



Calix T07xG HGU ONT Operation and Maintenance Guide

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About This Document

This document describes the Web based configuration management interface of the T07xG Optical Network Termination (ONT). T07xG ONTs include T072G, T073G, T076G, and T077G, this document is applicable to them all. The differences on the management interface to the four models are identified by Notes.

Revision History

Revision History

Revision	Summary of Changes
A	Initial document for the T07xG ONT.
B	Document updated for the LED figures.
C	Document updated for the DNS_Suffix and DSCP Remark web GUI screens.
D	Document updated for the NAT Fullcone web GUI screen.
E	Document updated for the Web GUI access through active WAN ports with R11A CP8.
10	Updated to include the Public Bridged WiFi configuration (for SW release 4.1.31.411 or greater).

Product Introduction

The T07xG ONTs are ITU-T G.984 compliant devices that receive voice, data, and video traffic in the form of optical signal from the service provider Passive Optical Network (PON) and transmitted it to the desired format at residential or business premises. Upstream traffic is likewise transmitted to the PON network through the fiber optic cable. A single optical fiber carries both upstream and downstream traffic. Figure **T072G Overview** shows the T072G ports and buttons.

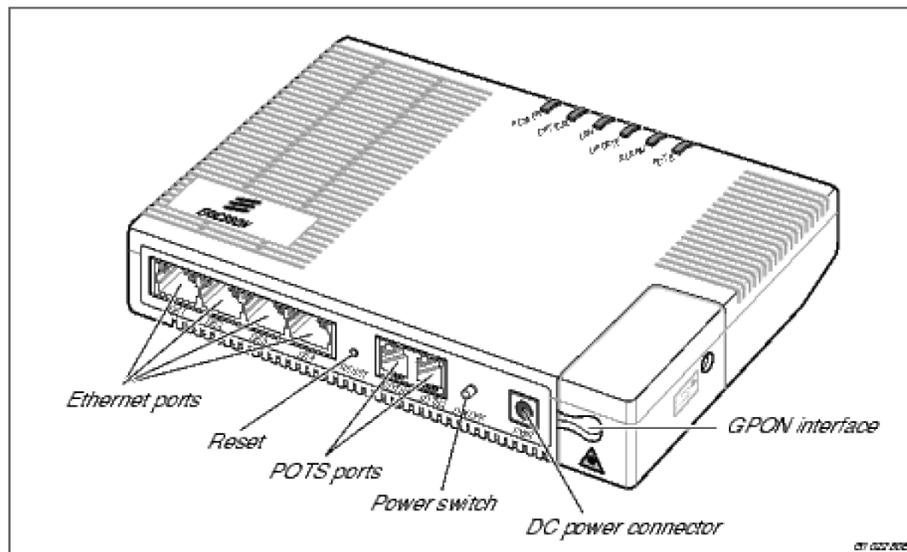


Figure 1: T072G Overview

Figure **T073G Overview** shows the T073G ports and buttons.

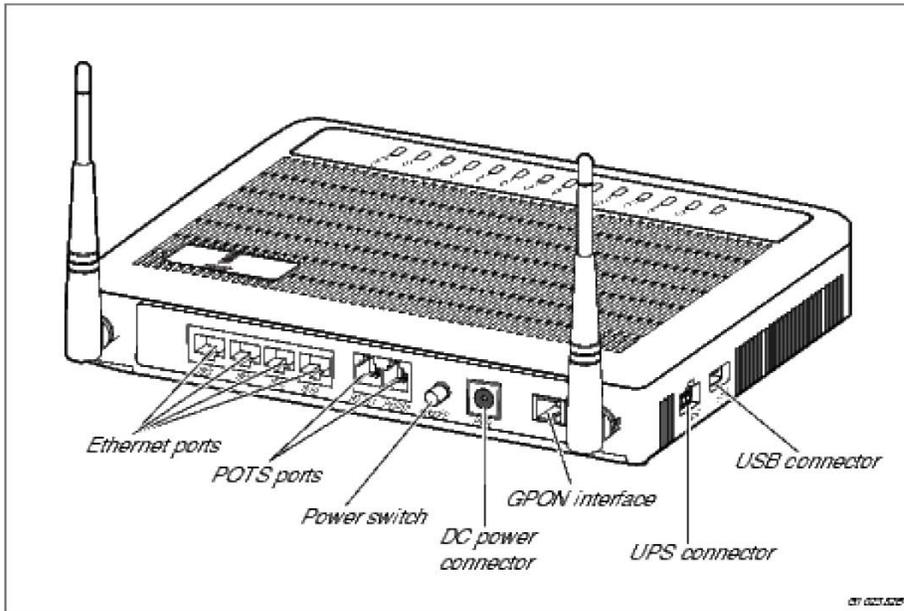


Figure 2: T073G Overview

Figure **T076G Overview** shows the T076G ports and buttons.

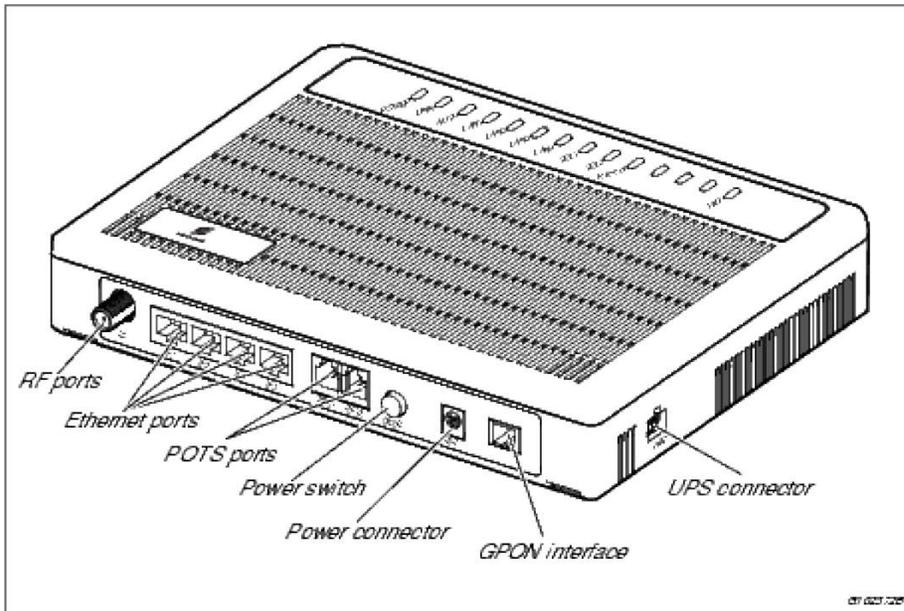


Figure 3: T076G Overview

Figure **T077G Overview** shows the T077G ports and buttons.

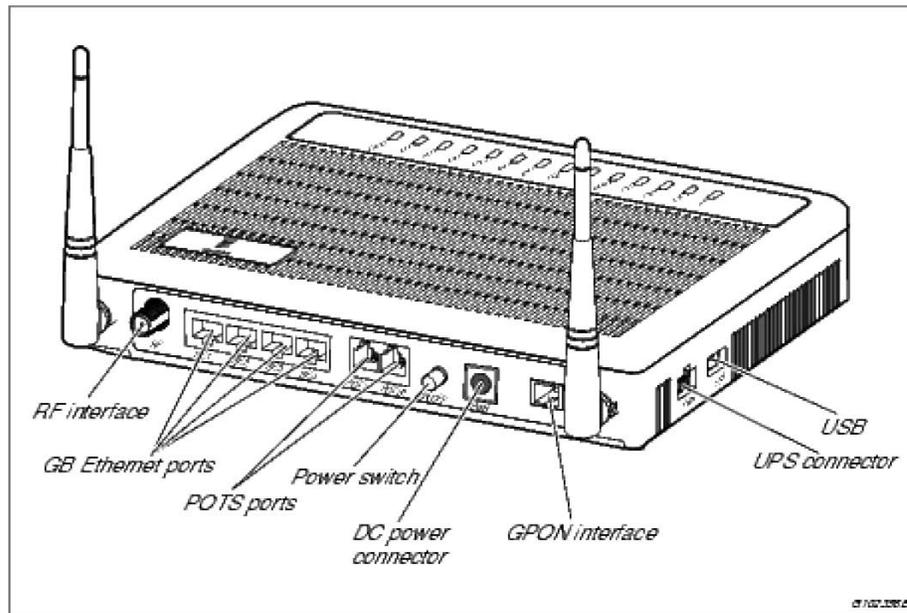


Figure 4: T077G Overview





Chapter 1

ONT Configuration

This chapter describes the ONT configuration.

