ECI Telecom Ltd.
30 Hasivim Street, P.O.Box 500
Petach Tikva 49517, Israel
Tel: +972-3-926-6555 Fax: +972-3-928-7100
www.ecitele.com

ONT B-FOCuS O-4F2PW/O-4G2PW
Hardware Installation Manual

Compliance with CE Marking Certification (Class B)

The equipment was tested and found to comply with **EN 60950-1:2001**. The equipment is tested and only used with power adaptor included in the package.

The equipment complies with the requirements according to the following standard:

ETSI EN 300 386 V1.3.3: 2005 Electromagnetic compatibility and radio spectrum Matters (ERM); Telecommunication network equipment; Electromagnetic compatibility (EMC) requirements

EN 61000-6-1:2001: Electromagnetic compatibility (EMC) — Part 6-1: Generic standards Immunity for residential, commercial and light-industrial environments.

EN 61000-6-3:2001: Electromagnetic compatibility (EMC) — Part 6-3: Generic standards — Emission standard for residential, commercial and light-industrial environments, which refers to the following basic standards:

EN 55 022+A1:2000+A2:2003： Information technology equipment – Radio disturbance characteristics Limits and methods of measurement.

EN 61000-4-2: 1995/+A1:1998/+A2:2001: Electromagnetic Compatibility (EMC) – Part 4: testing and measurement techniques – section 2: electrostatic discharge immunity test

EN 61000-4-3: 2002/+A1:2002: Electromagnetic Compatibility (EMC) – Part 4: testing and measurement techniques – section 3: radiated, radio frequency, electromagnetic field immunity test

EN 61000-4-4: 2004: Electromagnetic Compatibility (EMC) – Part 4: testing and measurement techniques – section 4: electric fast transient/burst immunity test

EN 61000-4-5: 1995/+A1: 2001: Electromagnetic Compatibility (EMC) – Part 4: testing and measurement techniques – section 5: surge immunity test

EN 61000-4-6: 1996/+A1:2001: Electromagnetic Compatibility (EMC) – Part 4: testing and measurement techniques – section 6: immunity to conducted disturbance, induced by radio frequency field.

EN 61000-4-11:2004: Electromagnetic Compatibility (EMC) – Part 4: testing and measurement techniques – section 11: voltage dips, short interruption and voltage variations immunity test

EN 61000-3-2:2000/+A2:2005: Limits for harmonic current emissions (equipment input current <=16A per phase)

EN 61000-3-3:1995/+A1:2001/+A2:2005: Limitation of voltage fluctuations and flicker in low-voltage supply systems for equipment with rated current <=16A

Table of Contents

About This Document

Purpose

This guide describes how to install the CIG optical network termination unit (ONT) at the customer premises.

Intended Audience

This document is intended for technicians responsible for:

- Unpacking and mounting the ONT and power supply
- Connecting the ONT to the PON network
- Connecting services to the ONT

Chapter Overview

This manual is organized as follows:

Chapter 1: Product Description

This chapter describes the introduction to the ONT including physical, electrical, environmental and optical specifications. Compliance information is also provided.

Chapter 2: Safety

This chapter provides electrical, electrostatic, and laser safety information; fiber optic cable handling techniques are also discussed.

Chapter 3: ONT installation

This chapter describes installation procedures including site preparation, unpacking and mounting the ONT, connecting power and fiber optic and cables, connecting service cables, activating the ONT, and verifying the installation.

Chapter 4: ONT Configuration

This chapter describes configuration of the ONT services, applications, interfaces and other configurable parameters.

Chapter 5: Troubleshooting

This chapter explains ONT LED behavior and provides basic troubleshooting guidelines.

1. Product Description

1.1 Introduction

Optical Network Terminal (ONT) model B-FOCuS O-4F2PW/O-4G2PW is an ITU-T G.984 compliant device that receives voice, data, and video traffic in the form of optical signal from the service provider's 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 via the fiber optic cable. A single optical fiber carries both upstream and downstream traffic.

1.2 Services

ONT B-FOCuS O-4F2PW/O-4G2PW is equipped with ITU-T G.984 compliant 2.5G Downstream and 1.25G Upstream GPON UPLINK interface, and the following service ports[1]:

- Four 10/100 Base-T Ethernet ports for high speed internet access and IPTV/VOD services
- Two POTS (VoIP) service ports for voice services
- Integrated 802.11b/g/n wireless

ONT B-FOCuS O-4F2PW/O-4G2PW has built-in capability for remote management like supervision, monitoring, and maintenance.

1.3 Features

The ONT incorporates the following features:

- Single fiber GPON interface with 1244Mbit/s upstream and 2488Mbit/s downstream data rates
- Advanced data features such as VLAN tag manipulation, classification, and filtering.
- Traffic classification and QoS capability
- 5 REN per line
- Multiple voice Codec
- Rich set of LED indications for alarming and maintenance
- Easy home network storage service

1.4 Specifications

ONT physical, electrical, optical, and environmental specifications and compliance information are listed in the following tables.

[1] Some customized models may only provide a subset of service interfaces mentioned in this manual, for example, only four 10/100 Base-T Ethernet ports are provided.

Dimensions	200mm (height) by 160mm (width) by 33mm (depth)
Weight	0.42 KG excluding power adaptor
GPON interface	SC/APC angled optical connector
POTS interface	RJ-11 connector
Ethernet interface	RJ-45 connector

Table 1 Physical specification

Input Power	+12V DC power input
Power Supply	AC power supply with included power adapter
Power Consumption	< 16W

Table 2 Electrical specification

Temperature	0 ~ 40° C
Humidity	10 ~ 90% relative humidity

Table 3 Environmental specification

PON	ITU-T G.984.1, G.984.2, G.984.2 amd1, G.984.3, G.984.4, G.983.2
EMC	ETSI EN 300386, EN 55022 (Class B)
Safety	EN 60950
Laser	● ITU-T Rec.G.984.2 (Class B+), G983.3 ● FCC 47 CFR Part 15, Class B ● FDA 21 CFR 1040.10 and 1040.11, Class I ● IEC 60825, Class I

Table 4 Compliance

	Minimum	**Nominal**	**Maximum**	**Notes**
Transmitter				
Wavelength	1260 nm	1310 nm	1360 nm	
Transmit power	0.5 dBm		+5 dBm	
Digital receiver				
Wavelength	1480 nm	1490 nm	1500 nm	
Sensitivity	-27 dBm			Minimum received power for BER<10-10
Overload			-8 dBm	Maximum received power for BER<10-10

Table 5 Optical specification

2. Safety

CAUTION: Product installation should be performed only by trained service personnel.

Read and follow all warning notices and instructions marked on the product or included in its packaging, and observe all safety instructions listed in this guide while handling any ONT.

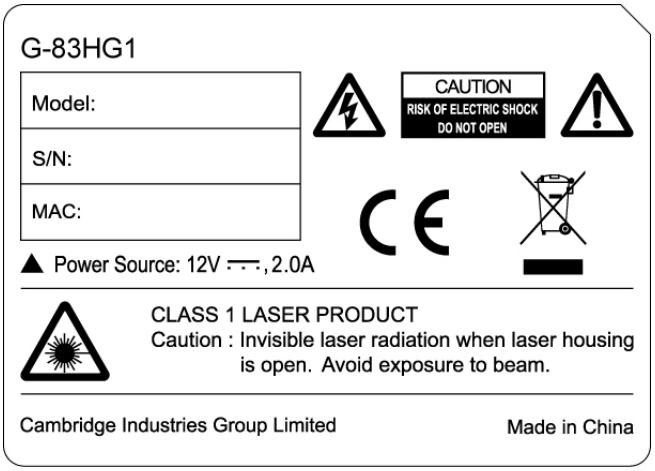


Figure 1 ONT B-FOCuS O-4G2PW Product label

2.1 Electrical Safety

- Always use caution when handling live electrical connections.
- Do not install electrical equipment in wet or damp conditions.
- Ensure that the power source for the system is adequately rated to assure safe operation and provides current overload protection.
- Do not allow anything to rest on the power cable, and do not place this product where people will stand or walk on the power cable.
- To avoid electric shock of user which caused by over-voltage from PSTN, DO NOT connect the POTS port on this unit directly to external PSTN line.
- This unit can only be used with the certified adaptor model inside the package, which complies with the requirement of limited power source.

DANGER: Do not open the enclosure without permission and technical support, which is dangerous and voids the warranty.

2.2 Laser Safety

CAUTION: Use of controls or adjustments, or performance of procedures other than those specified herein may result in hazardous laser radiation exposure.

Invisible laser radiation may be emitted from the ends of un-terminated fiber cables or connectors. Never look directly into an un-terminated cable or connector.

This ONT uses a class I laser device.

DANGER: Personnel handling fiber optic cables must be trained for laser safety.

CAUTION: Do not bend the fiber optic cable to a diameter smaller than 7.5 cm/3 inches. Doing so may damage the fiber or prevent the signal from passing through properly.

3. Installation

3.1 Site Preparation

3.1.1 Environmental Requirements

The ONT will operate in temperatures ranging from 0° C to 40° C, relatively humidity ranging from 10% to 90%.

3.1.2 Power Requirements

The ONT will be shipped with a universal power adaptor. However, before installation, check if the AC power input matches the specification printed on the power adaptor (input voltage, current, etc.)

CAUTION: Please use the power adaptor within the package only, or the replacement unit that provided by CIG. Other power adaptor may cause damage to the ONT and other disasters.

3.2 Get to Know the ONT

Look through the diagram below for getting an overview of several parts of the ONT.

