Minor updates
C	11/12/2016	Fixed pictures
D	04/09/2017	Minor updates
E	05/16/2017	Updated version

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1 Notes

1.1 Installation Precautions

- 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 cannot 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 Precautions 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 enclosure 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

Ascent GPON ONU series (HGU) is GPON ONT for satisfying with Telecom, Radio and Television, and Fiber To The Home (FTTH) multi service access. It's based on the mature, stable, high cost performance GPON technology and has Gigabit and Fast Ethernet switching HFC technology, WLAN technology and powerful routing forwarding technology. Ascent GPON ONU series has a higher bandwidth, higher reliability, easy management and good quality of service (QoS) guarantee with technical performance of equipment meet the ITU-T G. 984 requirements and have good compatibility with third party manufacturers OLT.

GPON technology, based on ITU-T G.984 standard, is latest generation of broadband passive optical network integrated access standard with high bandwidth, high efficiency, large coverage, user interface, and many other advantages. It is the operator to achieve access network services Broadband, integrated transformation of the ideal technology.

Ascent GPON ONU series can integrate wireless function with meet 802.11 n/b/g technical standards and built-in high gain directional antenna, the wireless transmission rate up to 300Mbps. It has the characteristics of strong penetrating power and wide coverage. It can provide users with more efficient data transmission security.

2.1 Product Features

- Dual-fiber access, providing broadband, CATV, Wi-Fi, IPTV service access, and so on.
- Exact match GPON ITU-T G.984 standard, using GPON uplink 1.25G, downlink 2.5G standard
- WIFI-type equipment exact match 802.11 n/b/g wireless standard protocol, support 20 MHz / 40 MHz
- Supports PPPoE, DHCP, static IP broadband service access
- Supports NAT, static routing, port forwarding
- Supports data encryption, VLAN transparent transmission, VLAN tag and other functions
- Supports up and down bandwidth limit function
- Supports upgrade through the OLT remote / local ONU WEB
- Supports broadcast storm suppression
- Different data ports are isolated from each other
- Supports port flow control
- Supports 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
- Supports AES-128 decryption, support key generation and switching
- Supports DBA technology and priority based on the dual management model to ensure that the user's minimum specified bandwidth requirements
- Supports CATV service remote shutdown function
- Operating wavelength: 1100 nm to 1600 nm
- Light reflection loss: >45 dB
- Input optical power: -18 dBm to 0 dBm

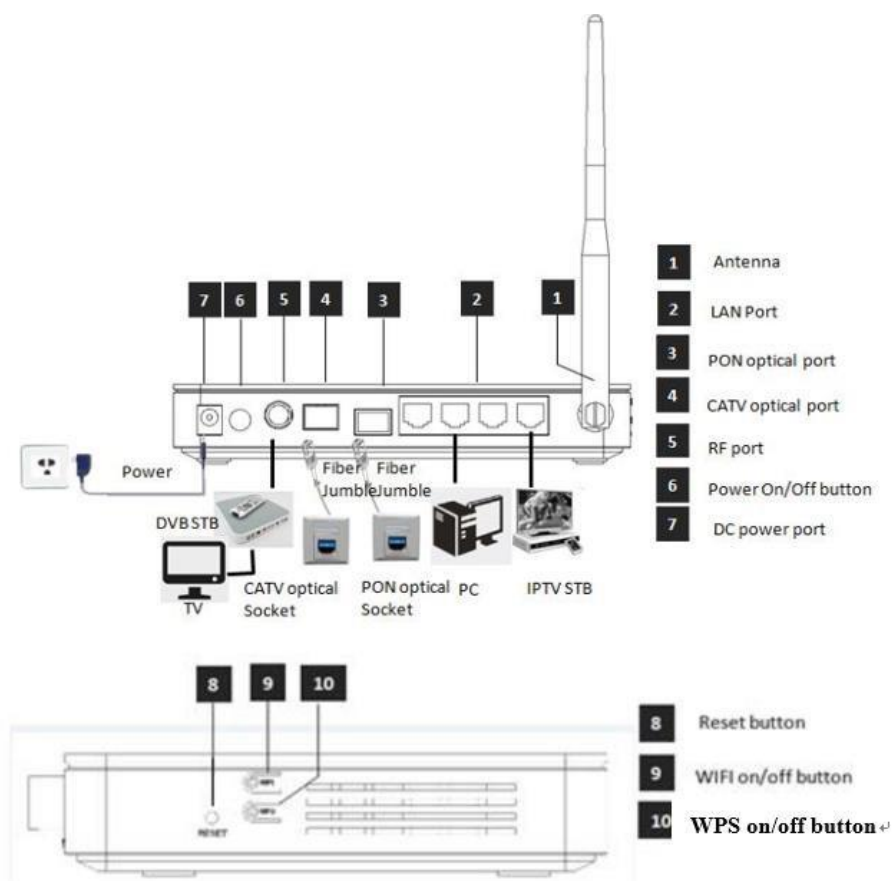
2.2 Product Specifications

Ambient temperature: 0°C to 50°C

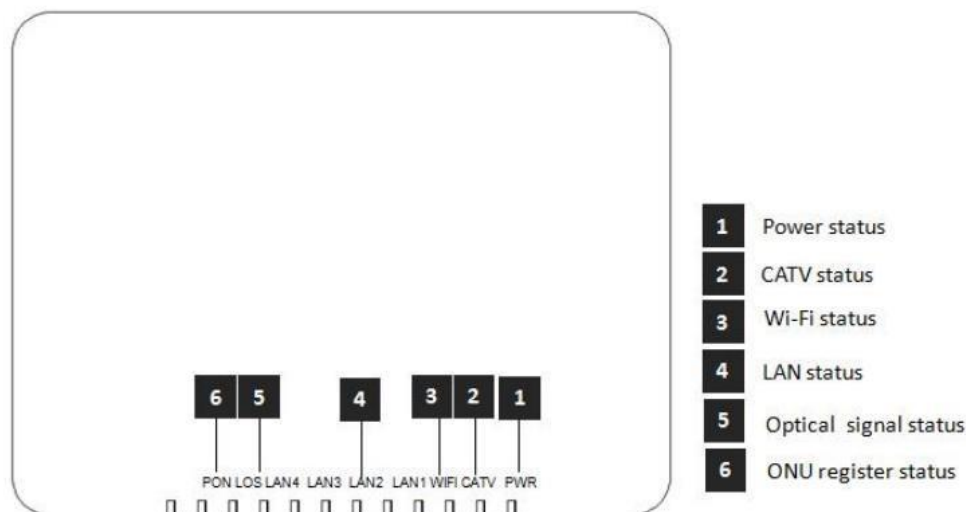
Relative humidity: 10% to 90% (non-condensing) Power adapter input: 12 V/1A