Web GUI Access Through LAN Ports

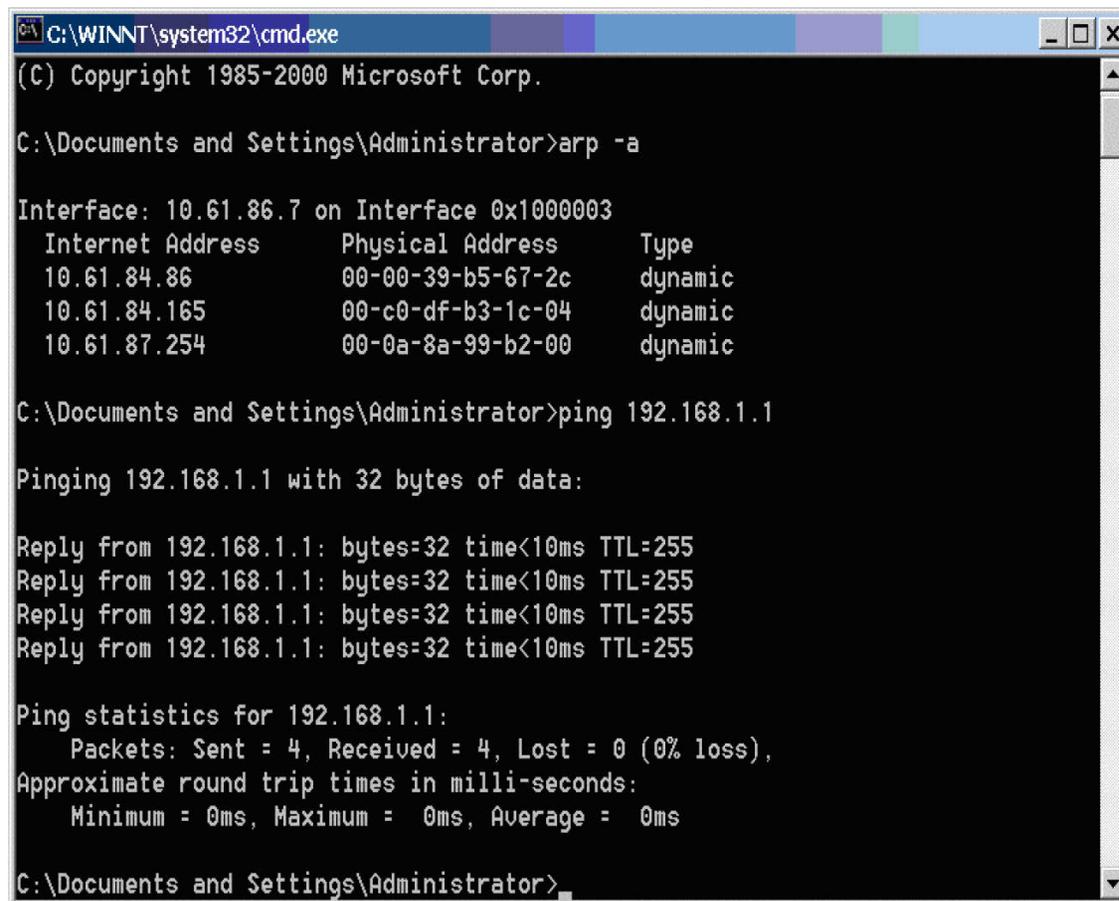
Before accessing ONT, make sure that PC properly connects to the ONT. Then, do the following configurations and operations:

- 1.** Connect PC LAN port and ONT LAN1 port with a standard Ethernet Cable
- 2.** Configure IP address of PC through one of the following ways: Configure IP address, mask, and gateway address. For example:
 - Obtain an IP address automatically. In this case, the PC will obtain an IP address from ONT through DHCP
 - Configure static IP address for PC
 - IP address: 192.168.1.X (2-254)
 - Mask: 255.255.255.0
 - Gateway address: 192.168.1.1

Note: Make the configurations based on actual ONT versions.

- 3.** Ping the ONT IP address (Default is 192.168.1.1).

If PC gets the proper reply to the ping command, the connection between PC and ONT is correct.



```
C:\WINNT\system32\cmd.exe
(C) Copyright 1985-2000 Microsoft Corp.

C:\Documents and Settings\Administrator>arp -a

Interface: 10.61.86.7 on Interface 0x1000003
Internet Address      Physical Address      Type
10.61.84.86           00-00-39-b5-67-2c    dynamic
10.61.84.165          00-c0-df-b3-1c-04    dynamic
10.61.87.254          00-0a-8a-99-b2-00    dynamic

C:\Documents and Settings\Administrator>ping 192.168.1.1

Pinging 192.168.1.1 with 32 bytes of data:

Reply from 192.168.1.1: bytes=32 time<10ms TTL=255

Ping statistics for 192.168.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\Documents and Settings\Administrator>
```

Figure 5: Pinging ONT Address

Note: Do not power off the ONT while managing the ONT on the configuration management interface. Otherwise, the ONT might be damaged.

ONT Login

To log into the ONT, do the following steps:

1. Open an explorer and type `http://192.168.1.1/`, the default ONT IP address, in the address bar.
2. Type the user name and the password in the login window and log in as an administrator. The default user name is *admin*, the password is *admin*.

Note: The default username and password can also be customized according to customer requirements.

The following figure shows the login window.



The image shows a web browser window titled "GPON Home Gateway Login". The window has a teal header bar with the text "GPON Home Gateway Login" in white. Below the header is a white area containing two input fields. The first field is labeled "Username" and the second is labeled "Password". Both fields are empty. At the bottom of the window, there are two buttons: "Login" and "Reset".

Figure 6: Login Window

After log into ONT with administrator, you can query, configure, and modify the ONT settings. Some configurations and modifications only take effect after ONT restart.

Note: The Web GUI access through LAN ports has two level user accounts, one is administrator level, the other is end user level. End user level has limited Web GUI.

Web GUI Access Through Active WAN Ports

Open a web browser and enter one of the IP addresses of active WAN ports in the Uniform Resource Locator (URL) address field. Press *Enter*. Type the user name and the password in the login window and log in as an administrator. The default user name is *superadmin*, the password is *superadmin*.

Note: Web GUI access through WAN ports is disabled by default, which can be enabled by OMCI plus configuration file and TR-069. The configuration set by OMCI plus configuration file and TR-069 has no priority difference.

Configuration Interface Introduction

The ONT Configuration Interface consists of navigation bar and configuration area. The upper part is the navigation bar. By clicking the links, you can enter the relevant configuration pages. The right side of the page is configuration area. The content in this area changes according to the selection in navigation bar. Please refer to following sections for detail service configurations.

Status

After successful login, the default page is Status. There are 3 options, including Device Information, LAN Status, WAN Status.

Device Information

In the Device Information page, you can view the device name, serial number, hardware version, software version, and device running time.

GPON Home Gateway	
Status > Device Information	
Device Name	00000000183-00001-00
Serial Number	0019C7-0019C7F0B478
Hardware Version	00183-00001-21
Software Version	CXC 173 3063/1 R1A
Device Running Time	0 hour 52 minutes 24 seconds.