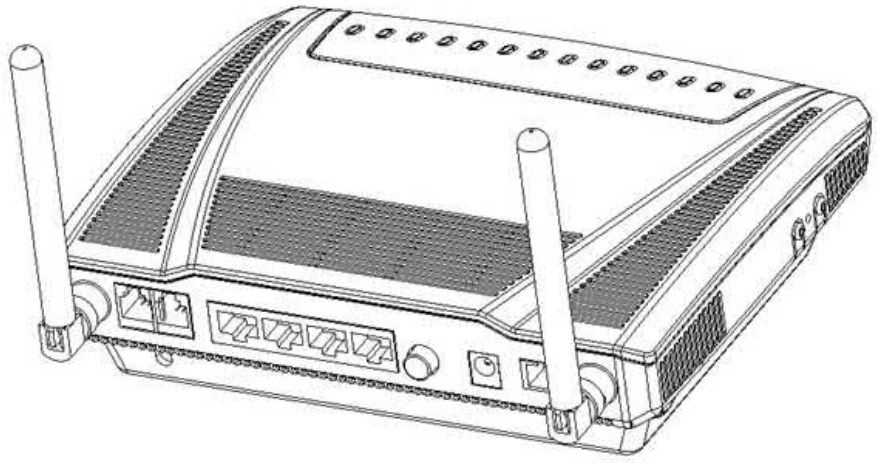


Figure 2 ONT Elements

3.3 Mountings & Connecting to Network

3.3.1 Install the ONT on Wall

1. Locate a safe and accessible site for installation.
2. Align the ONT mounting bracket on the wall. There are two mounting directions, either horizontal (Figure) or vertical (Figure). Make sure the install arrows is up when correctly mounted.

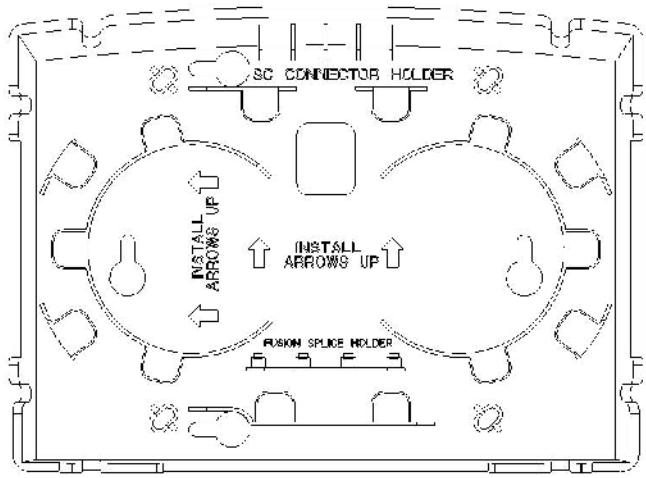


Figure 3 Bracket mounting: Horizontal direction

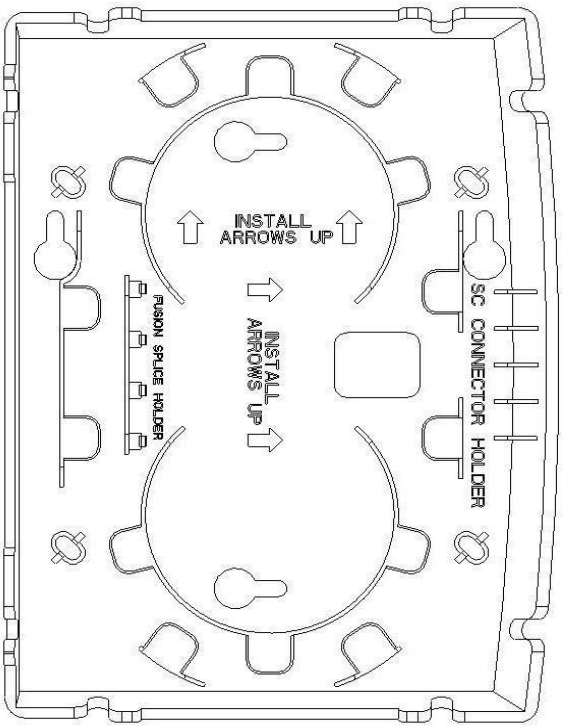


Figure 4 Bracket mounting: Vertical direction

3. Mount the bracket into a wall stud by driving the two sheet metal screws into the wall through the bracket mounting holes (Figure).

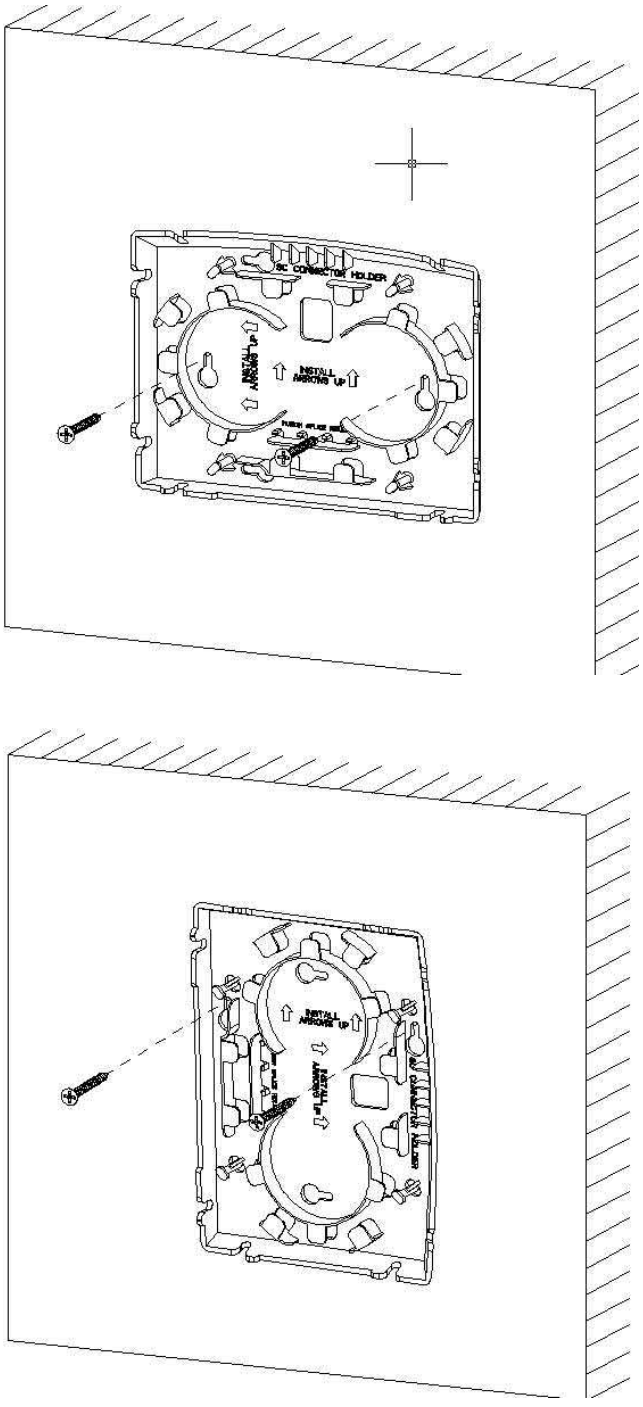


Figure 5 Mount the bracket into the wall

4. Wrap the fiber optical cable on the fiber storage tray. Make sure the SC/APC connector comes out from the bottom left side in case of horizontal mounting, or left up side in case of vertical mounting. Secure the fiber with the cable holder.

5. Slide the ONT unit into the mounting bracket in up to down direction, using the 4 guides on the bracket. Make sure the panel with the interfaces is facing down in case of horizontal mounting, or facing left in case vertical mounting.
6. Remove the dust covers from the SC/APC optical connectors. Clean the connector if necessary.
7. Plug in the fiber connector to connect the ONT to the network.

3.3.2 Install the ONT on Desktop

1. Locate a safe and accessible site for installation.
2. Place the ONT unit on the desk.
3. Remove the dust covers from the SC/APC optical connector. Clean the connectors if necessary.
4. Plug in the fiber connector to connect the ONT to the network.

3.3.3 Uninstall the ONT

For uninstall the ONT on the wall:

1. Plug out the SC/APC optical connector.
2. If necessary, slide the ONT unit out of the mounting bracket in down to up direction.
3. If necessary, remove the optical fiber cables.
4. If necessary, remove the bracket mounting screws and then remove the mounting bracket.

For uninstall the ONT on the desktop:

1. Plug out the SC/APC optical connector.
2. If necessary, remove the optical fiber cables.

3.4 Connecting Power

1. Plug the circle two pin 12V DC power connector of power converter to ONT power port
2. Plug the input of power converter into a live AC outlet
3. Verify that the power (PWR) LED on the ONT is lit green indicating that local power is on and voltage is good.

3.5 Connecting Telephone (POTS) Service

1. Locate the premises' telephone wire pair.
2. If the wire pair is not terminated, follow local practices to attach an RJ-11 connector..
3. Plug the wire pair with RJ-11 connector into one of the ONT RJ-11 phone jacks.
4. Repeat step 2-3 as needed to connect additional phone lines.

Pin	Signal	Pin	Signal
1	Unused	3	Tip
2	Ring	4	Unused

Table 6 POTS RJ-11 connector wiring pattern

DANGER: Please make sure the wire pair connected is from/to the telephone. Using the wire pair from/to the PSTN network falsely may cause damage to user and the device.