TX Optical Power: 0 dBm to 5 dBm RX Optical Power: -8 dBm to -28 dBm

2.3 Device Interface Definition



2.4 LED Description

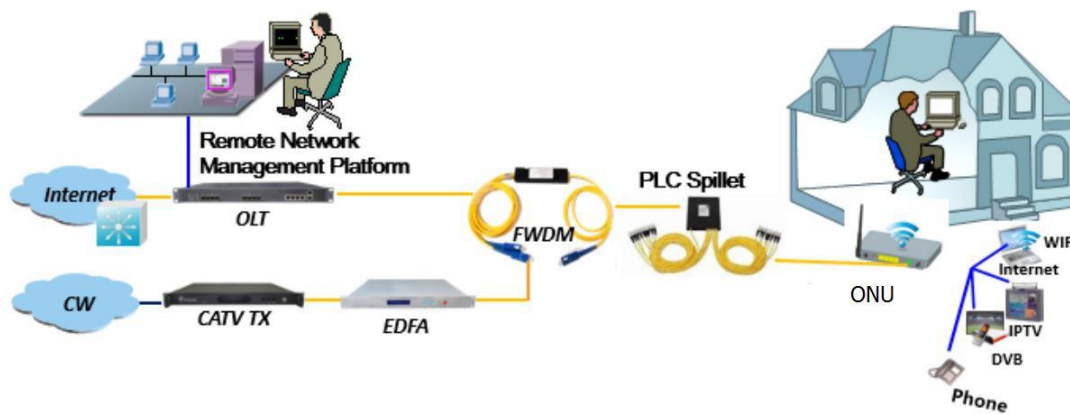


Indicator			Description
1	PWR	Power status	On: The ONU is power on Off: The ONU is power off
2	CATV	CATV port status	On: CATV optical normal(> -9 dBm) Off: The CATV signals are not received (< -9 dBm)
3	WIFI	WIFI	On: WiFi function is on Blinking: Data is being transmitted
4	LANn	LAN port status	On: Ethernet connection is normal Blinking: Data is being transmitted through the Ethernet port Off: Ethernet connection is not set up
5	LOS	GPON optical signals	On: Optical power lower than receiver sensitivity Off: Optical in normal
6	PON	ONU Register	On: Success to register to OLT Blinking: In process of registering to OLT Off: In process of registering to OLT

2.5 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 coaxial cable: Connect the coaxial cable to the RF connector of the ONU.
- Connect the AC adapter: Plug the AC / DC adapter into the AC wall jack and the ONU 12V DC power jack.

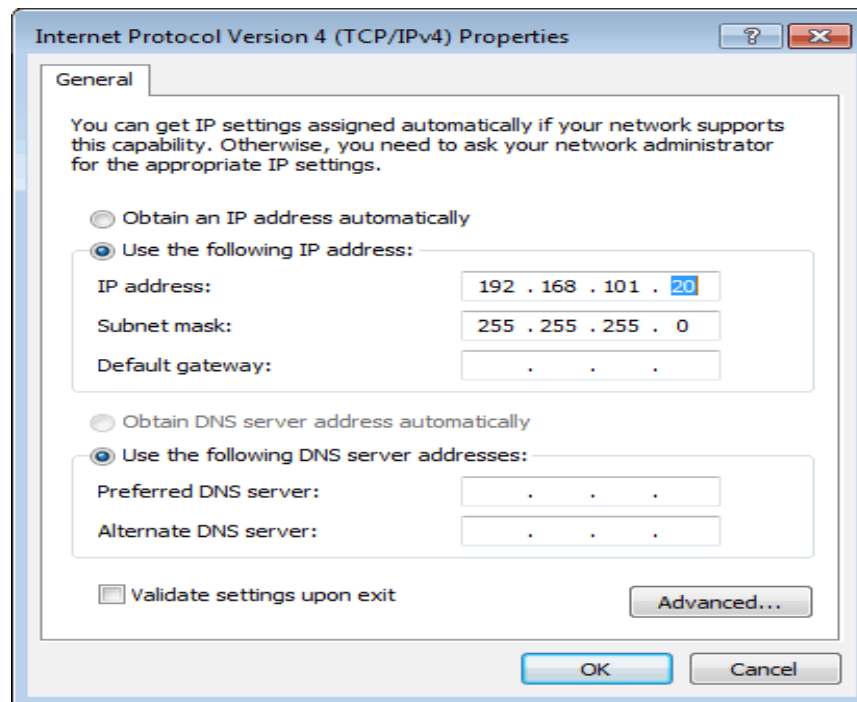
2.6 Applications



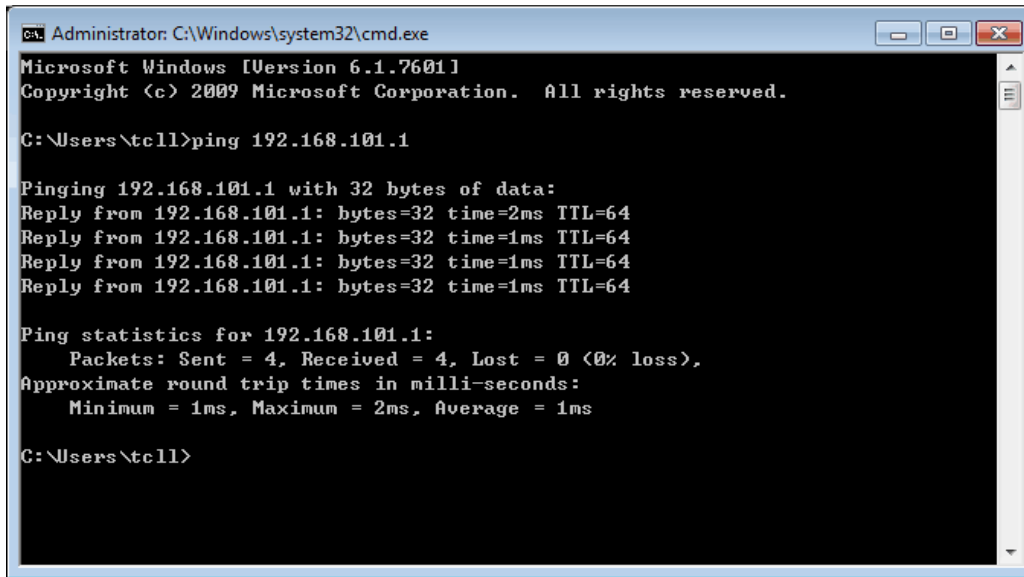
3 Login Web Management Locally

3.1 Physical Connection of ONU and PC

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



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



```
Administrator: C:\Windows\system32\cmd.exe
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\tcll>ping 192.168.101.1

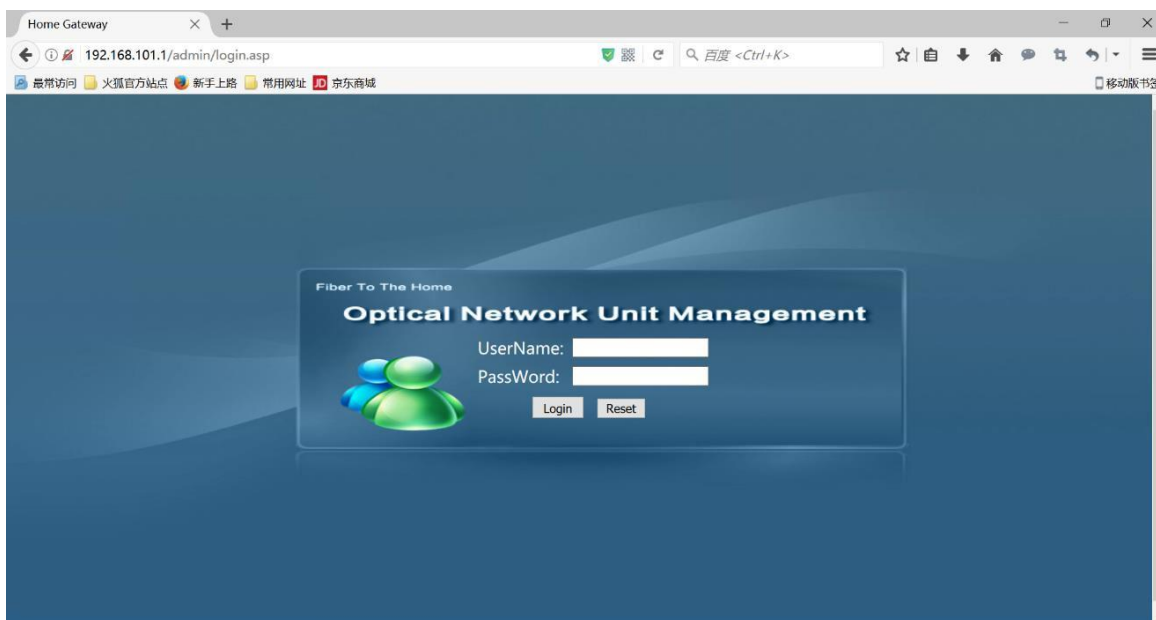
Pinging 192.168.101.1 with 32 bytes of data:
Reply from 192.168.101.1: bytes=32 time=2ms TTL=64
Reply from 192.168.101.1: bytes=32 time=1ms TTL=64
Reply from 192.168.101.1: bytes=32 time=1ms TTL=64
Reply from 192.168.101.1: bytes=32 time=1ms TTL=64

Ping statistics for 192.168.101.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 2ms, Average = 1ms

C:\Users\tcll>
```