Figure 7: Device Information Page

LAN Status

In the LAN Status page, you can view the information of Wireless Interface and Ethernet interfaces.

GPON Home Gateway

Status > LAN Status

Status
Device Information

LAN Status

WAN Status

Network

Security

Application

Maintain

Wireless Information	
Wireless Status	on
Wireless Channel	1
SSID1 Name	ChinaNet-
Wireless Encryption Status	WPA-PSK
Wireless Rx Packets	0
Wireless Tx Packets	11
Wireless Rx Bytes	0
Wireless Tx Bytes	462

Ethernet Information	
Ethernet Status	undefined
Ethernet IP Address	192.168.1.1
Ethernet Subnet Mask	255.255.255.0
Ethernet MAC Address	00-19-c7-f0-b4-78
Ethernet Rx Packets	21733
Ethernet Tx Packets	19929
Ethernet Rx Bytes	1608031
Ethernet Tx Bytes	2291550

Figure 8: LAN Status

Note: The *Wireless Information* pane only applies to T073G and T077G.

WAN Status

In the WAN Status page, you can view the WAN Connection List, Connection Mode, Enable/Disable, VLAN, WAN Link Status, IPv4 link status, IPv6 link status, PON Link Status, Up FEC Enable, Down FEC Enable, TX Packets, Rx Packets, Tx Dropped, Rx Dropped, and Error Packets.

The screenshot shows the WAN Status page for a GPON Home Gateway. The page title is "GPON Home Gateway" and the breadcrumb is "Status > WAN Status". The left navigation menu includes "Status", "Device Information", "LAN Status", "WAN Status", "Network", "Security", "Application", and "Maintain". The main content area displays the following parameters:

WAN Connection List	1_VOIP_TR069_R_VID_0
Connection Mode	Dynamic DHCP
Enable/Disable	<input checked="" type="checkbox"/>
VLAN	0
IPV4 Link Status	Down
IPV6 Link Status	Down
Pon Link Status	Initial State
Up FEC Enable	<input type="checkbox"/>
Down FEC Enable	<input type="checkbox"/>
Tx Packets	0
Rx Packets	0
Tx Dropped	0
Rx Dropped	0
Error Packets	0

A "Refresh" button is located at the bottom right of the page.

Figure 9: WAN Status

Network

In the Network page, there are eight options, including LAN, WAN, Wi-Fi, Routing, DNS, TR-069, DSCP Remark, and DNS_Suffix.

LAN

The LAN configuration is used to configure ONT maintenance address and DHCP related parameters.

GPON Home Gateway
Logout

Network > LAN

- Status
- Network
- LAN
- WAN
- WiFi
- Routing
- DNS
- TR-069
- DSCP Remark
- DNS_Suffix
- Security
- Application
- Maintain

IP Address	<input type="text" value="192.168.1.1"/>
Subnet Mask	<input type="text" value="255.255.255.0"/>
DHCP Enable	<input checked="" type="checkbox"/>
DHCP Start IP Address	<input type="text" value="192.168.1.2"/>
DHCP End IP Address	<input type="text" value="192.168.1.254"/>
DHCP Lease Time	<input type="text" value="1440"/> (2~129600 minutes, or 0 means 1 day)minutes.
Managed Flag	<input type="checkbox"/>
Other Config Flag	<input type="checkbox"/>
Max RA Interval	<input type="text" value="60"/> Second
Min RA Interval	<input type="text" value="18"/> Second
Enable DHCP6S	<input type="checkbox"/>
Prefix Mode	<input type="text" value="DHCP-PD"/>

Bind MAC Address	<input type="text"/>
Bind IP Address	<input type="text"/>

Bind MAC Address	Bind IP Address	Delete
00:12:22:23:12:11	192.168.1.22	<input type="button" value="Delete"/>

Figure 10: LAN

The following table describes the parameters.

Parameter Description

Parameter	Description
IP Address	IP address of local network gateway. Only IPv4 address is available.
Subnet Mask	Input subnet mask of local network.
DHCP Enable	Enable local gateway as DHCP server. In this case, the connected devices can use DHCP to get the local network configuration from local network gateway through DHCP.
DHCP Start IP Address	Start IP Address of DHCP address pool.
DHCP End IP Address	End IP Address of DHCP address pool.
DHCP Lease Time	The length of time the allocation is valid.
Managed Flag	Managed Address Configuration flag that instructs the host to obtain stateful addresses through DHCPv6.
Other Config Flag	Other Stateful Configuration flag that instructs the host to obtain other configuration settings through DHCPv6.
Max RA Interval	The maximum time of the Router Advertisement (RA) message announcement.
Min RA Interval	The minimum time of the RA message announcement.
Enable DHCP6S	Enable or disable DHCP6S.
Prefix Mode	DHCP-PD or Manual . Input Prefix Set when select Manual .
Bind MAC Address	Bind the specific MAC and IP address in the local gateway tables.
Bind IP Address	Bind the specific MAC and IP address in the local gateway tables.
Add Button	Add the MAC to IP binding rule in the local gateway tables.
Delete Button	Delete the MAC to IP binding rule in the local gateway tables.
Save Button	Save the configuration.
Refresh Button	Clear the configuration without being saved.

Note: Cannot set IPv4 and IPv6 address to the ONT simultaneously.

After the configurations are done, click *Save* button to save it. Reboot the device to make the modification to take effects.

WAN

The WAN configuration is used to configure the WAN connection parameters, including WAN basic setup and WAN IP mode setup.

In WAN connection list, select Create a new WAN connection.

GPON Home Gateway

Network > WAN

WAN Connection List	1_VOIP_TR069_R_VID_0
Delete	<input type="checkbox"/>
Enable/Disable	<input checked="" type="checkbox"/>
NAT	<input checked="" type="checkbox"/>
Service:	<input checked="" type="checkbox"/> VOIP <input checked="" type="checkbox"/> TR-069 <input type="checkbox"/> INTERNET <input type="checkbox"/> IPTV
Enable VLAN	<input type="checkbox"/>
VLAN ID	<input type="text"/>
VLAN PRI	<input type="text"/>
WAN IP Version	IPv4+IPv6
WAN IP Mode	DHCP
IPV6 Address/Prefix	IA_NA
OPTION 60 Enable	<input type="checkbox"/>
Vendor Class ID	ASCII Mode <input type="text"/>

Save Refresh

Figure 11: WAN

The following table describes the parameters.

Parameter Description

Parameter	Description
WAN Connection List	By default there is a TR-069 connection. Another option is to create a new WAN connection.
Delete	Select this check box to delete this WAN connection.
Enable/Disable	Enables or disables this WAN connection.
NAT	Enables or disables the NAT function.
Service	Includes four service types: VOIP, TR-069, Internet, and IPTV.
Enable VLAN	Select this check box to enable VLAN feature on WAN port. When selected, the below VLAN ID setup, and 802.1p priority setup will be configurable. Otherwise they can not be configured.
VLAN ID	Setup VLAN ID of WAN.
VLAN PRI	IEEE 802.1p Priority of WAN.
WAN IP Version	Includes three options: IPV4, IPV6, and IPV4+IPV6. If IPV4 is selected, it will be requested to enable/disable OPTION 60 Enable and input Vendor Class ID . If IPV6 is selected, it will be requested to select IPV6 Address/Prefix .
WAN IP Mode	Used to select the method to get the WAN IP address. There are three options: PPPoE, DHCP, and Static IP. If PPPoE is selected, it will be requested to input username/password, and keep alive time. If Static IP is selected, it will be requested to input the IP address, netmask, gateway, Primary DNS and Second DNS address.

After the configurations are done, click *Save* button to save it.

Wi-Fi

The Wi-Fi page is used to configure the basic wireless network parameters.

Note: Wi-Fi page only applies to the T073G and T077G.