3.6 Connecting Ethernet Service

1. Locate the premises' Ethernet LAN cable.
2. If the cable is not terminated, follow local practices to attach an RJ-45 connector. Table shows Ethernet RJ-45 connector wiring information.
3. Plug the Ethernet cable into the ONT RJ-45 Ethernet port.
4. Repeat step 2-3 as needed to connect additional Ethernet cables.

Pin	Color	Signal	Pin	Color	Signal
1	Orange/White	Tx +	5	Blue/White	Unused
2	Orange	Tx —	6	Green	Rx —
3	Green/White	Rx +	7	Brown/White	Unused
4	Blue	Unused	8	Brown	Unused

Table 7 Ethernet RJ-45 connector wiring pattern

3.7 Verify the Installation

Check LED states to verify ONT status (Section 3.7.1).

Services are not available until the ONT is ranged and provisioned in the PON network. If services must be verified at the time of installation, refer to Section 3.7.2 for additional instructions.

3.7.1 Activating the ONT

Once the ONT installation is complete, follow the procedure below for verifying ONT status. Figures below shows the typical status LED display after the ONT boot sequence is complete.

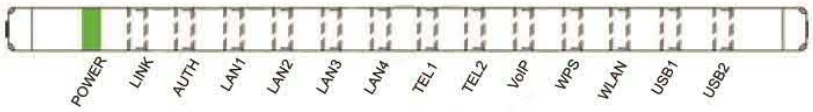


Figure 3 ONT has not yet been provisioned

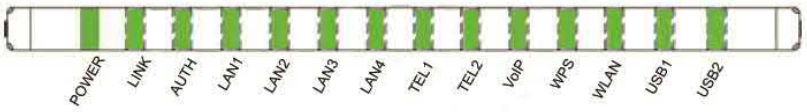


Figure 4 ONT has already been provisioned

• Verify that the PWR LED light is green, indicating that local power level is good.

• Verify that the LINK LED light is green, indicating that the ONT is operating normally.

The ONT is placed into service remotely through the OLT. Services to the ONT are likewise provisioned and turned up remotely through the PON network.

- If the LINK LED lights green, indicating that the ONT is communicating with the PON network, no further activation is necessary and you can proceed to Section 3.7.2: Verifying Services.
- If the LINK LED does not light green, contact the NOC (Network Operation Center) to activate the line. You may be required to provide or confirm the following information about the ONT: vendor, model number, serial number. Once the ONT has been activated in the network, and the LINK LED is lit green, you can proceed to Section 3.7.2: Verifying Services.

3.7.2 Verifying Services

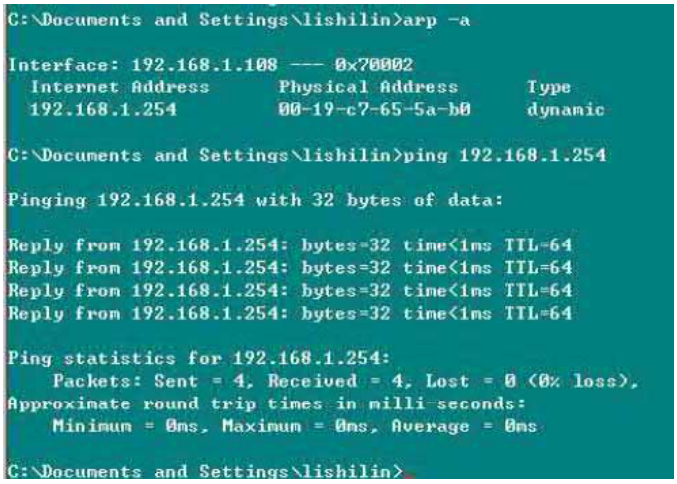
Follow local practices to connect to each active service port in the ONT to confirm service activation.

1. If VoIP service is included in this installation, verify the VoIP LED is green.
2. Connect to each active phone jack to verify telephone numbers and services. Verify that the TEL LED lights green when a line is off hook.
3. If Ethernet service is included in this installation, confirm that data is being received and transmitted normally. The LAN LED will be flashed during data transmission.
4. If WLAN service is included in this installation, confirm that data is being received and transmitted on WLAN interface. Verify the WLAN LED is green when the WLAN is connected.

4. ONT Configuration

4.1 ONU Login Preparation

- Step 1 Configure IP address, for example: 192.168.1.X（2~254）, mask 255.255.255.0, Gateway 192.168.1.1. For different ONU version, please make the configuration according to the actual version.
- Step 2 Ping ONU IP address (Default is 192.168.1.1).
- If PC can ping the ONU IP address, it means the connection between PC and ONU is correct.



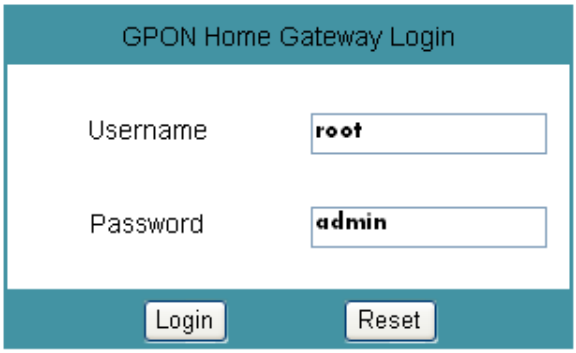
Note:

When using Web GUI to configure ONU, don't turn off the ONU power during the configuration. Otherwise the ONU might be damaged.

4.2 Login ONU

Please use following steps to login the ONU.

- Step 1 Open IE browser, enter http://192.168.1.1 (ONU default IP address) in the address bar
- Step 2 Enter administrator user name (**root**) and password (**admin**) in the login window.



After login to ONU with administrator, you can query, configure and modify ONU setups. Some configuration and modification might have effect only after restart of ONU.

4.3 Introduction to Configuration Pages

ONU Web Configuration Interface includes two parts: The left page is the navigation bar. By clicking the links, you can enter relevant configuration pages. The right of the page is configuration area. The content of this area will change according to the selection in navigation bar. Please refer to bellowing sections for detail service configurations.

4.4 Status

After successful login, the default page is “Status”. There are 3 second level selections in “Status” page, they are:”Device Information”, “LAN Status” and “WAN Status”.

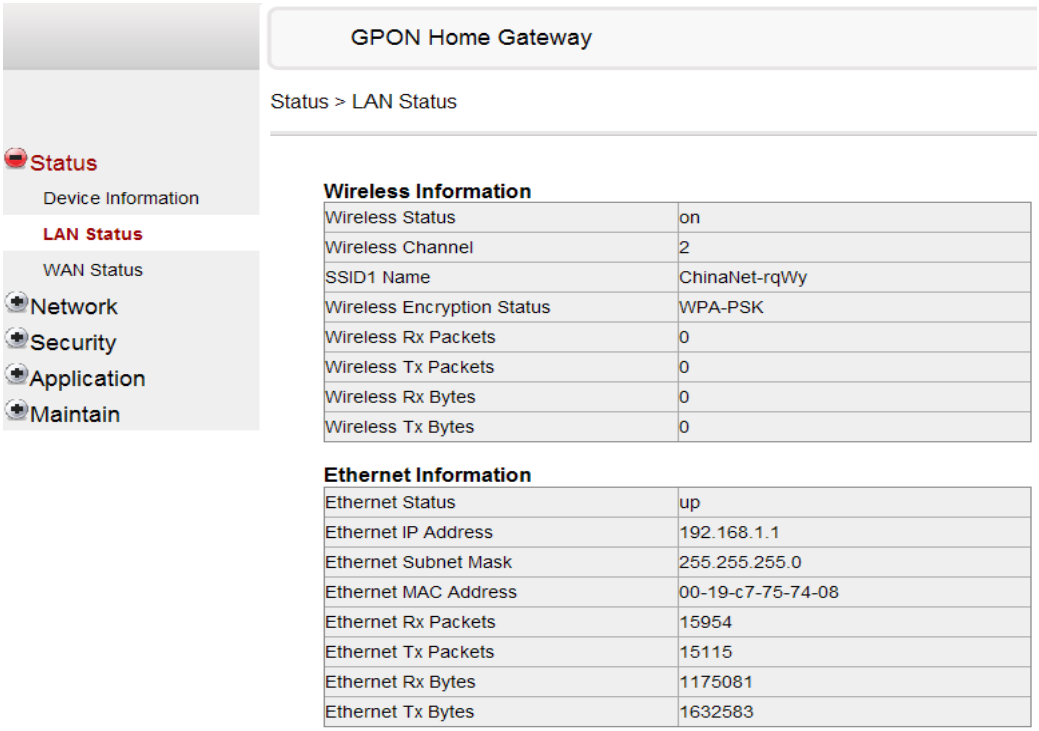
i) Device Information

In “Device Information” page, you can view the Device Name, Serial Number, Hardware Version, Software Version and Device Running Time.