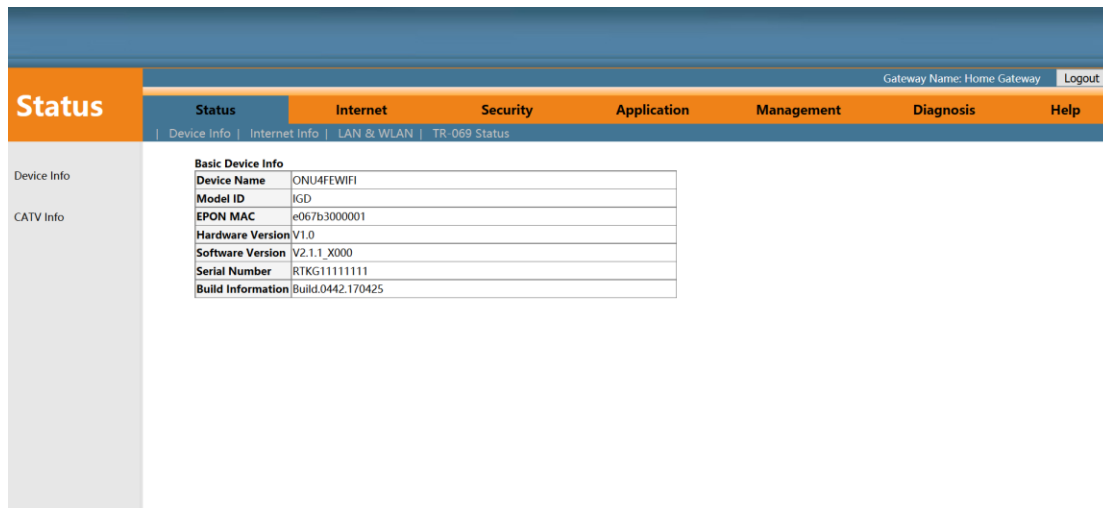
3.2 PC Access the WEB of ONU

Make sure you can ping the ONU like #3.1. Open a web browser (such as IE, Firefox, or Chrome), copy and paste the URL: <http://192.168.101.1> into the address bar, and you should arrive at the following landing page:



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

Click the “Login” button. The product basics page appears, as follows:



You can start further configuration.

4 ONU Register Information Config

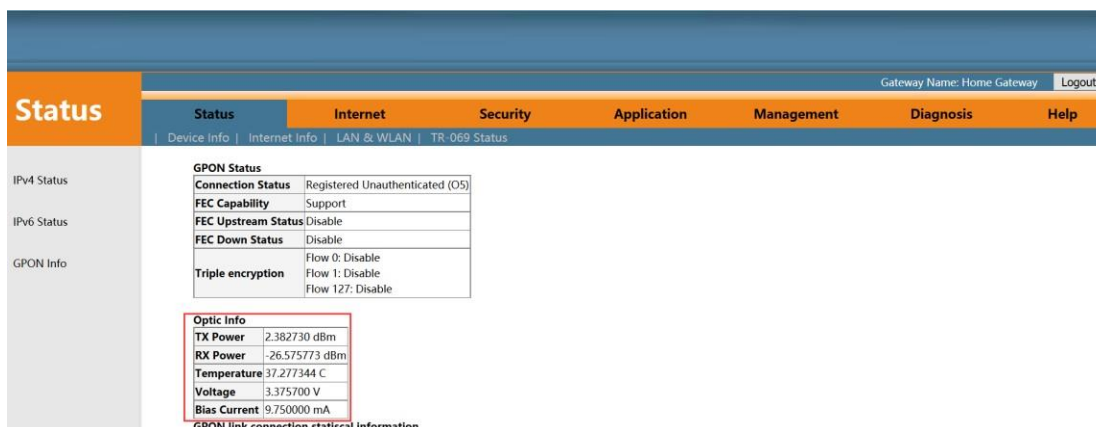
4.1 View ONU Register Status

Login ONU WEB, select **Status** -> **Internet Info** -> **GPON Info**, view the ONU register status:



4.2 View ONU Optical Power Information

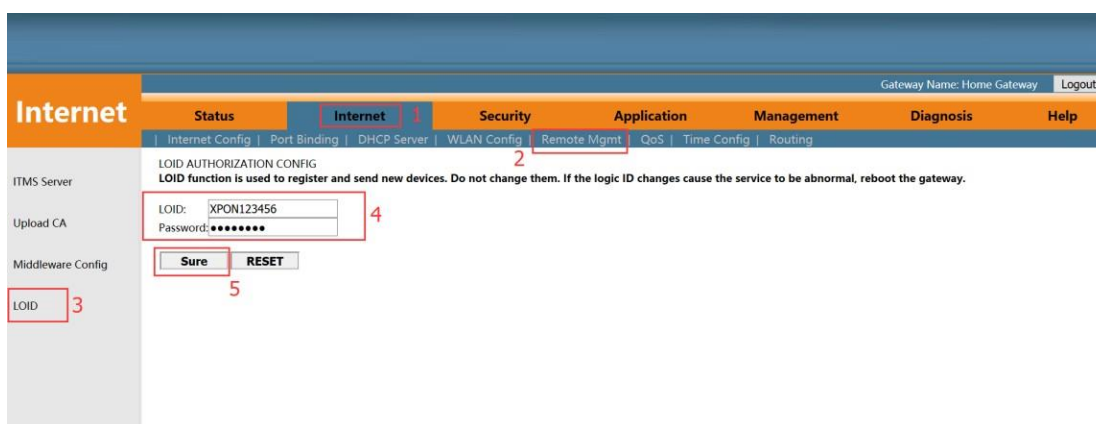
Login ONU WEB, select **Status** -> **Internet Info** -> **GPON Info**, view Rx power and Tx power of ONU:



4.3 LOID Authentication Config

LOID of ONU is mainly applicable of the authentication mode of LOID and LOID + Password for ONU. By default, ONU registers for the OLT by SN and rarely uses LOID for register. Normally, we needn't to configure LOID. But the configuration as follows:

Login ONU WEB, select **Internet** -> **Remote Mgmt** -> **LOID**, view or configure LOID and password of ONU:



5 Basic Configuration for Internet

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 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: The ONT does not obtain the IP address assigned by the upper device or can

not manually set the static IP address. It is used as a relay device and does not process the data. There are three ways to obtain the IP address of the user side device, namely **DHCP**, **PPPoE**, and **Static IP Address**.