The screenshot displays the configuration interface for the GPON Home Gateway's Wi-Fi settings. The page is titled 'GPON Home Gateway' and shows the navigation path 'Network > WiFi'. On the left, there is a sidebar menu with options: Status, Network (selected), LAN, WAN, WiFi (selected), Routing, DNS, TR-069, DSCP Remark, DNS_Suffix, Security, Application, and Maintain. The main configuration area includes the following parameters:

Parameter	Value
Enable	<input checked="" type="checkbox"/>
Mode	auto(b/g/n)
Channel	Auto
Transmitting Power	100%
WiFi Mac Filter	Disable
SSID Select	SSID1
SSID Name	1025
Enable SSID	Enable
SSID Broadcast	Enable
SSID Isolate	Disable
Enable WPS	Enable
WPS Mode	PBC
PIN Code Number	
WPS Connect	<input type="button" value="WPS Connect"/>
Encrypt Mode	OPEN

At the bottom of the configuration area, there are two buttons: 'Save' and 'Refresh'.

Figure 12: Wi-Fi

The following table describes the parameters.

Parameter Description

Parameter	Description
Enable	Enables wireless network.
Mode	Select working mode, including the following modes: Auto (b/g/n), n, b/g, b and g.
Channel	By default, the channel is selected automatically.
Transmitting power	Select the transmitting power, including the following modes: 100%, 75%, 50% and 25%
Wi-Fi MAC Filter	Enables or Disables Wi-Fi MAC Filtering.
SSID Select	Select the SSID to be configured.
SSID Name	Configure SSID name.
Enable SSID	Enables or Disables this SSID.
SSID Broadcast	Enables or Disables Broadcast. Disable SSID broadcast will cause the terminal can not use passive scan to get the SSID.
SSID Isolate	Enables or Disables SSID Isolate. Enable Isolate will cause the PC connecting to its AP cannot be ping.
Enable WPS	Enables wireless protected setup function. Disable this function will cause PC and AP cannot match codes.
WPS Mode	Includes two modes: PBC and PIN. PBC is as known as one key encryption mode. There is no need to input the PIN code with PBC mode. In the PIN mode, it is needed to input the PIN code. The two modes need the support from wireless applications on user's wireless adapters.
PIN Code Number	When PIN mode is selected as WPS mode, it needs to input the PIN code generated by user's wireless card application.
WPS Connect Button	Enables WPS interaction. This can also be done by the WPS button on ONT hardware.

Encryption Mode	<p>Includes:</p> <ul style="list-style-type: none">• Open: No encryption, no need to input key• WEP: Open system and shared key modes. When the key is 64 bits, it needs to input 5 ASCII characters or 10 Hex characters. When the key is 128 bits, It needs to input 13 ASCII characters or 26 Hex characters• WPA/WPA2 Personal: It needs to input WPA encryption mode, WPA version, and WPA key• WPA/WPA2 Enterprise: It needs to input Radius server address, port number, and WPA key number <p>Note: When WPS is enable, encryption mode must be WPA/WPA2 Personal.</p>
-----------------	---

After the configurations are done, click *Save* button to save it.

Public Bridged WiFi

The multi-VLAN, multi-SSID feature enables public bridged WiFi service on one VLAN/SSID per ONT.

Follow the steps below to configure public bridged WiFi:

Note: Admin-level privileges are required.

1. Create a new WAN connection and select the **Public WiFi** checkbox.

GPON Home Gateway

Logout

Network > WAN

WAN Connection List

Create One New Connection 

Public Wifi



VLAN ID

VLAN PRI

SSID Port Binded

SSID1 SSID2 SSID3 SSID4

Save

Refresh

- Set the VLAN ID, VLAN PRI, and SSID values.

GPON Home Gateway
Logout

Network > WAN

WAN Connection List 2 PUBLIC WIFI VID 100 ▾

Public Wifi

VLAN ID

VLAN PRI

SSID Port Bound
 SSID1
 SSID2
 SSID3
 SSID4

Save
Refresh

- Under the WiFi setup page, finish the configuration of the selected SSID.

For the selected parameters shown below, the following settings are recommended:

Parameter	Recommended Value
Mode	Auto (b/g/n)
Channel	Auto-selected value
WiFi MAC Filter	Disable
SSID Broadcast	Enable
SSID Isolation	Enable
WPS parameters	N/A
Encrypt Mode	OPEN

GPON Home Gateway

[Logout](#)

Network > WiFi

Enable	<input checked="" type="checkbox"/>
Mode	auto(b/g/n) <input type="button" value="v"/>
Channel	11 <input type="button" value="v"/>
Transmitting Power	75% <input type="button" value="v"/>
WiFi Mac Filter	Enable <input type="button" value="v"/>
SSID Select	SSID4 <input type="button" value="v"/>
SSID Name	<input type="text" value="B9FA-4"/>
Enable SSID	Enable <input type="button" value="v"/>
SSID Broadcast	Enable <input type="button" value="v"/>
SSID Isolate	Disable <input type="button" value="v"/>
Enable WPS	Disable <input type="button" value="v"/>
WPS Mode	PBC <input type="button" value="v"/>
PIN Code Number	<input type="text"/>
	<input type="button" value="WPS Connect"/>
Encrypt Mode	OPEN <input type="button" value="v"/>
	<input type="button" value="Save"/> <input type="button" value="Refresh"/>

Routing

The Routing configuration is used to configure the static routing parameters.

GPON Home Gateway

Network > Routing

- Status
- Network
- LAN
- WAN
- WiFi
- Routing
- DNS
- TR-069
- DSCP Remark
- DNS_Suffix
- Security
- Application
- Maintain

IP Protocol Version IPv4

Destination IP Address

Destination Netmask

Gateway

IPv4 Interface br0

Destination IP Address	Destination Netmask	Gateway	Interface	Delete
192.168.100.1	255.255.255.0	192.168.1.1	br0	<input type="button" value="Delete"/>

Figure 13: Routing

The following table describes the parameters.

Parameter Description

Parameter	Description
IP Protocol Version	Select the IP protocol version. Currently only IPv4 is available.
Destination IP Address	Input the destination IP address.
Destination Netmask	Input the destination subnet Mask.
Gateway	Input the outgoing gateway address.
IPv4 Interface	Select the WAN ports that this route uses. Note : "br0" means the WAN port of ONU itself.
Add Button	Click this button, to add a new static routing rule for above parameters.
Delete Button	Delete the MAC to IP binding rule in the local gateway tables.
Save Button	Save the configuration.
Refresh Button	Clear the configuration without being saved.

After the configurations are done, click *Save* button to save it. Reboot the device to make the modification to take effects. Refer to *Reboot Device* (on page [52](#)) or press reset button to reboot the system.

DNS

The *DNS* configuration is used to configure the specific DNS information.

The screenshot shows the DNS configuration interface for a GPON Home Gateway. The page is titled "GPON Home Gateway" and the current view is "Network > DNS". A left-hand navigation menu includes sections for Status, Network (selected), LAN, WAN, WiFi, Routing, DNS (sub-selected), Security, Application, and Maintain. Under the DNS section, there are links for TR-069, DSCP Remark, and DNS_Suffix. The main configuration area contains two input fields: "Domain Name" and "IP Address", followed by an "Add" button. Below these is a table with three columns: "Domain Name", "IP Address", and "Delete". At the bottom of the configuration area are "Save" and "Refresh" buttons.

Figure 14: DNS

The following table describes the parameters.

Parameter Description

Parameter	Description
Domain Name	Input the domain name here.
IP Address	Input the related IP address of the domain name.
Add Button	Add this entry into the local DNS table.
Delete Button	Delete the MAC to IP binding rule in the local gateway tables.
Save Button	Save the configuration.
Refresh Button	Clear the configuration without being saved.

After the configurations are done, click *Save* button to save it.

TR-069

Manage remote ITMS server configuration.

Figure 15: TR-069

The following table describes the parameters.