ii) LAN Status

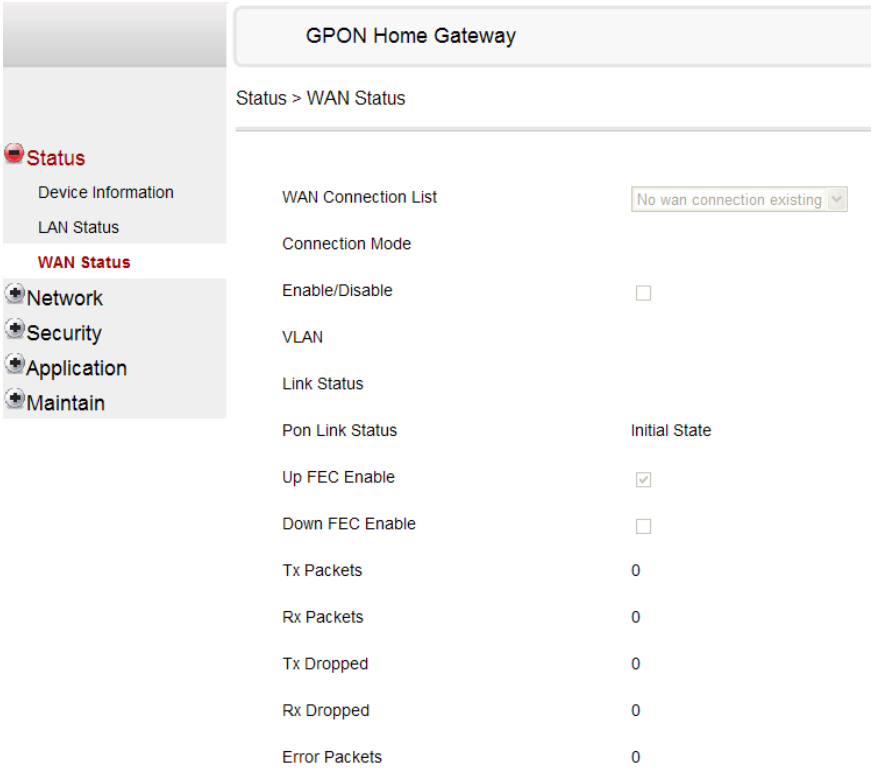
In “LAN Status” page, you can view the information of Wireless Interfaces and Ethernet interfaces.

- For Wireless interface information, you can view the Wireless Status, Wireless Channel, SSID name, and encryption method, etc.
- For Ethernet Interfaces information, you can view the Ethernet IP information, MAC address, packet received and transmitted information, etc



iii) WAN Status

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



4.5 Network

In “Network” page, there are 6 second level selections. They are “LAN”, “WAN”, “WiFi”, “Routing”, “DNS”, “TR-069”.

i) LAN

LAN configuration is used to configure ONU maintenance address, and DHCP related parameters.

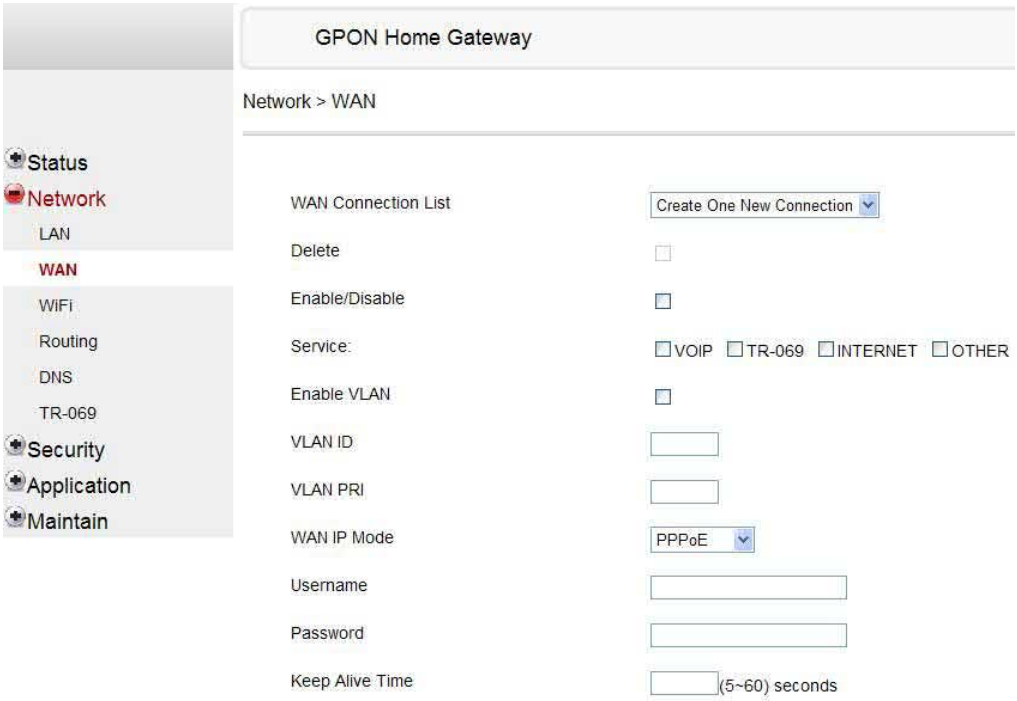
Below is the description for the parameters:

Parameter / Button	Description
IP Address	Input IP address of maintenance IP address
IP Subnet Mask	Input subnet mark of maintenance IP
DHCP Enable	Enable gateway DHCP server. In this case, the connected device can use DHCP to get the IP address from gateway DHCP server
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	Input IP Address Lease Time
Bind MAC Address	Bind the specific MAC and IP address for DHCP
Bind IP Address	Bind the specific MAC and IP address for DHCP
Add Button	Add a MAC to IP binding rule

After the configurations are done, click “Save” button to save it. Restart the device to make the modification to take effects.

ii) WAN

WAN configuration is used to configure the WAN connection parameter, including WAN basic setup, and WAN IP mode setup.
In WAN connection list, select “Create a new WAN connection”.

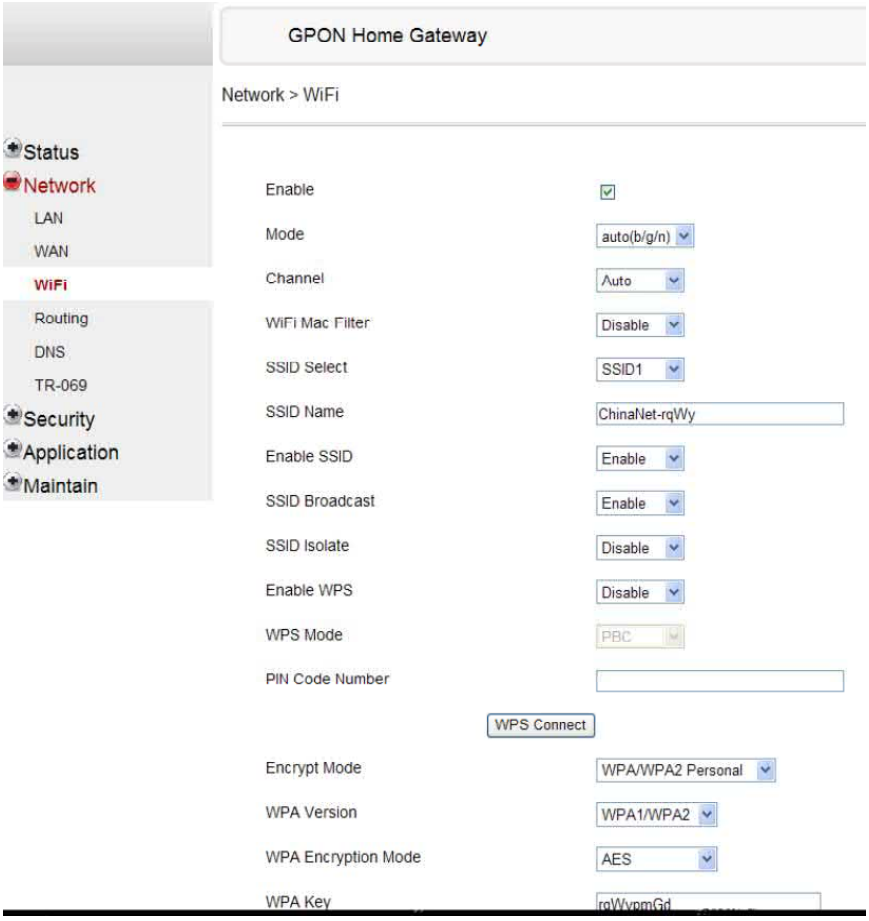


Below is the description for the parameters

Parameter	Description
WAN Connection List	By default there is a TR069 connection. Another option is to create a new WAN connection.
Delete	Select this check box to delete this WAN connection.
Enable/Disable	Select or unselect this check box, to enable or disable this WAN connection.
Service	There are 4 service types. They are VOIP/ TR069/ Internet/ others.
Enable VLAN	Select this check box to enable VLAN feature. 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 Mode	Used to select the method to get the WAN IP address. There are 3 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

iii) WiFi

WiFi configuration is used to configure the basic wireless network parameters. You can enable or disable wireless function, setup SSID, setup encryption method and key. The basic and advance configuration and SSID setup are included in the same page.