5.1 Route Mode Configuration

5.1.1 Configure PPPoE WAN Connection for Internet in Route Mode

Login ONU WEB, select **Internet -> Internet Config -> Internet Config**, and then there are some parameters for us to configure as follows:

【WAN Connection name】 Select 'Add WAN Connection'

【Mode】 Select 'Route'

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

【Internet way】 Select 'PPPoE'

【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.

【Enable Vlan】 We can set this option according to your network plan. If there is VLAN in the network for internet, we have to check 'Enable VLAN' option. If not, we needn't check this option, which will be VLAN transparent mode.

【Vlan ID】 Configure this option according to our network plan.

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

【User Name】 Type PPPoE account, normally offered by ISP, for Internet

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

【Service Mode】 Select Internet; Normally, select 'Internet' in the route mode.

【LAN DHCP Disable】 Don't check this option; Normally, Terminal, connected to the HGU ONU, will get an IP address from the ONU's IP pool. Therefore, we needn't check this option to get the IP address.

【Bind port】 Bundle the physical ports (Lan port 1-4 and wireless) with PPPoE WAN connection.



Note

By default, all LAN ports and WIFI data are not bound by this WAN connection (a LAN and WIFI SSID can only be bound to a WAN connection at the same time).

Gateway Name: Home Gateway Logout

Internet Status Internet Security Application Management Diagnosis Help

Internet Config | Port Binding | DHCP Server | WLAN Config | Remote Mgmt | QoS | Time Config | Routing

Internet Config

WAN Config

WAN Connection name: Add WAN connection

Mode: Route

Connection Mode: IPv4/IPv6

☐ DHCP Obtain an IP address automatically

☐ Static Use Static IP address

☒ PPPoE PPP over Ethernet (PPPoE)

☐ PPPOE proxy enabled

☒ Mixed PPPoE routing/bridge enabled

NAT: ☒

Enable Vlan: ☒

Vlan ID: 200

802.1p: 0

MTU: 1492

User name: test

Password: ****

Gateway Name: Home Gateway Logout

Internet Status Internet Security Application Management Diagnosis Help

Internet Config | Port Binding | DHCP Server | WLAN Config | Remote Mgmt | QoS | Time Config | Routing

Internet Config

Vlan ID: 200

802.1p: 0

MTU: 1492

User name: test

Password: ****

Service name:

Dial mode: Auto connect

Service Mode: INTERNET

LAN DHCP Disable: ☐

Bind port: ☒ Port_1 ☒ Port_2 ☒ Port_3 ☒ Port_4

☒ wireless(SSID)

IPv6 WAN Info Mode: Stateless auto config

Global Address Mode: Stateless auto config

DHCP enabled proxy prefix: ☒

NOTE: First internet Route Wan is default route (surfing the internet)

After configuring the parameters of PPPoE WAN connection as above, click '**Apply**' to finish the setting:

Gateway Name: Home Gateway Logout

Internet Status Internet Security Application Management Diagnosis Help

Internet Config | Port Binding | DHCP Server | WLAN Config | Remote Mgmt | QoS | Time Config | Routing

Internet Config

User name: test

Password: ****

Service name:

Dial mode: Auto connect

Service Mode: INTERNET

LAN DHCP Disable: ☐

Bind port: ☒ Port_1 ☒ Port_2 ☒ Port_3 ☒ Port_4

☒ wireless(SSID)

IPv6 WAN Info Mode: Stateless auto config

Global Address Mode: Stateless auto config

DHCP enabled proxy prefix: ☒

NOTE: First internet Route Wan is default route (surfing the internet)

Apply delete

5.1.2 Configure DHCP WAN Connection for Internet in Route Mode

Login ONU WEB, select **Internet** -> **Internet Config** -> **Internet Config**, and then there are some parameters for us to configure as follows:

【WAN Connection name】 Select 'Add WAN Connection'

【Mode】 Select 'Route'.

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

【Internet way】 Select 'DHCP'.

【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.

【Enable Vlan】 We can set this option according to your network plan. If there is VLAN in the network for internet, we have to check 'Enable VLAN' option. If not, we needn't check this option, which will be VLAN transparent mode.

【Vlan ID】 Configure this option according to our network plan.

【MTU】 The default is 1500; we have to change to lower MTU, **such as 1400**, if we can ping the DNS but not access the website via WEB browser.

【Request DNS】 Selected 'enable', the ONU will get DNS from upper DNS server automatically; Selected 'Disable', we have to configure an static DNS for the ONU by manual. We can configure one of them according to network plan.

【Primary DNS / Secondary DNS】 After disable 'Request DNS' function, we have to set a static DNS in here.

【Service Mode】 Select Internet; Normally, select 'Internet' in the route mode.

【LAN DHCP Disable】 Don't check this option; Normally, Terminal, connected to the HGU ONU, will get an IP address from the ONU's IP pool. Therefore, we needn't check this option to get the IP address.

【Bind port】 Bundle the physical ports (Lan port 1-4 and wireless) with DHCP WAN connection.



Note

By default, all LAN ports and WIFI data are not bound by this WAN connection (a LAN and WIFI SSID can only be bound to a WAN connection at the same time).

Internet Config

WAN Config

WAN Connection name: Add WAN connection

Mode: Route

Connection Mode: Ipv4/Ipv6

☒ DHCP Obtain an IP address automatically

☐ Static Use Static IP address

☐ PPPoE PPP over Ethernet (PPPoE)

NAT: ☒

Enable Vlan: ☒

Vlan ID: 100

802.1p: 0

MTU: 1500

Enable option60: ☐

Option value:

Request DNS: ☒ Enable ☐ Disable

Internet Config

Enable option60: ☐

Option value:

Request DNS: ☒ Enable ☐ Disable

Primary DNS:

Secondary DNS:

Service Mode: INTERNET

LAN DHCP Disable: ☐

Bind port:

☐ Port_1 ☐ Port_2

☒ Port_3 ☐ Port_4

☐ wireless(SSID)

IPv6 WAN Info Mode:

Global Address Mode: Stateless auto config

DHCP enabled proxy prefix: ☒

NOTE: First internet Route Wan is default route (surfing the internet)

After configuring the parameters of DHCP WAN connection as belows, click **'Apply'** to finish the setting:

Internet Config

Request DNS: ☒ Enable ☐ Disable

Primary DNS:

Secondary DNS:

Service Mode: INTERNET

LAN DHCP Disable: ☐

Bind port:

☐ Port_1 ☐ Port_2

☒ Port_3 ☐ Port_4

☐ wireless(SSID)

IPv6 WAN Info Mode:

Global Address Mode: Stateless auto config

DHCP enabled proxy prefix: ☒

NOTE: First internet Route Wan is default route (surfing the internet)

Apply delete

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

Login ONU WEB, select **Internet -> Internet Config -> Internet Config**, and then there are some parameters for us to configure as follows:

【WAN Connection name】 Select 'Add WAN Connection'

【Mode】 Select 'Route'

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

【Internet way】 Select 'Static'

【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.