Parameter Description

Parameter	Description
Periodic Inform Enable	Enables or disables periodical Inform
Periodic Inform Interval(s)	The duration in seconds to give connection request to ITMS server
URL	ITMS server address
Username	ITMS server user name for ONU to access it.
Password	ITMS server password for ONU to access it
Connect Request Username	User name for ITMS Server to access ONU
Connect Request Password	Password for ITMS Server to access ONU

After the configurations are done, click *Save* button to save it.

DSCP Remark

The *DSCP Remark* configuration is used to configure DSCP Remark information.

GPON Home Gateway Logout

Network > DSCP Remark

Enable Queue Management

Enable Queue Classification

Classification Order

Wan Interface

Destination IP Address

Destination Netmask

Protocol

Destination Start Port

Destination End Port

DSCP Remark

Enable	Classification Order	Wan Interface	Destination IP Address	Destination Netmask	Protocol	Destination Start Port	Destination End Port	DSCP Remark	Delete

Figure 16: DSCP Remark

The following table describes the parameters.

Parameters Description

Parameter	Description
Enable Queue Management	Enable or Disable Queue Management.
Enable Queue Classification	Enable or Disable Queue Classification.
Classification Order	32 rules are supported for DSCP Remark.
Wan Interface	Select the Wan port of the Queue management service.

Parameter	Description
Destination IP Address	Input the destination IP address.
Destination Netmask	Input the destination Netmask.
Protocol	Includes three protocols: TCP, UDP and ICMP. In the TCP and UDP protocols, it is needed to input the Destination Start Port and Destination End Port .
Destination Start Port	Input the destination start port number
Destination End Port	Input the destination end port number
DSCP Remark	New DSCP value.
Add Button	Add this entry into the DSCP Remark table.
Delete Button	Delete the MAC to IP binding rule in the local gateway tables.
Save Button	Save the configuration.
Refresh Button	Clear the configuration without being saved.

DNS_Suffix

The *DNS_Suffix* configuration is used to configure DNS_Suffix information for the specific WAN interface.

The screenshot shows the configuration interface for the GPON Home Gateway. The main content area is titled 'Network > DNS_Suffix'. It features a table with the following structure:

Domain	Routed wan	Delete
<input type="text"/>	1_VOIP_TR069_R_VID_0	

Below the table are buttons for 'Add', 'Save', and 'Refresh'. A sidebar on the left contains navigation options: Status, Network (selected), LAN, WAN, WiFi, Routing, DNS, TR-069, DSCP Remark, DNS_Suffix (highlighted), Security, and Application.

Figure 17: DNS_Suffix

The following table describes the parameters.

Parameters Description

Parameter	Description
Domain	Enter the DNS domain, such as .net .
Routed wan	Select the WAN connection.
Add Button	Add this entry into the DNS_Suffix table.
Delete Button	Delete the MAC to IP binding rule in the local gateway tables.
Save Button	Save the configuration.
Refresh Button	Clear the configuration without being saved.

Security

There are 4 options in the Security page, including Firewall, MAC Filter, IP Filter and DMZ and ALG.

Firewall

In the Firewall page, you can select firewall security level and whether to enable protection for DoS attack.

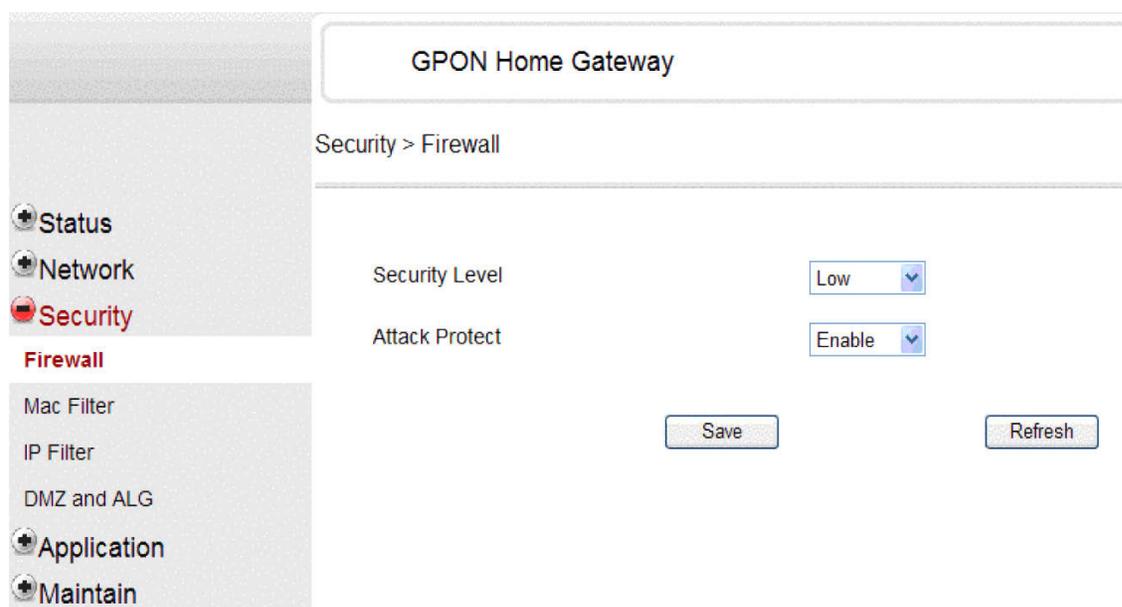


Figure 18: Firewall

The following table describes the parameters.

Parameter Description

Parameter	Description
Security Level	Select <i>High</i> to block all non-secure external access. Select <i>Middle</i> or <i>Low</i> to allow external access for HTTP, FTP, and ICMP protocols. Recommends to set the level to <i>High</i> .
Attack Protect	Enables or Disables Denial of Service (DoS) Attack Prevention.

After the configurations are done, click *Save* button to save it.

MAC Filter

In the MAC Filter page, you can add MAC filtering rules.

GPON Home Gateway

Security > Mac Filter

Enable Mac Filter

Mac Address

Mac Filter Mode Black ▼

Default Policy Accept ▼

Mode	Mac Address	Delete
------	-------------	--------

Figure 19: MAC Filter

The following table describes the parameters.

Parameter Description

Parameter	Description
Enable MAC Filter	Enables or disables MAC address filtering function.
MAC Address	Input MAC Address.
MAC Filter Mode	Include Black List and White List. Black List means access denied for MACs that fit this filtering rule. White list means access allowed for MACs that fit this filtering rule.
Add Button	Click this button, to add a new filtering rule for above parameters.
Default Policy	Including two options: access deny or access allow. It's used to indicate the handling mode of the MAC that does not meet the filtering rules.
Delete Button	Delete the MAC to IP binding rule in the local gateway tables.
Save Button	Save the configuration.
Refresh Button	Clear the configuration without being saved.

After the configurations are done, click *Save* button to save it.

IP Filter

In the IP Filter page, you can add IP filtering rules.

GPON Home Gateway
Logout

- Status
- Network
- Security
- Firewall
- Mac Filter
- IP Filter
- DMZ and ALG
- Application
- Maintain

Security > IP Filter

Enable IP Filter

Mode Drop ▾

Source Start IP Address

Source End IP Address

Destination Start IP Address

Destination End IP Address

Protocol ALL ▾

Mode	Source Start IP Address	Source End IP Address	Source Start Port	Source End Port	Destination Start IP Address	Destination End IP Address	Destination Start Port	Destination End Port	Protocol	Delete

Figure 20: IP Filter

The following table describes the parameters.

Parameter Description

Parameter	Description
Enable IP Filter	Enables or disables IP filter function.
Mode	Includes two mode: Drop or Accept. Drop means blocking the IP flows that meet the rule. Accept means allowing the IP flows that meet the rule.
Source Start IP Address	Setup the source IP start address.
Source End IP Address	Setup the source IP end address.
Destination Start IP Address	Setup the destination IP start address.
Destination End IP Address	Setup the destination IP end address.
Protocol	Select the protocols, including the following options: <ul style="list-style-type: none">• ALL: all protocols• TCP• UDP• TCP/UDP• ICMP
Add Button	Click this button, to add a new filtering rule for above configurations.