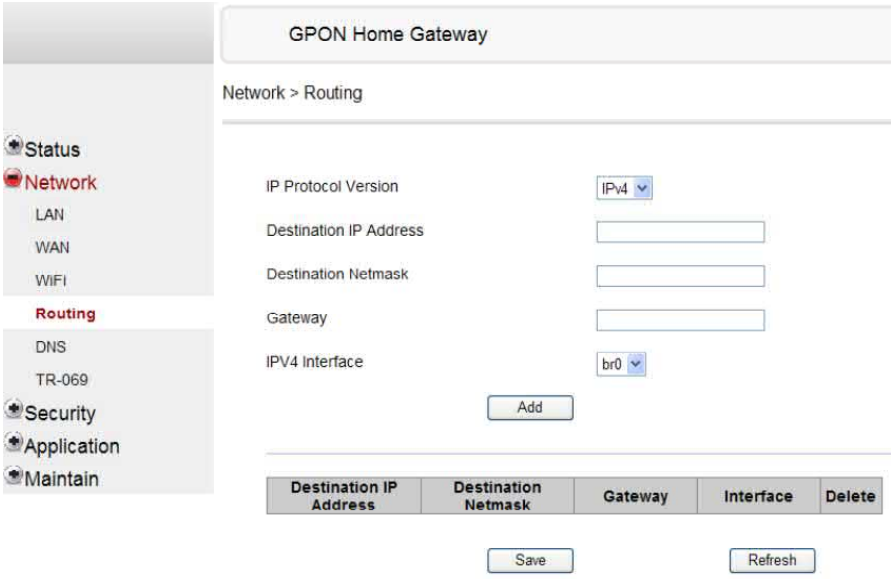
Below is the description for the parameters:

Parameter	Description
Enable	Select to enable the WiFi function
Mode	Select working mod. There are below modes: 1) Auto (b/g/n) mode 2) b mode 3) g mode 4) n mode 5) b/g mode 6) B/G/N Hybrid mode 7) N/G Hybrid mode 8) B/G Hybrid mode

	9) B mode 10) G mode
Channel	By default the channel is auto selected
WiFi MAC Filter	Enable or Disable WiFi MAC Filtering
SSID Select	Select the SSID to be configured
SSID Name	Configure SSID name. ChinaNet is the fix prefix, and not configurable. The others are configurable.
Enable SSID	Enable or Disable this SSID
SSID Broadcast	Enable or Disable Broadcast. Disable SSID broadcast will cause the terminal can not use passive scan to get the SSID.
SSID Isolate	Enable or Disable SSID Isolate. Enable Isolate will cause the PC connecting to his AP can not be ping.
Enable WPS	Enable wireless protected setup function. Disable this function will cause PC and AP can not match codes.
WPS Mode	Include two modes: PBC and PIN. PBC is as know as one key encryption mode. There is no need to input the PIN code. In the PIN mode, it's needed to input the PIN code. The two modes needs supports from wireless applications on user's wireless adapters.
PIN Code Number	When PIN mode is selected as WPS mode, it's needed to input to here the PIN code generated by user's wireless card application.
WPS Connect Button	Click to enable WPS interaction. This can also be done by the WPS button on ONU hardware
Encryption Mode	Includes: 1） Open: No encryption, no need to input key. 2） WEP: Including 2 modes: open system, shared key modes. When the key is 64bits, it's needed to input 5 ASCII characters or 10 Hex characters. When the key is 128 bits, It's needed to input 13 ASCII characters, or 26 Hex characters. 3） WPA/WPA2 Personal: It's needed to input WPA encryption mode, WPA version and WPA key. 4） WPA/WPA2 Enterprise: It's needed to input Radius server address, port number and WPA key number. Note: When WPS is enable, encryption mode must be WPA/WPA2 Personal.

iv) Routing

Routing configuration is used to configure the static routing parameters.



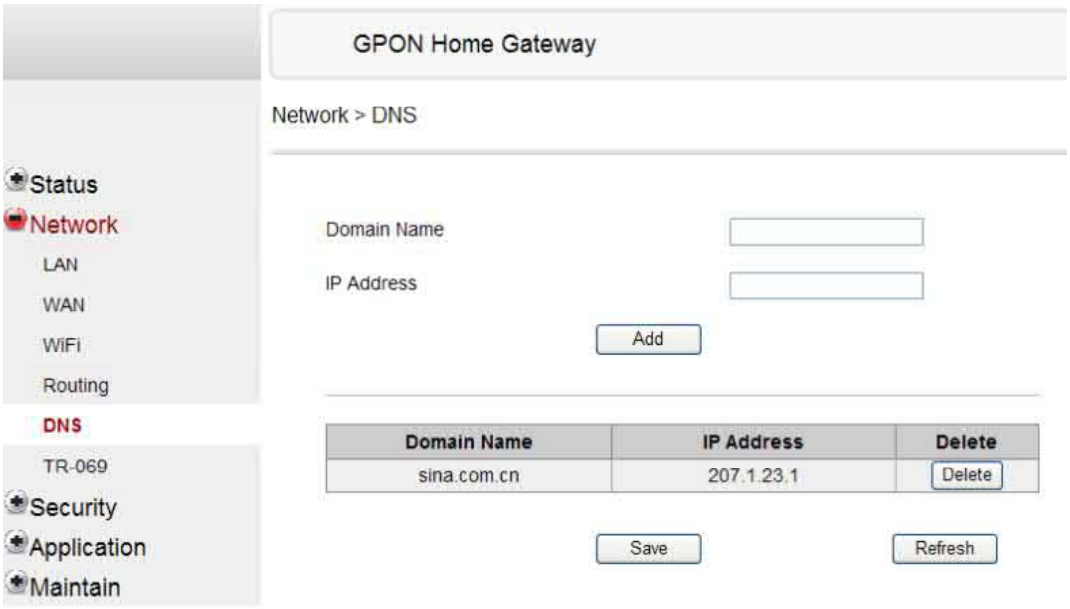
Below is the description for the parameters:

Parameter	Description
IP Protocol Version	Select the IP Protocol Version
Destination IP Address	Input the destination IP address
Destination Netmask	Input the destination Subnet Mask
Gateway Address	Input the outgoing gateway address
IPv4 Interface	Select the WAN ports that this route uses
Add Button	Click this button, to add a new static routing rule for above parameters.

After the configurations are done, click “Save” button to save it. Restart the device to make the modification to take effects

v) DNS

DNS configuration is used to configure the static DNS information



Below is the description for the parameters:

Parameter/Button	Description
Domain Name	Input the domain name here
IP Address	Input the related IP address of the domain name
Add Button	Click Add button to add this DNS entry
Delete Button	Click Delete button to delete this DNS entry

After configuration is done, click the “Save” button to save it

vi) TR-069

Manage remote ITMS server configuration.

Below is the description for the parameters:

Parameter/Button	Description
Periodic Inform Enable	Select or unselect this check box, to enable or disable 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 configuration is done, click the “Save” button to save it.

4.6 Security

There are 4 second level selections in the “Security” page. They are “Firewall”, “MAC Filter”, “IP Filter” and “DMZ and ALG”

i) Firewall

In “Firewall” page, one can select firewall security level, and whether to enable protection for DoS attack.

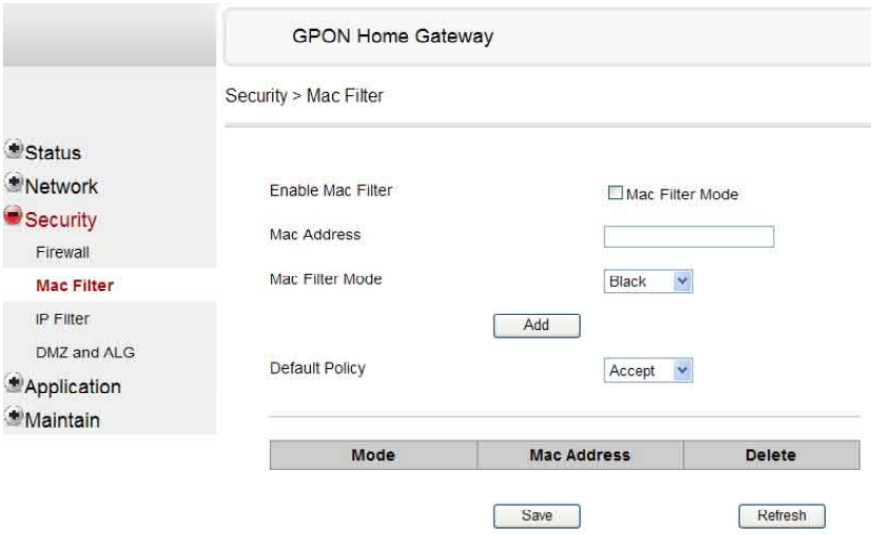
Below is the description for the parameters:

Parameter	Description
Security Level	Select firewall level. Select “High” to block all the non-secure external accessing. Select “Middle” or “Low” to allow external accessing for HTTP, FTP, ICMP protocols. Suggest to set the level to “High”.
Attack Protect	Enable or Disable DoS Attack Prevention. DoS is Deny of Service Attact. Enabling this option can increase the network security effectively

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

ii) MAC Filter

In MAC Filter page, one can add MAC filtering rules



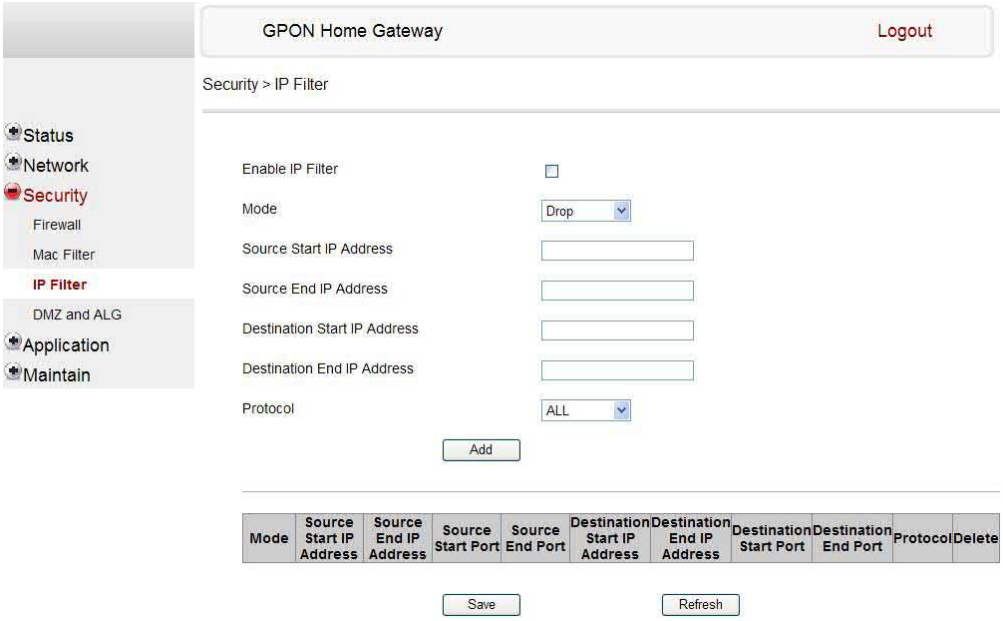
Below is the description for the parameters:

Parameter	Description
Enable MAC Filter	Select or unselect this checkbox, to enable or disable 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: deny, or accept. It's used for the MACs that can not meet all the filtering rules.