【Enable Vlan】 We can set this option according to your network plan. If there is VLAN in the network for internet, we have to check 'Enable VLAN' option. If not, we needn't check this option, which will be VLAN transparent mode.

【Vlan ID】 Configure this option according to our network plan.

【MTU】 The default is 1500; we have to change to lower MTU, such as 1400, if we can ping the DNS but not access the website via WEB browser.

【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

【Primary DNS / Secondary DNS】 Set static primary DNS address and secondary DNS address

【Service Mode】 Select Internet; Normally, select 'Internet' in the route mode.

【LAN DHCP Disable】 Don't check this option; Normally, Terminal, connected to the HGU ONU, will get an IP address from the ONU's IP pool. Therefore, we needn't check this option to get the IP address.

【Bind port】 Bundle the physical ports (Lan port 1-4 and wireless) with Static IP WAN connection.



Note

By default, all LAN ports and WIFI data are not bound by this WAN connection (a LAN and WIFI SSID can only be bound to a WAN connection at the same time).

Gateway Name: Home Gateway Logout

Internet Status Internet Security Application Management Diagnosis Help

Internet Config | Port Binding | DHCP Server | WLAN Config | Remote Mgmt | QoS | Time Config | Routing

WAN Config

Internet Config

WAN Connection name: Add WAN connection

Mode: Route

Connection Mode: Ipv4/Ipv6

☐ DHCP Obtain an IP address automatically

☒ Static Use Static IP address

☐ PPPoE PPP over Ethernet (PPPoE)

NAT: ☒

Enable Vlan: ☒

Vlan ID: 300

802.1p: 0

MTU: 1500

IP Address: 192.168.5.56

Subnet Mask: 255.255.255.0

Default Gateway: 0.0.0.0

Request DNS: ☐ Enable

Gateway Name: Home Gateway Logout

Internet Status Internet Security Application Management Diagnosis Help

Internet Config | Port Binding | DHCP Server | WLAN Config | Remote Mgmt | QoS | Time Config | Routing

Request DNS: ☒ Enable

☐ Disable

Primary DNS: 192.168.5.1

Secondary DNS: 8.8.8.8

Service Mode: INTERNET

LAN DHCP Disable: ☐

Bind port:

☐ Port_1 ☐ Port_2

☐ Port_3 ☒ Port_4

☒ wireless(SSID)

IPv6 WAN Info Mode:

Global Address Mode: Manual

DHCP enabled proxy prefix: ☒

IPv6 Address: /

IPv6 gateway:

First IPv6 DNS:

Alternate IPv6 DNS:

NOTE: First internet Route Wan is default route(surfing the internet)

After configuring the parameters of Static IP WAN connection as below, click **'Apply'** to finish the setting:

Gateway Name: Home Gateway Logout

Internet Status Internet Security Application Management Diagnosis Help

Internet Config | Port Binding | DHCP Server | WLAN Config | Remote Mgmt | QoS | Time Config | Routing

Service Mode: INTERNET

LAN DHCP Disable: ☐

Bind port:

☐ Port_1 ☐ Port_2

☐ Port_3 ☒ Port_4

☒ wireless(SSID)

IPv6 WAN Info Mode:

Global Address Mode: Manual

DHCP enabled proxy prefix: ☒

IPv6 Address: /

IPv6 gateway:

First IPv6 DNS:

Alternate IPv6 DNS:

NOTE: First internet Route Wan is default route(surfing the internet)

Apply delete

5.2 Configure Bridge WAN Connection for Internet

Login ONU WEB, select **Internet** -> **Internet Config** -> **Internet Config**, and then there are some parameter for us to configure as follows:

【WAN Connection name】 Select 'Add WAN Connection'

【Mode】 Select 'Bridge'

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

【NAT】 Don't check 'NAT' feature; NAT is mainly used for address translation function of local network and external network. HGU ONU doesn't deal with the packets from the terminal, so we needn't enable the NAT function.

【Enable Vlan】 We can set this option according to your network plan. If there is VLAN in the network for Internet, we have to check 'Enable VLAN' option. If not, we needn't check this option, which will be VLAN transparent mode.

【Vlan ID】 Configure this option according to our network plan.

【MTU】 The default is 1500; we have to change to lower MTU, **such as 1400**, if we can ping the DNS but not access the website via WEB browser.

【Service Mode】 Select 'Other' or 'Internet'; Normally, select 'Internet' for Internet or flow testing; Select 'Other' for IPTV service.

【LAN DHCP Disable】 Check this option; Normally, Terminal, connected to the HGU ONU, will get an IP address from the upper DHCP server. Therefore, we need check this option to avoid the terminal get an IP from the ONU.

【Bind port】 Bundle the physical ports (Lan port 1-4 and wireless) with Bridge WAN connection.



Note

By default, all LAN ports and WIFI data are not bound by this WAN connection (a LAN and WIFI SSID can only be bound to a WAN connection at the same time).

After configuring the parameter of Bridge WAN connection as above, click **'Apply'** to finish the setting:

5.3 View the WAN Connection Status

Login ONU WEB, select **Status -> Internet Info -> IPv4 Status**. In here, we can view WAN connection status, check the route WAN connection if it gets an IP address and Bridge WAN connection if it is **UP**. As follows:

Interface	VLAN ID	Protocol	IGMP	Status	IP address	Subnet Mask
1. INTERNET_B_VID_200	200	br1483	Disable	up		
2. INTERNET_R_VID_100	100	IPoE	Enable	up	192.168.5.164	255.255.255.0

Interface	Default Gateway	Primary DNS	Secondary DNS
1. INTERNET_B_VID_200			
2. INTERNET_R_VID_100	192.168.5.1	192.168.5.1	

5.4 Delete the WAN Connection

Login ONU WEB, select **Internet -> Internet Config -> Internet Config**. Select a WAN connection from **'WAN Connection name'** and click **'Delete'** button at the bottom of the page. As follows:

The screenshot shows the 'Internet' configuration page of an ONU. The 'Internet' tab is active. The 'WAN Connection name' is set to '1_INTERNET_B_VID_'. The 'Mode' is set to 'Bridge'. The 'Connection Mode' is set to 'Ipv4/Ipv6'. The 'Enable Vlan' checkbox is checked. The 'Vlan ID' is set to '200'. The '802.1p' is set to '0'. The 'MTU' is set to '1500'. The 'Service Mode' is set to 'INTERNET'. The 'LAN DHCP Disable' checkbox is unchecked. The 'Bind port' section shows 'Port_1', 'Port_2', 'Port_3', and 'Port_4' with checkboxes. 'Port_4' is checked. The 'wireless(SSID)' checkbox is unchecked. At the bottom, there are 'Apply' and 'delete' buttons. Red boxes and numbers highlight these elements: 1 points to the 'Internet' tab, 2 points to the 'WAN Connection name' dropdown, 3 points to the 'Mode' dropdown, and 4 points to the 'delete' button.

6 ONU LAN Configuration

6.1 LAN IP Address Configuration

Login ONU WEB, select **Internet -> DHCP Server -> IPv4 DHCP Server**, and then there are some parameters for us to configure as follows:

【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

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

【Start IP address / 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.

【DNS1/DNS2/DNS3】 Configure DNS address that allocated to the terminal. By default, 192.168.101.1 of DNS agent address is used to default DNS address. We can design this according to network plan.

【Edit DHCP address range】 By default, the ONU will allocate 10 IP addresses for every kinds of terminal. If it is not enough, we can edit DHCP address range to increase the designed address range.