After the configurations are done, click *Save* button to save it.

DMZ and ALG

In *DMZ and ALG* page, you can do advance NAT configuration like ALG and DMZ.

Figure 21: DMZ and ALG

The following table describes the parameters.

Parameter Description

Parameter	Description
ALG Config	Enables ALG function
Save ALG button	Click to save ALG configuration
WAN Connection List	Select to use DMZ function on which WAN link
Enable DMZ	Enables or Disables DMZ function
DMZ IP Address	Input DMZ host IP address
Save DMZ Button	Click to save DMZ Configuration

Application

In Application page, there are 4 options, including NAT, DDNS, NTP, and USB Storage.

NAT

In *NAT* page, you can enable *NAT FullCone* and do port forwarding configuration. Port forwarding makes the server running on ONU LAN side with private addresses (like Web server, FTP server) can be accessed by external users from WAN port.

GPON Home Gateway Logout

Application > NAT

NAT FullCone

Enable NAT FullCone

Save

Port Forwarding

WAN Port ~

LAN Port

LAN IP Address

Protocol

Enable Mapping

WAN Connection List

Add

WAN Port	LAN Port	LAN IP Address	Protocol	Status	Delete
----------	----------	----------------	----------	--------	--------

Figure 22: NAT

The following table describes the parameters:

Parameters Description

Parameter	Description
Enable NAT Fullcone	Check to enable the NAT Fullcone. Or the symmetric cone NAT is enabled.
WAN Port	Input WAN side port range used by port forwarding
LAN port	Input LAN port used by port forwarding
LAN IP address	Input LAN side IP address
Protocol	Select the protocol for port forwarding <ul style="list-style-type: none">• TCP• UDP• All
Enable mapping	Enables or disables mapping between WAN port and LAN port
WAN Connection List	Select which WAN link to use port forwarding setup
Add Button	Create a new mapping rule using above port forwarding setup

DDNS

The Dynamic DNS service can be used to map a domain name to a dynamic IP address. Thus the ONT gateway can easily be accessed from the Internet. Use DDNS configuration to configure the dynamic DNS service.

Figure 23: DDNS

The following table describes the parameters:

Parameters Description

Parameters	Description
WAN Connection List	Select WAN Connection Link for DDNS setup
Enable DDNS	Enables or Disables DDNS service
ISP	Select available service provider for DDNS service. <ul style="list-style-type: none"> • DynDNS.org • gnudip • tzo • ods
Domain Name	Input DDNS Service Provider Domain Name
Username	Input DDNS account user name
Password	Input DDNS account password

After the configurations are done, click *Save* button to save it.

NTP

NTP management is used to setup the ONU time to be synchronized with network time server.

Figure 24: NTP

The following table describes the parameters:

Parameters Description

Parameters	Description
Enable NTP Server	Enables or disables network time synchronization service
Current Time	Display current system time
First Time Server	Select first NTP server address. When select <i>Customer Setting</i> , user needs to enter his own time server address.
Second Timer Server	Select second NTP server address. When select <i>Customer Setting</i> , user needs to enter his own time server address.
Interval Time	Input the timing synchronization cycle interval
Time Zone	Select the time zone the user is located in

After the configurations are done, click *Save* button to save it. Reboot the device to make the modification to take effects. Refer to *Reboot Device* (on page [52](#)) or press reset button to reboot the system.

USB Storage

USB Storage is used to configure a FTP server for external user to access the local USB storage.

Note: USB Storage option only applies to T073G and T077G. USB storage is only accessible through LAN side.

GPON Home Gateway Logout

Application > USB Storage

Enable FTP Server
 Username
 Password
 Re-enter Password

HOST NUM	DEV NUM	Format

Figure 25: USB Storage

Note: HOST NUM is USB number. DEV NUM is USB subarea number

The following table describes the parameters:

Parameters Description

Parameters	Description
Enable FTP Server	Enables or disables FTP service
Username	Username for FTP service
Password	Password for FTP service
Re-enter password	Re-Enter the password for FTP service

After the configurations are done, click *Save* button to save it.

Maintain

In Maintain page there are 10 options, including Password, SLID Configuration, Configuration Backup, Configuration Restore, Firmware Upgrade, Reboot device, Factory Default, Diagnose, Log, and Language.

Password

In the Password, you can modify the user password.

The screenshot shows the 'GPON Home Gateway' web interface. At the top right, there is a 'Logout' link. The main content area is titled 'Maintain > Password'. On the left, a navigation menu lists various options: Status, Network, Security, Application, Maintain (highlighted), Password (highlighted), SLID Configuration, Configuration Backup, Configuration Restore, Firmware Upgrade, Reboot Device, Factory Default, Diagnose, Log, and Language. The main form contains four input fields: 'Original Password', 'New Password', 'Re-enter Password', and 'Prompt Message'. Below the fields are two buttons: 'Save' and 'Refresh'.

Figure 26: Password

The following table describes the parameters:

Parameters Description

Parameter	Description
Original Password	Enter the original password.
New Password	Enter a new password.
Re-enter new password	Enter the new password again.
Prompt Message	The message reminds you of the password, such as birthday.

After the configuration is done, click Save.

SLID Configuration

One can modify the SLID of the ONT on this screen.

The screenshot shows the 'GPON Home Gateway' interface. The breadcrumb is 'Maintain > SLID Configuration'. The current SLID (HEX Mode) is 30306234323930333639 and the current SLID (ASCII Mode) is 00b4290369. There is an input field for 'Input New SLID' and a dropdown menu for 'SLID Mode' currently set to 'ASCII Mode'. A note explains that the dot (.) represents space and invisible characters. Examples are provided for ASCII Mode (max 10 characters) and HEX Mode (max 20 characters). A red warning message at the bottom states: 'WARNING: Change PLOAM Password information will result in losing all Services'.

Figure 27: SLID Configuration

The following table describes the parameters:

Parameters Description

Parameter	Description
Current SLID (HEX Mode)	Display the current SLID of ONT in HEX mode.
Current SLID (ASCII Mode)	Display the current SLID of ONT in ASCII mode.
Input New SLID	Input the new SLID of the ONT
SLID Mode	Select the SLID mode. There are modes: ASCII and HEX.

Note: SLID configuration is PLOAM password.

After the configuration is done, click Save.

Configuration Backup

In this page, one can Backup the ONT configuration.

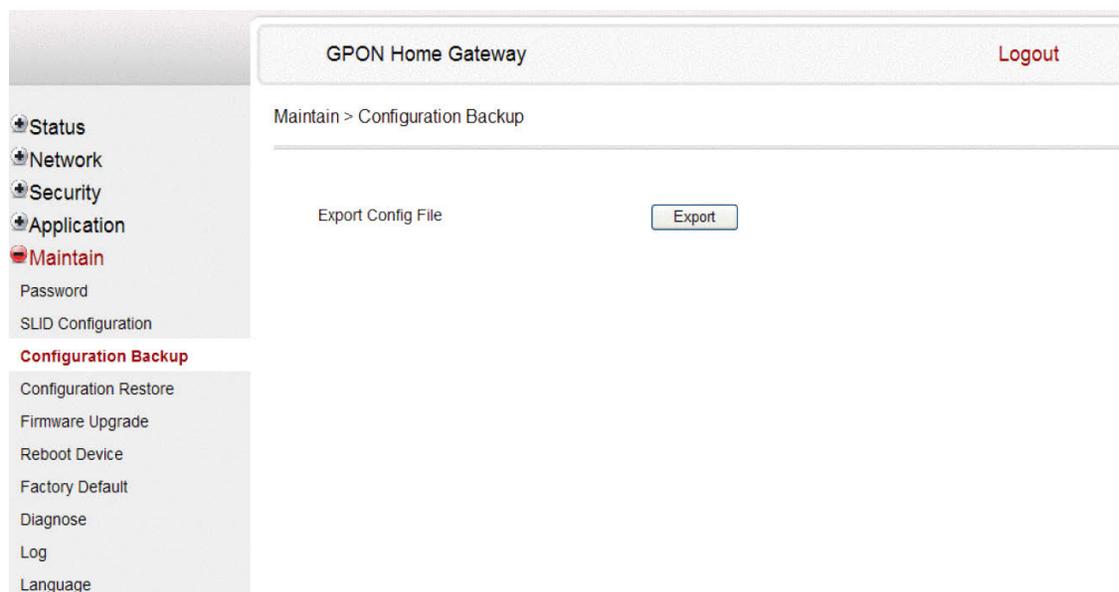


Figure 28: Configuration Backup

The following table describes the parameters:

Parameters Description

Parameter	Description
Export Config File	Click to backup system configuration to the file

Configuration Restore

In this page, one can restore the ONT configuration.