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

iii) IP Filter

In IP Filter page, one can add IP filtering rules.



Below is the description for the parameters:

Parameter	Description
Enable IP Filter	Select or unselect this check box, to enable or disable IP filtering function.
Mode	Include 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 source start IP address
Source End IP Address	Setup source end IP address
Destination Start IP Address	Setup destination start IP address
Destination End IP Address	Setup destination end IP address
Protocol	Select Protocol. There are following options: 1) ALL, all protocols 2) TCP 3) UDP 4) TCP/UDP 5) ICMP
Add Button	Click this button, to add a new filtering rule for above configurations.

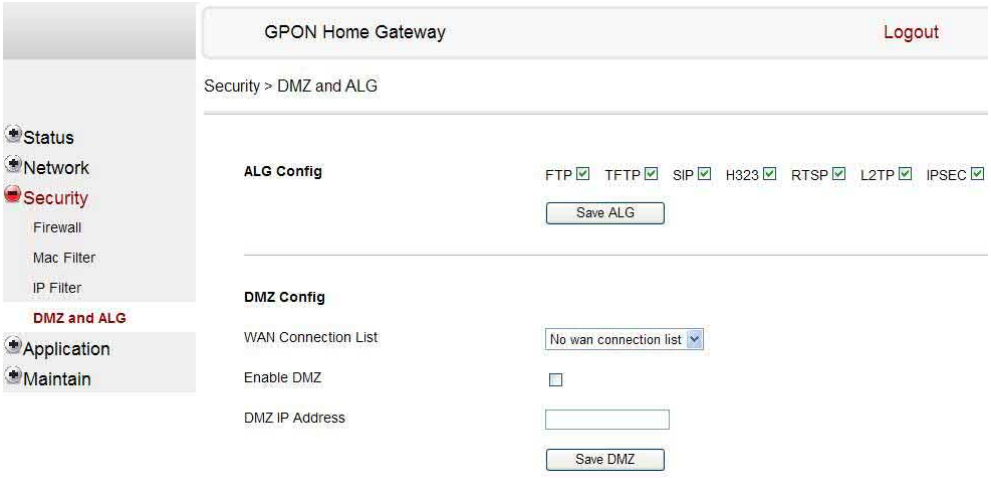
After the configurations are done, click “Save” button to save it.

iv) DMZ and ALG

In DMZ and ALG page, one can do advance NAT configuration like ALG and DMZ

ALG is Application Level Gateway. Its main function is to make necessary processing to the application packets, e.g. for some special protocol, modify possible IP address or port information in the data of the packets.

DMZ is De-Military Zone, which is a technique for ONU to forward all the packets to/from a specified internal server. It allows to expose a intranet PC completely to the internet. Or it allows a dedicated IP address, to communicate with internet user or server freely. It allows more applications to run on dedicated IP address, and dedicated IP address can receive all connections and files.



Below is the description for the parameters:

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

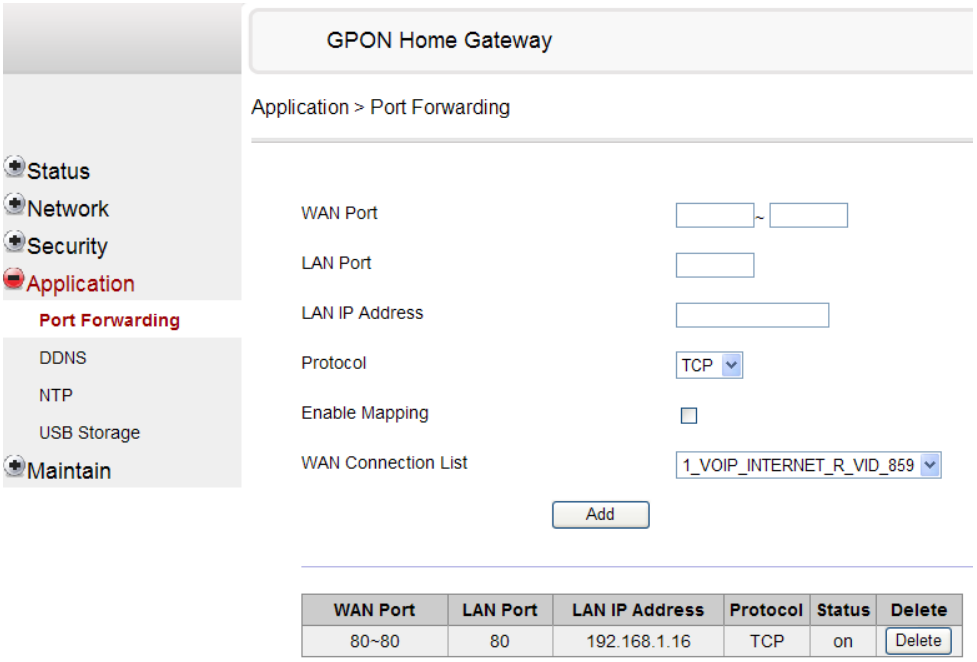
4.7 Application

In “Application” Page there are 3 second level selections. They are “Port Forwarding”, “DDNS” and “NTP”.

i) Port Forwarding

In Port Forwarding page, one can 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.

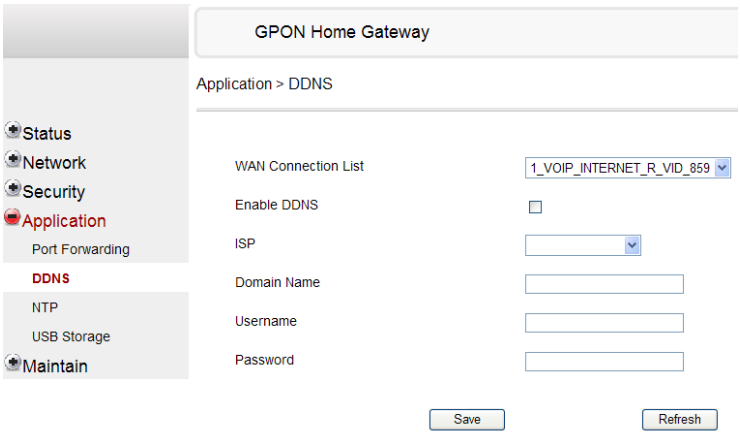


Below is the description for the parameters:

Parameter	Description
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
Enable port mapping	Enable or Disable mapping between WAN port and LAN port
WAN Link List (Virtual Host)	Select which WAN link to use port forwarding setup
Add Button	Create a new mapping rule using above port forwarding setup

ii) DDNS

The Dynamic DNS service can map a dynamic IP address to a static domain name. By this domain name, the gateway can easily be accessed from internet. Use DDNS configuration to configure the dynamic DNS service.



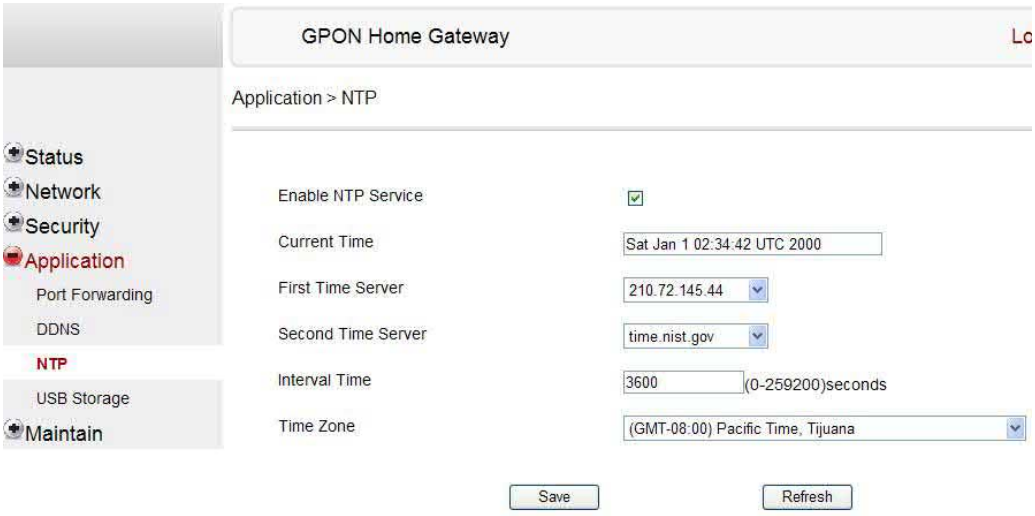
Below is the description for the parameters:

Parameter	Description
WAN Connection List	Select WAN Connection Link for DDNS setup
Enable DDNS	Enable or Disable DDNS service
ISP	Select available service provider for DDNS service. One can select “DynDNS.org”,“gnudip”,“tzo”,“ods” “TZO”、“ODS”或“GnuDIP”
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.

iii) NTP

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



Below is the description for the parameters:

Parameter	Description
Enable NTP Server	Enable or Disable network time synchronization service
Current Time	Display current system time
First Server Address	Select first NTP server address. When select “Customer Setting”, user should enter his own time server address.
Second Server Address	Select second NTP server address. When select “Customer Setting”, user should 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

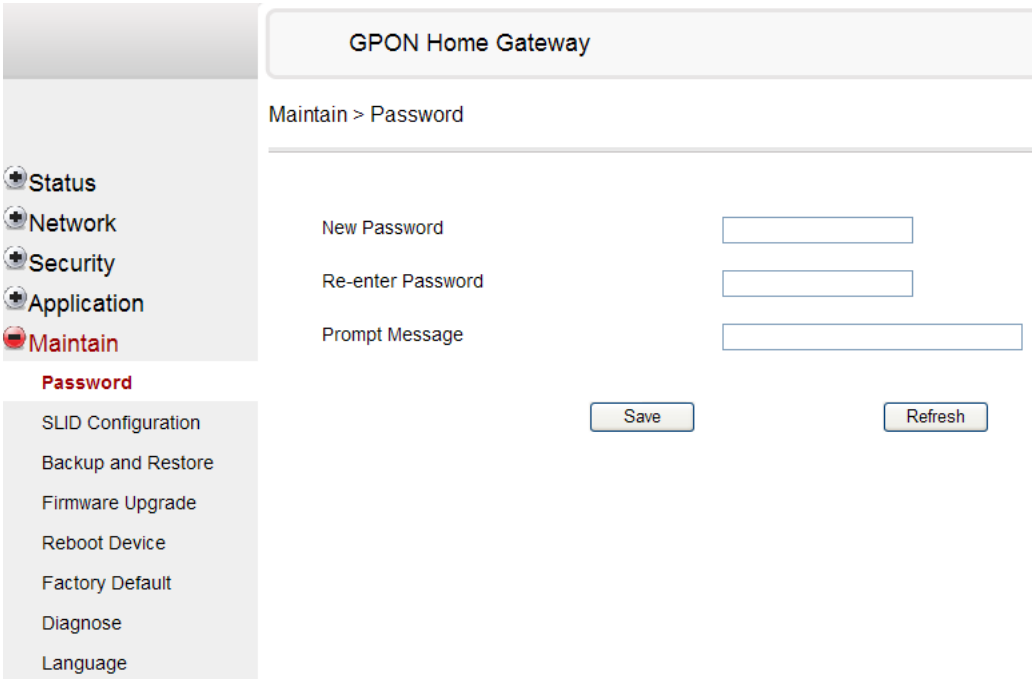
After the configurations are done, click “Save” button to save it. Restart the device to make the modification to take effects.

4.8 Maintain

In “Maintain” page there are 8 second level selections. They are “Password”, “SLID Configuration”, “Backup and Restore”, “Firmware Upgrade”, “Reboot device”, “Factory Default”, “Diagnose” and “Language”

i) Password

By Password management, one can modify the user password.



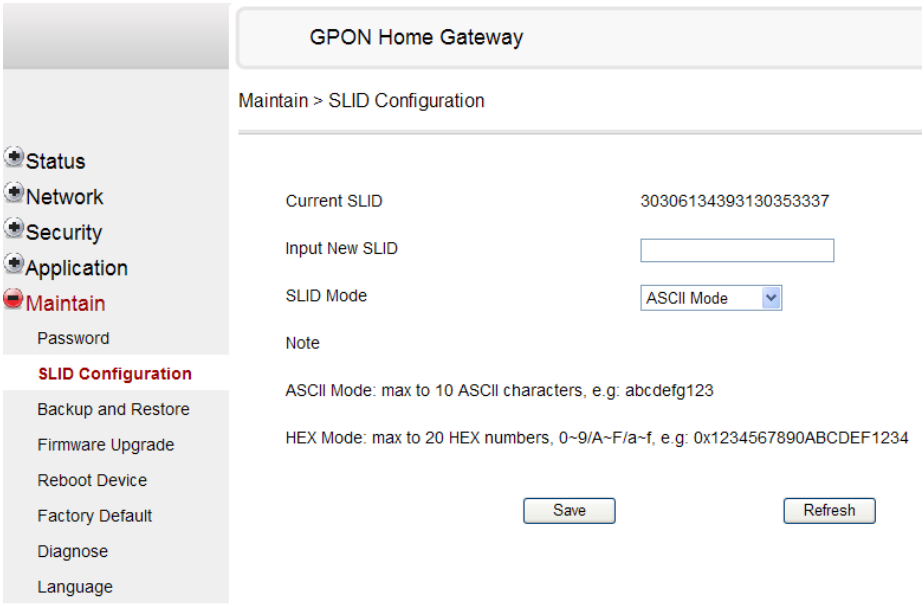
Below is the description for the parameters:

Parameter	Description
New Password	Enter New Password
Re-enter new password	Re-Enter New Password

After the configuration is done, click “Save” button to save it.

ii) SLID Configuration

By SLID Configuration, one can modify the SLID of the ONU



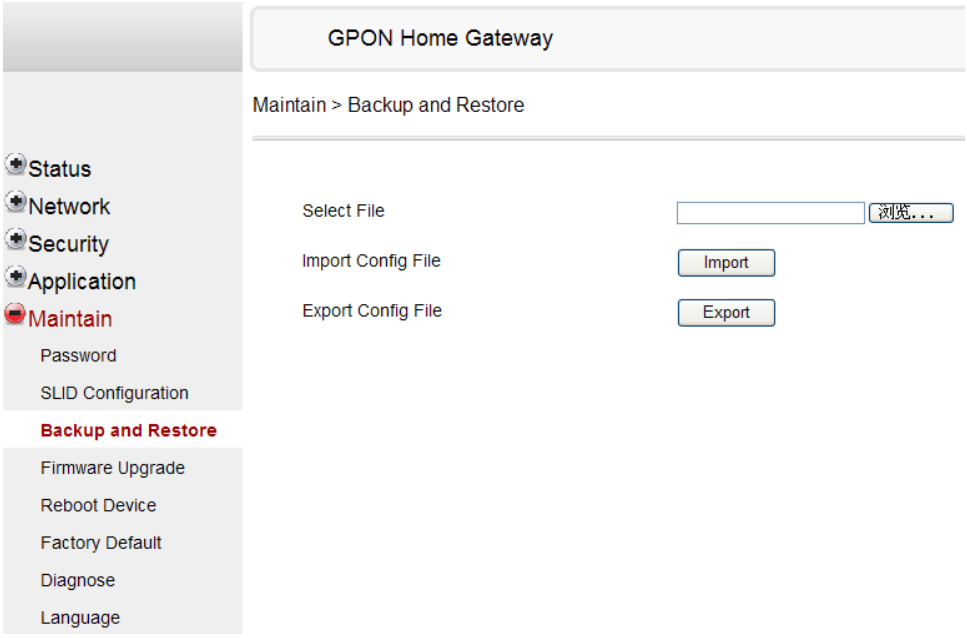
Below is the description for the parameters:

Parameter	Description
Current SLID	Display the current SLID of ONT
Input New SLID	Input the new SLID of the ONT
SLID Mode	Select the SLID mode. There are modes: A

After the configuration is done, click “Save” button to save it.

iii) Backup and Restore

In this page, one can Backup and Restore the ONU configuration.

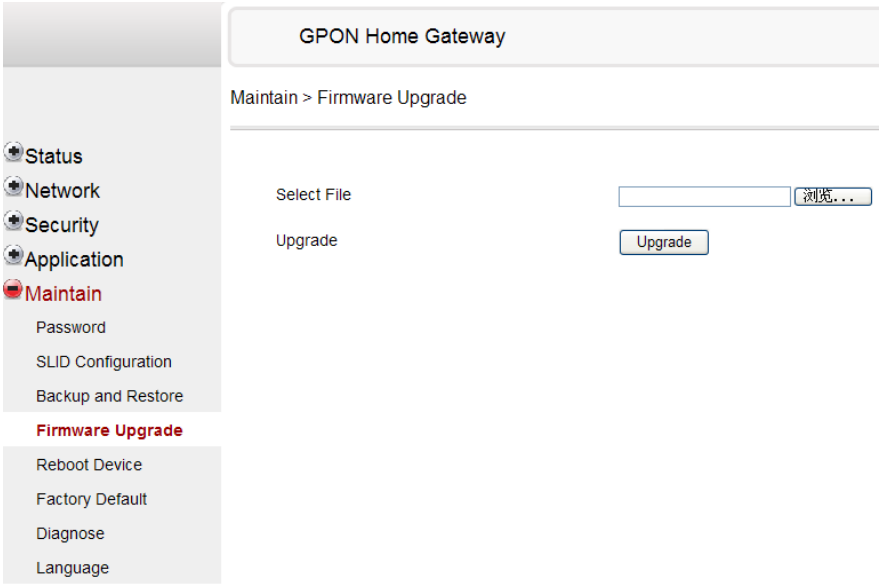


Below is the description for the parameters

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

iv) Firmware Upgrade

In this page, one can upgrade the ONT firmware.