Gateway Name: Home Gateway Logout

Internet Status 1 Internet 2 Security Application Management Diagnosis Help

Internet Config | Port Binding | DHCP Server | WLAN Config | Remote Mgmt | QoS | Time Config | Routing

DHCP Server Configuration

Configure DHCP Server IP Address and Subnet Mask. Click "Apply" to save the configuration.

IP address: 192.168.101.1
Subnet mask: 255.255.255.0

☐ Disable the DHCP server
☒ Enable DHCP server 4

Start IP address: 192.168.101.33
End IP address: 192.168.101.254
Leased Time: One day
DNS1: 192.168.101.1
DNS2: 114.114.114.114
DNS3: 8.8.8.8

☐ Enabled DHCP server relay
DHCP server IP address: 172.19.31.4

Edit reserved IP address list Edit DHCP address range

Apply 5

After configuring the parameters of LAN address as above, click **'Apply'** to finish the setting:

6.2 View LAN Client

Login ONU WEB, select **Status** -> **LAN & WLAN** -> **WLAN Status**. View client that access via wireless (WIFI). As follows:

Gateway Name: Home Gateway Logout

Status 1 Status 2 Internet Security Application Management Diagnosis Help

Device Info | Internet Info | LAN & WLAN | TR-069 Status

WLAN Status

WLAN Connection Status: Enabled
SSID-1Name: HGW-51038F
Rate: Auto
Hidden attribute: Visual
Band: 2.4 GHz (B+G+N)
SSID-1Encryption state: Enabled
BSSID: e0:67:b3:51:03:90

Access Device

MAC address	sent packets	received packets	Transmission rate (Mbps)	Power saving	Due time (sec)
b8:81:98:78:36:10	1303	1762	39	no	300

Packets Through LAN

Interface	Received			Sent		
	Packets	Bytes	Errors/Dropped	Packets	Bytes	Errors/Dropped
HGW-51038F	4697	1037879	73	0	1638	652477

Login ONU WEB, select **Status** -> **LAN & WLAN** -> **LAN Status**. View client that access via LAN ports. As follows:

Gateway Name: Home Gateway Logout

Status | Internet | Security | Application | Management | Diagnosis | Help

Device Info | Internet Info | LAN & WLAN | TR-069 Status

ONU IP Address

IP Address: 192.168.101.1

MAC Address: e067b3510390

LAN Statistics

Interface	Receive			Sent		
	Packets	Bytes	Errors/Dropped	Packets	Bytes	Errors/Dropped
Port 1	22414	3074984	0	0	28400	8242638
Port 2	0	0	0	0	0	0
Port 3	0	0	0	0	0	0
Port 4	0	0	0	0	0	0

LAN Clients (By DHCP Distribution)

Device Type	MAC Address	IP Address	Residual loan period
Computer	74:a5:28:3d:7e:6c	192.168.101.40	75013
Computer	3c:fa:43:9d:d5:71	192.168.101.43	78020
Phone	5c:03:39:27:26:92	192.168.101.70	78916
Computer	18:74:2e:1e:88:35	192.168.101.41	81881
Computer	e0:67:b3:0d:0e:01	192.168.101.42	86183
Computer	b8:81:98:78:36:10	192.168.101.44	86216

7 Multicast/IPTV Configuration

7.1 Multicast/IPTV Service Setting

Firstly, configure a bridge WAN connection to carry IGMP/IPTV service according to #6.2 and select 'Other' in service mode. 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.

7.2 IGMP Snooping Setting

Login ONU WEB, select **Application** -> **IGMP Config** -> **IGMP Snooping**. Enable or disable IGMP Snooping function and click 'Save/Apply' button to finish the setting as follows:

Gateway Name: Home Gateway Logout

Application | Status | Internet | Security | Application | Management | Diagnosis | Help

DDNS Config | Advanced NAT | UPNP Config | IGMP Config | MLD Config | Multicast Vlan

IGMP Snooping

This page allows you to config IGMP Snooping function.

IGMP Snooping: ☐ Disable ☒ Enable

Save/Apply

7.3 IGMP Proxy

Login ONU WEB, select **Application** -> **IGMP Config** -> **IGMP Proxy**. Enable or disable IGMP Proxy function and click '**Save**' 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.

Gateway Name: Home Gateway Logout

Application Status Internet Security **Application** Management Diagnosis Help

DDNS Config Advanced NAT UPNP Config IGMP Config MLD Config Multicast Vlan

IGMP Config

You can configure IGMP Proxy for a specific WAN connection.

Internet connection	Enable IGMP server
1 INTERNET_R_VID_1000	<input checked="" type="checkbox"/>

Save

7.4 IGMP VLAN Configuration

Login ONU WEB, select **Application** -> **Multicast Vlan**, select the corresponding WAN, click '**Modify**', configure multicast vlan, click '**Modify**' button.

Gateway Name: Home Gateway Logout

Application Status Internet Security **Application** Management Diagnosis Help

DDNS Config Advanced NAT UPNP Config IGMP Config MLD Config Multicast Vlan

Multicast Vlan

VLAN multicast (blank said set)

Interface	Multicast VLAN	Modify
1 INTERNET_R_VID_1000		<input type="button" value="Modify"/>

8 WLAN Configuration

8.1 WLAN Basic Configuration

Login ONU WEB, select **Internet->WLAN Config->WLAN Config**, and then there are some parameters for us to configure as follows:

【Enable wireless】 Enable or disable the wireless function.

【Virtual SSID】 Click 'Virtual SSID' button to enter the virtual SSID config page.

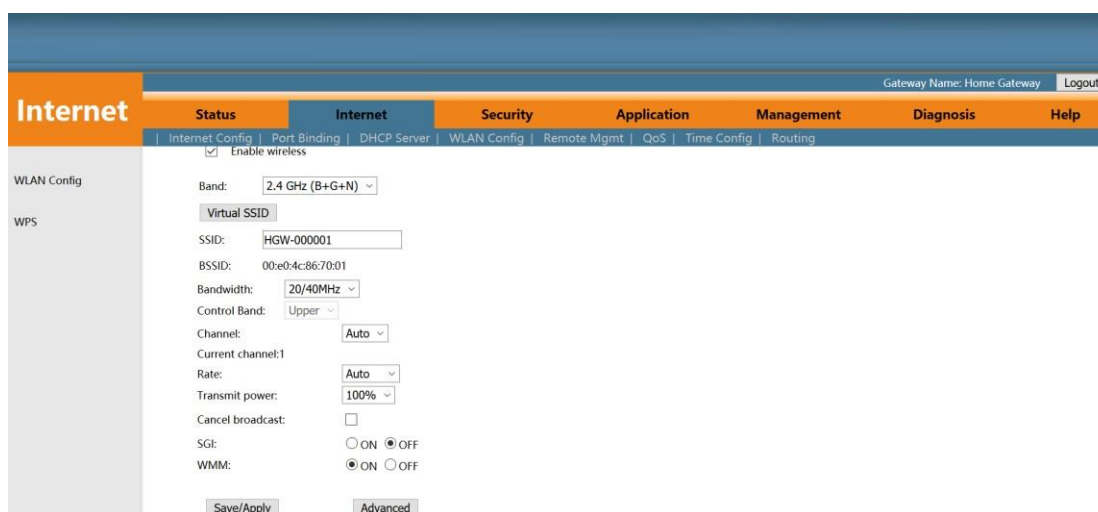
【Band】 The default is 2.4GHz(B+G+N).