The screenshot shows the 'Configuration Restore' page in a web interface. At the top, there is a header bar with 'GPON Home Gateway' on the left and 'Logout' on the right. Below the header, the breadcrumb trail reads 'Maintain > Configuration Restore'. The main content area contains two sections: 'Select File' with an empty text input field and a 'Browse...' button, and 'Import Config File' with an 'Import' button. On the left side, there is a vertical navigation menu with items: Status, Network, Security, Application, Maintain (highlighted in red), Password, SLID Configuration, Configuration Backup, Configuration Restore (highlighted in red), Firmware Upgrade, Reboot Device, Factory Default, Diagnose, Log, and Language.

Figure 29: Configuration Restore

The following table describes the parameters:

Parameters Description

Parameter	Description
Select File	Select the configuration file name
Import Config File	Click to restore system configuration from the file

Firmware Upgrade

In this page, you can upgrade the ONT firmware.

The screenshot shows the 'GPON Home Gateway' interface. At the top right, there is a 'Logout' link. The main navigation menu on the left includes: Status, Network, Security, Application, **Maintain** (highlighted), Password, SLID Configuration, Configuration Backup, Configuration Restore, **Firmware Upgrade** (highlighted), Reboot Device, Factory Default, Diagnose, Log, and Language. The main content area displays 'Maintain > Firmware Upgrade'. Below this, there is a 'Select File' label, a text input field, and a 'Browse...' button. Below that is an 'Upgrade' label and an 'Upgrade' button.

Figure 30: Firmware Upgrade

The following table describes the parameters:

Parameters Description

Parameter	Description
Select File	Select the firmware file name
Upgrade button	Click to upgrade the ONT firmware from the file

Reboot Device

In this page, one can reboot the ONT

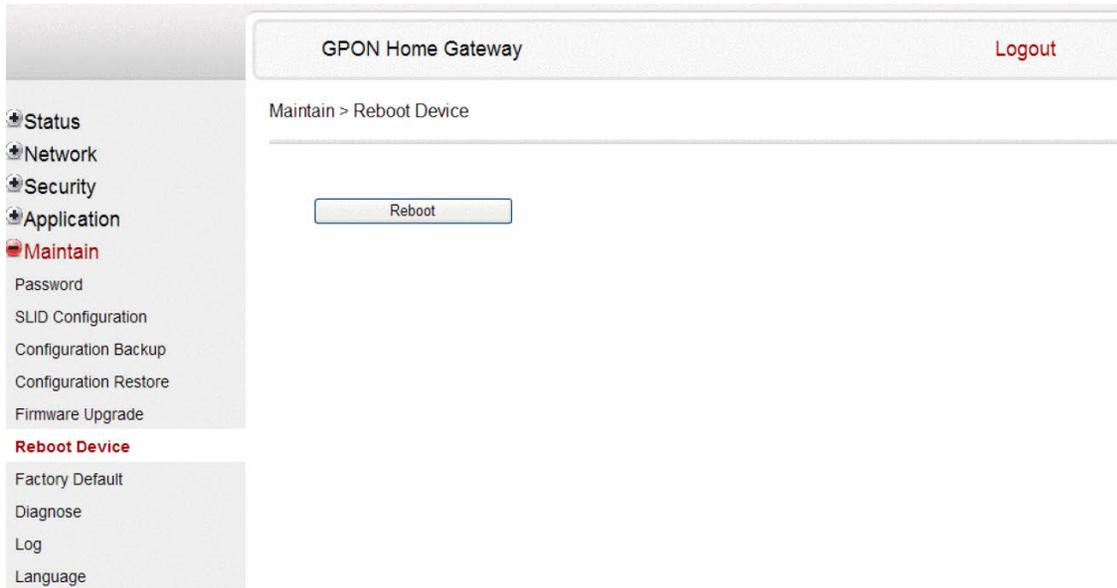


Figure 31: Reboot Device

The following table describes the parameters:

Parameters Description

Parameter	Description
Reboot button	Click to reboot the ONT

Factory Default

In this page, one can reset the configuration to factory default



Figure 32: Factory Default

The following table describes the parameters:

Parameters Description

Parameter	Description
Factory Default	Click to reset the ONT to factory default

Diagnose

Diagnose page includes ping and traceroute test and manual reporting functions.

Figure 33: Diagnose

The following table describes the parameters:

Parameters Description

Parameter	Description
WAN Connection List	Select WAN connection for testing
IP address or domain name	Input valid IP address or domain name for test.
Test	Select ping test, or trace route test, and select the protocol type: IPv4 or IPv6.
Start Test button	Click this button to start the test
Show Result button	Click this button to show the test result

Log

In this page, one can view the log file of ONT

GPON Home Gateway Logout

Maintain > Log

Writing Level

Reading Level

```

Manufacturer: CIGG
ProductClass: SBM4F00ARA
SerialNumber: D0542D-J0534D0542D243878
IP: 192.168.1.1
HWVer: 00183-00002-22
SWVer: R4.1.18.424

2000-01-01 00:01:40 [Informational] admin at 192:168:1:9 has logined in.
2000-01-01 00:05:01 [Informational] admin at 192:168:1:9 has logined in.
2000-01-01 00:01:28 [Informational] admin at 192:168:1:9 has logined in.
2000-01-01 00:02:53 [Alert] 104001 The system will reboot now.
2000-01-01 00:01:33 [Informational] admin at 192:168:1:9 has logined in.
  
```

Figure 34: Log

The following table describes the parameters:

Parameters Description

Parameter	Description
Writing Level	Select the Log writing level
Reading Level	Select the Log reading level
Save button	Click to save the log configuration into a file on the local PC
Refresh button	Click to refresh the log file from ONU

Language

In this page, one can select the language of the web GUI.



Figure 35: Language

The following table describes the parameters:

Parameters Description

Parameter	Description
Select Language	Select English or Russia from the drop-down list.



Chapter 2

LEDs

The T07xG ONTs have several LEDs on the front panel to assist with installation and maintenance procedures.

Note: The LEDs may temporarily display off or red while the ONT is booting.

T072G LEDs

Figure T072G LEDs shows the locations of T072G LEDs.

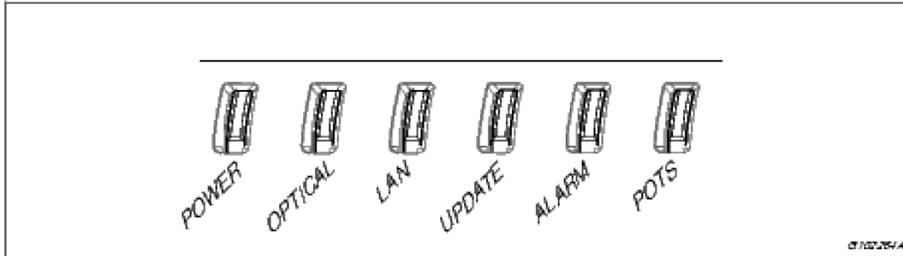


Figure 36: T072G LEDs

Table T072G LED Description describes the LEDs and the signal descriptions.