【SSID】 Set wireless SSID name. Nowadays, it doesn't support to set as Chinese SSID name.

【Bandwidth】 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.

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

【Advanced】 Click 'Advanced' button and enter wireless password config page.



The screenshot shows the 'WLAN Config' page in the ONU web interface. The 'Internet' tab is selected, and the 'WLAN Config' sub-tab is active. The 'Enable wireless' checkbox is checked. The 'Virtual SSID' button is highlighted. The configuration parameters are as follows:

- Band: 2.4 GHz (B+G+N)
- Virtual SSID: HGW-000001
- BSSID: 00:e0:4c:86:70:01
- Bandwidth: 20/40MHz
- Control Band: Upper
- Channel: Auto
- Current channel: 1
- Rate: Auto
- Transmit power: 100%
- Cancel broadcast: ☐
- SGI: ☐ ON ☒ OFF
- WMM: ☒ ON ☐ OFF

Buttons at the bottom: Save/Apply, Advanced.

After setting wireless configuration, click 'Save/Apply' button to finish setting.

8.2 WLAN Password Configuration

According to #8.1, click 'Advanced' button to enter 'Wireless settings - Security' page, we can set 'Network authentication mode', 'encryption' and WiFi password.

After setting wireless password configuration, click **'Save/Apply'** button to finish setting.

8.3 WLAN Virtual SSID

Login ONU WEB, select **Internet->WLAN Config->WLAN Config**, and then click **'Virtual SSID'** button to enter **'Virtual SSID'** page. We can enable some of virtual SSID, set band and name them:

No.	Enable	Band	SSID	Data Rate	Broadcast SSID	WMM	Relay Blocking	Active Client List
AP1	<input type="checkbox"/>	2.4 GHz (B+G+N)	AP-1111	Auto	Enabled	Enabled	Disabled	Show
AP2	<input type="checkbox"/>	2.4 GHz (B+G+N)	AP-2222	Auto	Enabled	Enabled	Disabled	Show
AP3	<input type="checkbox"/>	2.4 GHz (B+G+N)	AP-3333	Auto	Enabled	Enabled	Disabled	Show
AP4	<input type="checkbox"/>	2.4 GHz (B+G+N)	AP-4444	Auto	Enabled	Enabled	Disabled	Show

After setting wireless password configuration, click **'Save/Apply'** button to finish setting.



Note

We can refer to #8.2 about setting the password of virtual SSID.

9 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.

9.1 Configure CATV Port Parameter

Select **Management->CATV config->CATV config**. In this page, we can enable or disable CATV port and configure the parameters according to your requirement. After setting the parameters, click **'Apply Changes'** button to finish the setting.

Parameter	Value	Unit
VccDead	2	(0~50 Unit: 0.1V)
VccLow	108	(0~200 Unit: 0.1V)
VccHigh	132	(0~200 Unit: 0.1V)
TempDead	50	(0~50 Unit: 0.1C)
TempLow	-100	(-300~1000 Unit: 0.1C)
TempHigh	900	(-300~1000 Unit: 0.1C)
RF Dead	12	(0~50 Unit: 0.1dBuV)
RF Low	600	(500~1000 Unit: 0.1dBuV)
RF High	950	(500~1000 Unit: 0.1dBuV)
InOptPwrDead	9	(0~50 Unit: 0.1dBm)
InOptPwrLow	-200	(-600~100 Unit: 0.1dBm)
InOptPwrHigh	20	(-600~100 Unit: 0.1dBm)
Channels	59	(0~100)

Enable CATV: ☒

Apply Changes Restore Default

9.2 View CATV Information

Login ONU WEB, select **Status->Device Info->CATV Info**. In this page, we can view the CATV port status and related parameters:

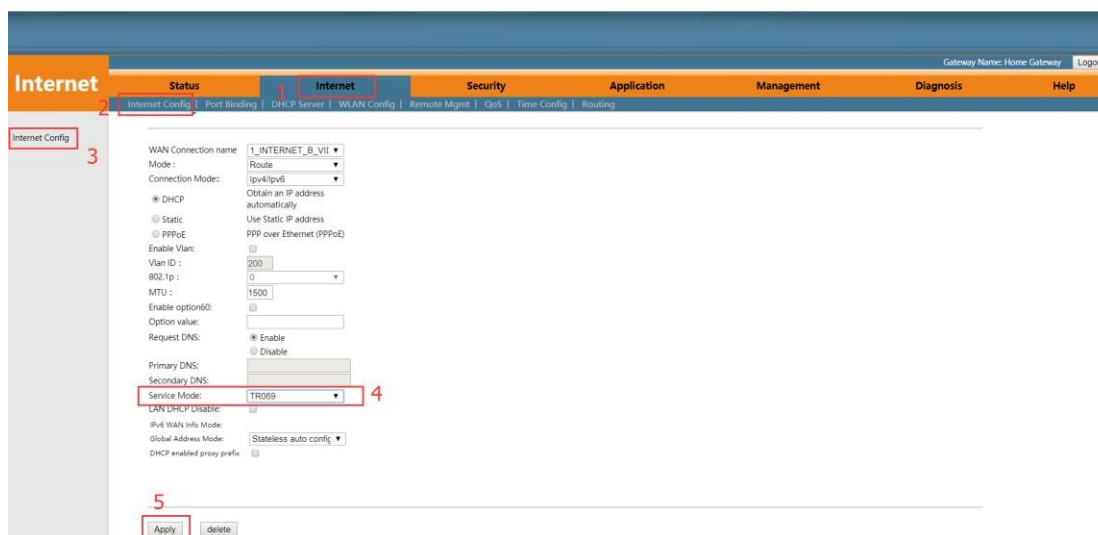
Parameter	Value	Unit
Vcc	122	(0.1V)
Temperature	-2731	(0.1C)
RF OutputPower	483	(0.1dBuV)
InOpticalPower	-347	(0.1dBm)
VccAlarmState	NORMAL	
TempAlarmState	LOW LOW	
RF AlarmState	LOW LOW	
InpwrAlarmState	LOW LOW	
VccDead	2	(0.1V)
VccLow	108	(0.1V)
VccHigh	132	(0.1V)
TempDead	50	(0.1C)
TempLow	-100	(0.1C)
TempHigh	900	(0.1C)
RF Dead	12	(0.1dBuV)
RF Low	600	(0.1dBuV)
RF High	950	(0.1dBuV)
InOptPwrDead	9	(0.1dBm)
InOptPwrLow	-180	(0.1dBm)
InOptPwrHigh	0	(0.1dBm)

10 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.

10.1 Configure Channel for TR069 Remote Management

Firstly, referred to #5.1, set a Route WAN connection with 'Service mode' as TR069, which is used to act as a channel for TR069 server.



10.2 TR069 Client Configuration

Login ONU WEB, select **Internet -> Remote Mgmt -> ITMS Server**. 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.

Gateway Name: Home Gateway Logout

Internet Status Internet Security Application Management Diagnosis Help

Internet Config | Port Binding | DHCP Server | WLAN Config | Remote Mgmt | QoS | Time Config | Routing

ITMS Server 3

Upload CA

Middleware Config

LOID

TR-069 client - Config 2

WAN Management Protocol (TR-069) allows the auto-configuration server (ACS) for auto-configuration, supply, collection and diagnostics to this device.

Choose expectations, and click "Save/Apply" TR-069 client configuration options.

ACS URL:

ACS User Name:

ACS Password:

Enable certificate: ☒ Yes ☐ No

Inform: ☒ Enable ☐ Disable

Inform Interval: Second

Connection request user name:

Connection request password:

Save/Apply 4

11 Device Management

11.1 ONU Remote Access Configuration

Login the ONU WEB, select **Management -> Wan Access Control -> Wan Access Control**.

In this page, we can enable or disable the ping remote access and WEB remote access of ONU.

Gateway Name: Home Gateway Logout

Management Status Internet Security Application Management Diagnosis Help

User | Device | Log | Maintenance | CATV Config | Firmware Update | Backup Restore | Language Select | Wan Access Control 2

Wan Access Control 3

Allow external network ping WAN port

After restart effect

☒ Enable

Allow external web access to WAN port

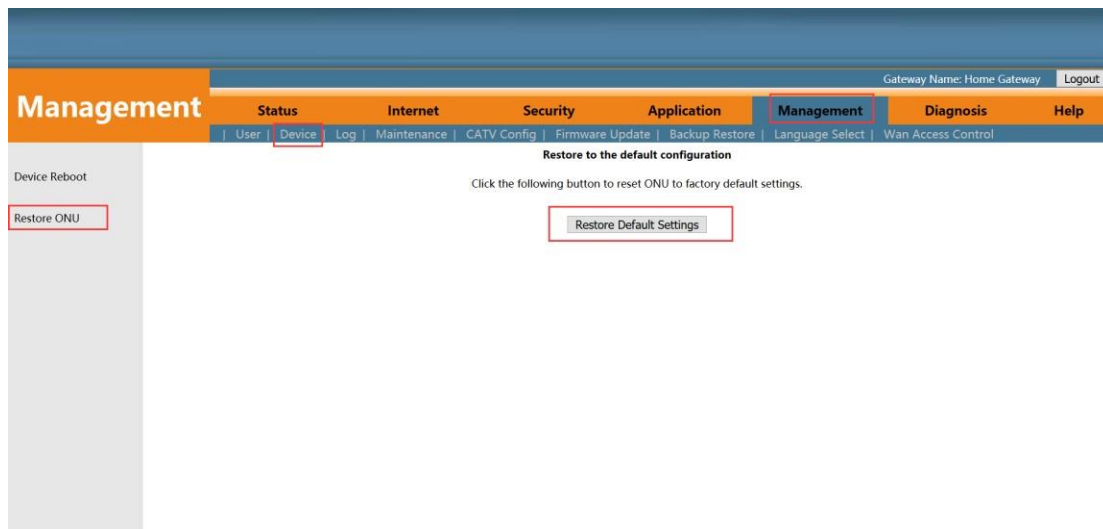
Immediate effect

☒ Enable

192.168.101.1/top.asp#

11.2 Restore Default Setting

Login the ONU WEB. Select **Management -> Device -> Restore ONU**. Click 'Restore Default Setting' button. The device will restore the factory defaults after the application.



Note

Restore Setting on the ONU WEB is take effect to WIFI information of ONU and LAN port configuration only. It doesn't take any effect to WAN connection.

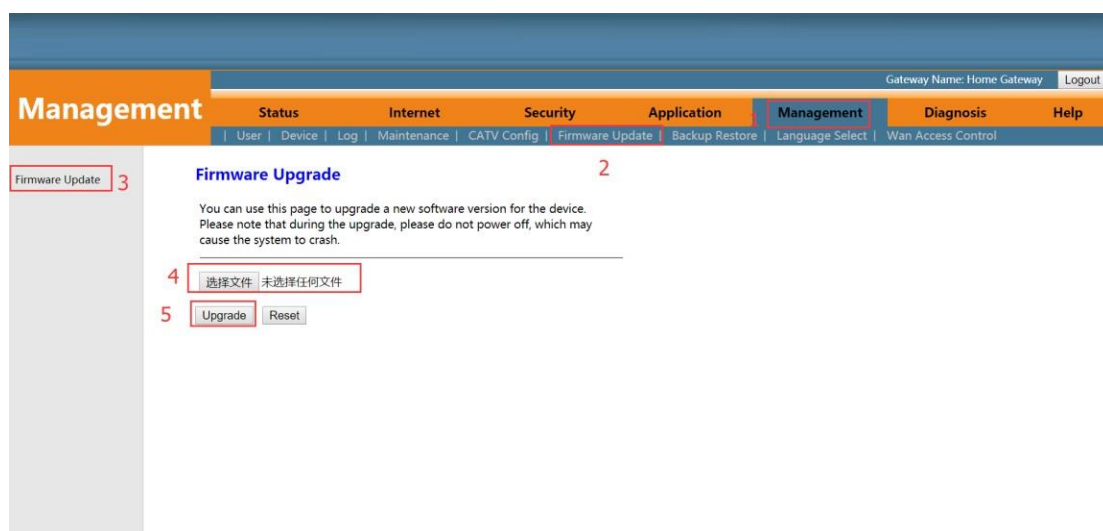
11.3 Firmware Upgrade

Login the ONU WEB. Select **Management** -> **Firmware Upgrade** -> **Firmware Update**. Click '选择文件' to select firmware file, click 'upgrade' button to upgrade the ONU. After the application, the device is upgraded to the latest software version.



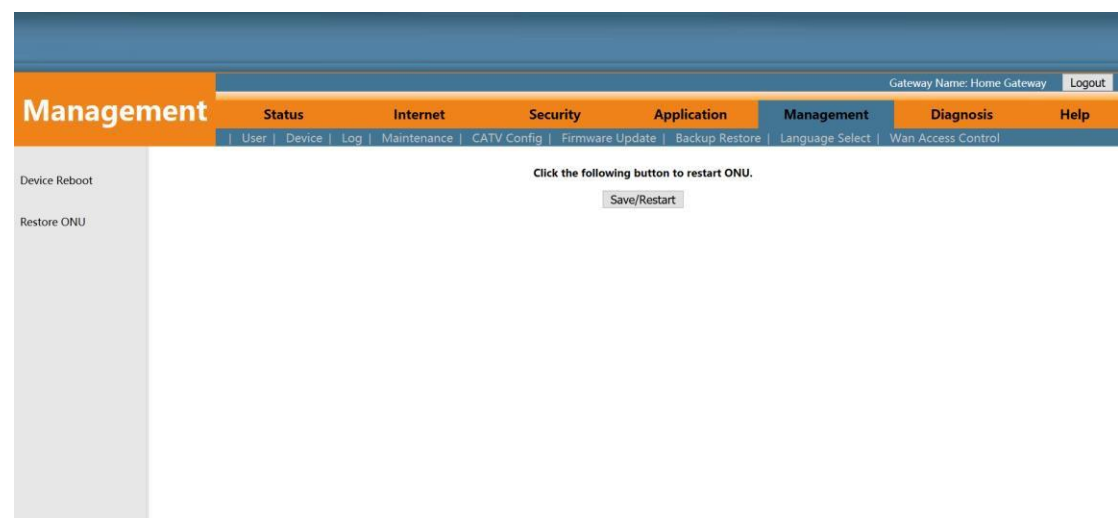
Note

We needn't extract Ascent project production's firmware, just upgrade the .tar file. It will take 4 minutes to upgrade. After upgrading, the ONU will reboot automatically. We needn't reboot it by manual.



11.4 Device Reboot

Login the ONU WEB. Select **Management ->Device->Device Reboot**. Click '**Save/Restart**'.
Restart the device immediately after application.





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