T072G LED Description

LED	Color	Status	Indication
POWER	Green	Solid	System Power on
		Off	System Power off
OPTICAL	Red	Solid	Optical interface abnormal (LOS/LOF)
		Off	Optical interface abnormal (LOS/LOF)
	Green	Solid	ONT is working normally
		Blink	ONT is in ranging and synchronization process
Off	ONT is in Emergency-Stop-State		
LAN	Green	Solid	Ethernet service is provisioned
		Blink	Link is up and there is activity data transmission
		Off	Ethernet service is not provisioned
UPDATE	Green	Blink	Upgrading
	Red	Solid	Upgrade failed
		Off	Normal
ALARM	Green	Solid	No alarm with local Ethernet access enabled
	Red	Solid	Hardware out of order
		Off	No alarm
POTS	Green	Solid	At least one POTS interfaces is off-hook
		Blink	At least one POTS interfaces is off-hook for at least one hour
		Off	All POTS interfaces are on-hook or the ONT is not ready for running POTS service

T073G, T076G, and T077G LEDs

The figures below show the location of LEDs on the T073G, T076G, and T077G ONTs.

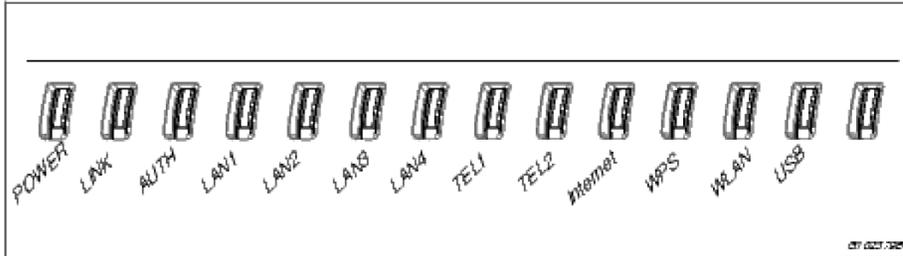


Figure 37: T073G LEDs

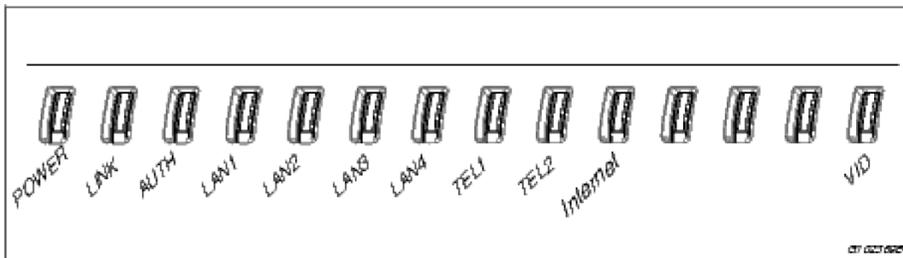


Figure 38: T076G LEDs

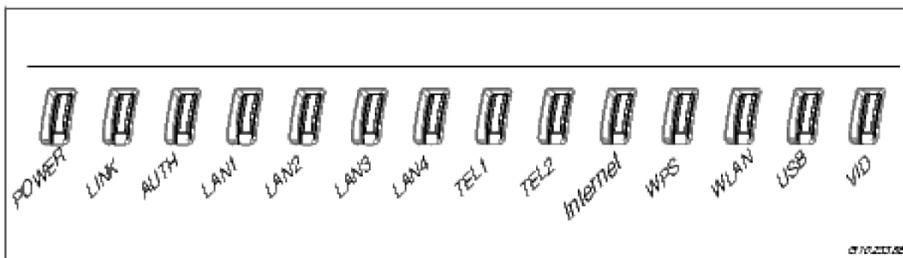


Figure 39: T077G LEDs

Table **T073G, T076G, and T077G LED Description** describes the LEDs and the signal descriptions.

T073G, T076G, and T077G LED Description

LED	Color	Status	Indication
POWER	Green	Solid	ONT is operating from AC power
		Slow Blink	ONT is operating from UPS power
		Fast Blink	System Booting
	Red	Solid	UPS battery low
LINK	Green	Solid	Optical link is OK
		Off	Optical link is NOT OK
AUTH	Green	Solid	ONU is authorized
		Blink	ONU is registering
		Off	ONU is NOT authorized
LAN1/ LAN2 LAN3/ LAN4	Green	Solid	LAN port connected, but no data transmission.
		Blink	LAN port has data transmission
		Off	LAN port is not connected to terminal device or system power is off
TEL1/ TEL2	Green	Solid	Already register to soft-switch, but no service flow
		Blink	There is service flow on this port
		Off	System power is off, or is not registered to soft-switch
Internet	Green	Solid	Indicate PPPoE or DHCP sign up completed successfully. Internet is connected
		Blink	Indicate to be getting IP with PPPoE or DHCP
		Off	Indicate WAN is not configured
WPS	Green	Solid	Register successfully
	Yellow	Blink	Register is in progress
	Red	Blink	Session Overlap Detected or WPS Error
	Green	Off	WPS function is not enable, or system power is off
WLAN	Green	Solid	Wireless Interface enable
		Blink	Data transmitting at wireless interface
		Off	Wireless interface disable, or system power off

LED	Color	Status	Indication
USB	Green	Solid	USB interface connected and working on host mode, but there is no data transmission
		Blink	USB interface has data transmission
		Off	USB interface has no connection, or system power is off
VID	Green	Solid	The received optical signal power level is above the prescribed limit
		Off	Indicates that the Video optical band being received by the ONT/ONU is lower a prescribed limit.

Chapter 3

Frequent Asked Questions

Q: Why are all the LEDs off?

A: Please check the connection between power adapter and the ONT. Please make sure power switch is turned on.

Q: Why are the LAN LEDs off?

A: Please check the cable connections between ONT and PC, or hub/switch. Please check the status of PC or hub/switch, make sure they are running properly. Please check whether the network cable is broken.

Q: Why is the OPTICAL LED off?

A: Please check the connection between PON port and the fiber.

Q: Why cannot I open the ONT configuration page?

A: Please follow below procedures to check the connection between PC and ONT:

Select Start > Run, input Ping command: `ping 192.168.1.1` (ONT IP address).

If ping is failed for ONT, please check following configuration:

1. Make sure network cable is not broken.
2. Check cable connection between ONT and PC.
3. Check the TCP/IP configuration of your PC.

Q: How to restore to factory defaults after wrong configuration?

A: Insert a long pin to “Reset” hole, press and hold it for 5 seconds. ONT will reset automatically. After the reset, ONT will be back to factory default.

The default IP address/subnet mask is: 192.168.1.1/255.255.255.0.

Default user name/Password is: admin/admin.

Chapter 4

Abbreviations

Abbreviations

DDNS	Dynamic Domain Name Server
DHCP	Dynamic Host Configuration Protocol
DMZ	Demilitarized Zone
DNS	Domain Name Server
DoS	Denial of Service
FTP	File Transfer Protocol
FTTH	Fiber To The Home
GUI	Graphical User Interface
HTTP	Hyper Text Transfer Protocol
ICMP	Internet Control Message Protocol
IGMP	Internet Group Management Protocol
ISP	Internet Service Provider
iTV	Internet Television
LAN	Local Area Network
MAC	Media Access Control
NAT	Network Address Translation
ONT	Optical Network Unit
OLT	Optical Line Terminal
PON	Passive Optical Network

PPPoE	Point to Point Protocol over Ethernet
QoS	Quality of Service
RIP	Routing Information Protocol
SIP	Session Initiation Protocol
SOHO	Small Office Home Office
SSID	Service Set Identifier
STB	Set Top Box
UDP	User Datagram Protocol
UPNP	Universal Plug and Play
URL	Uniform Resource Locator
TCP	Transmission Control Protocol
VLAN	Virtual Local Area Network
VoIP	Voice over IP
WLAN	Wireless Local Area Network