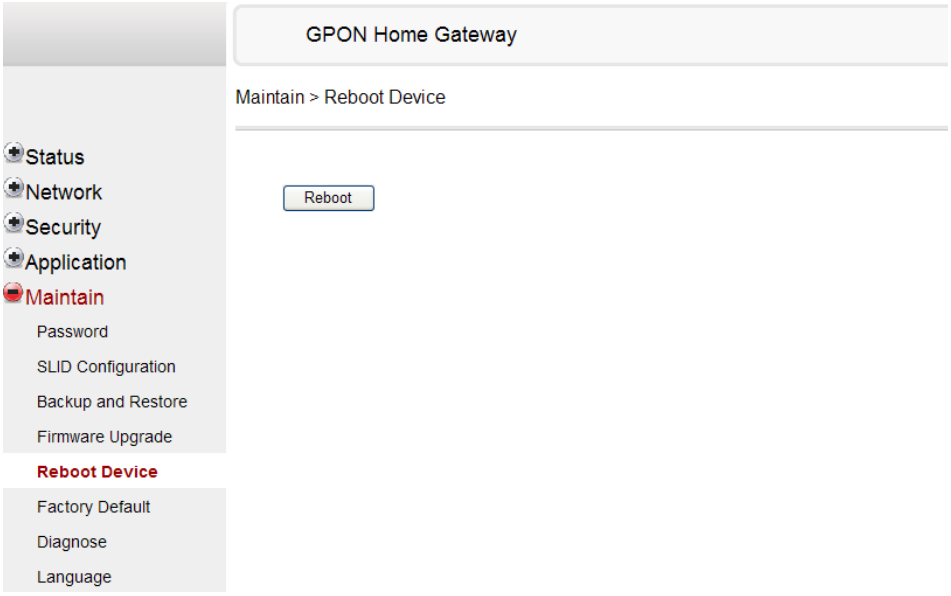


Below is the description for the parameters:

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

v) Reboot Device

In this page, one can reboot the ONT

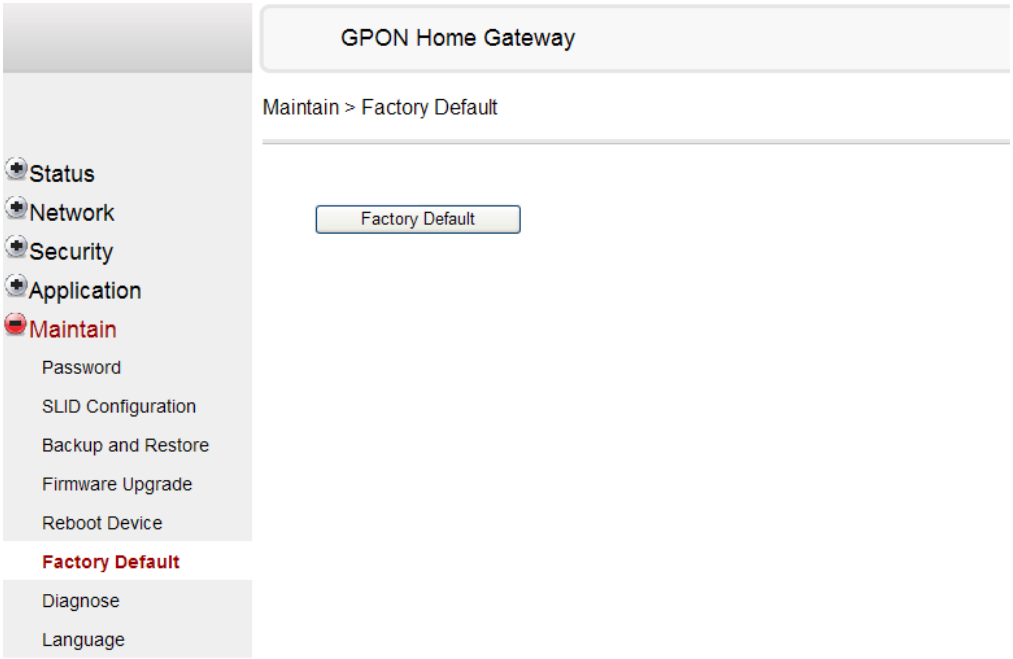


Below is the description for the parameters:

Parameter	Description
Reboot button	Click to reboot the ONT

vi) Factory Default

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

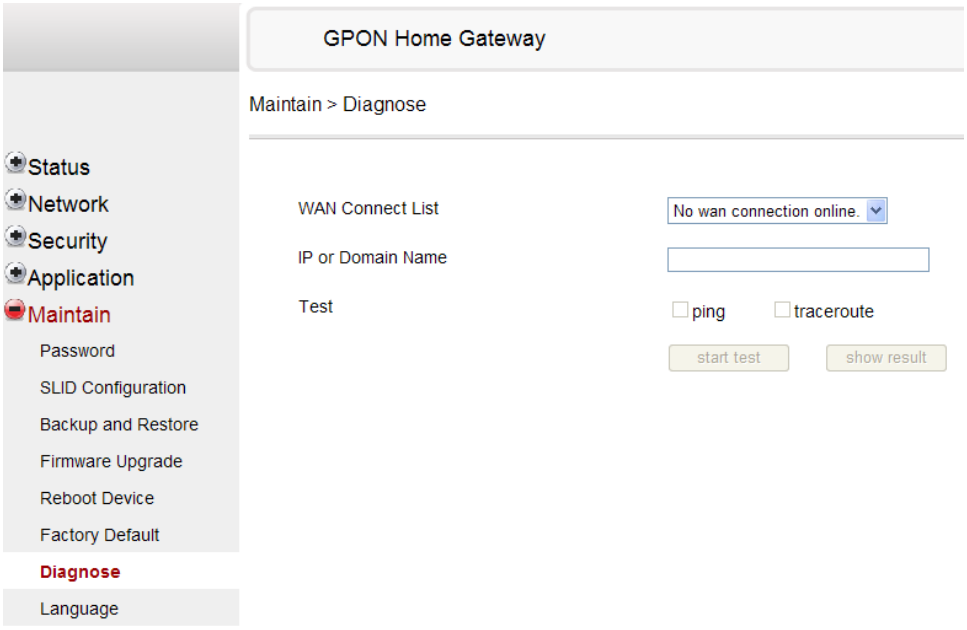


Below is the description for the parameters:

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

vii) Diagnose

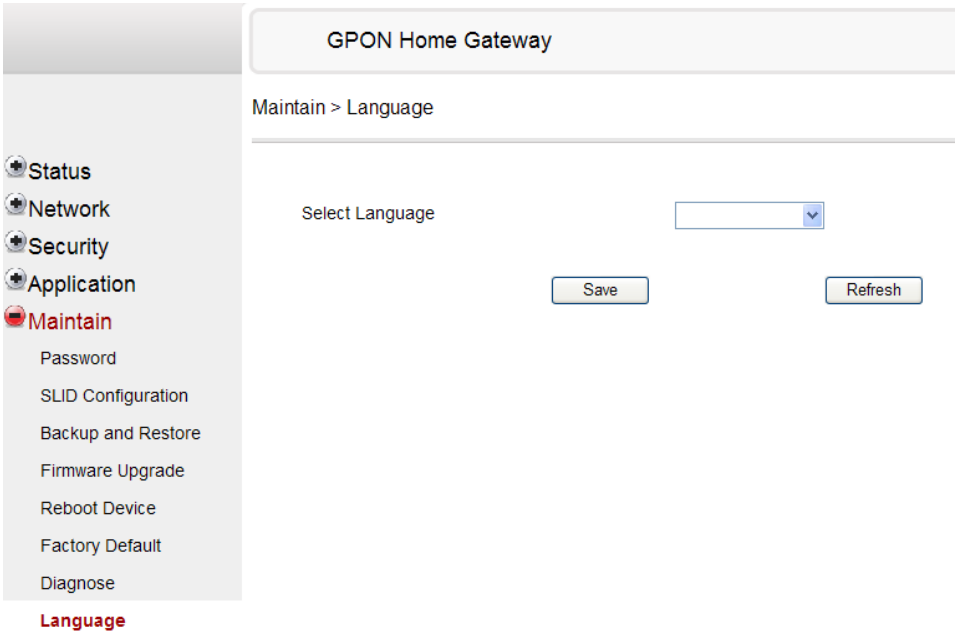
Diagnose page includes ping / traceroute test and manual reporting functions,



Below is the description for the parameters:

Parameter	Description
WAN Connection List	Select WAN connection for testing
Input IP address or domain name	Input valid IP address or domain name for user test.
Test	Select ping test or traceroute test
Start Test button	Click this button to start the test
Show Result button	Click this button to show the test result

viii) Language



Below is the description for the parameters:

Parameter	Description
Select Language	Select the display language
Save button	Click to save the language configuration

5. Troubleshooting

5.1 ONT Status LEDs

The ONT status LEDs located on the enclosure (Figure 5) assist with installation and maintenance procedures. These LEDs are described in detail in Table .

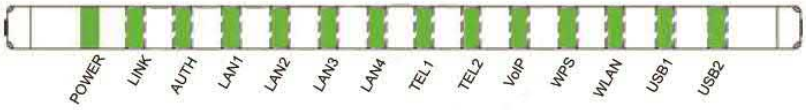


Figure 5 ONT Status LEDs location

LED Name	Color	Indicates
POWER	Green/Solid	Normal.
	OFF	No power
LINK	Green/Solid	PON link is OK
	OFF	PON link is NOT OK
AUTH	Green/Solid	ONU is authorized
	OFF	ONU is NOT authorized
LAN1	OFF	Not active
	Green/Solid	Active or Link
LAN2	OFF	Not active
	Green/Solid	Active or Link
LAN3	OFF	Not active
	Green/Solid	Active or Link
LAN4	OFF	Not active
	Green/Solid	Active or Link
TEL1	Green/Solid	Off hook
	Green/Flash	Call in
	OFF	On hook
TEL2	Green/Solid	Off hook
	Green/Flash	Call in
	OFF	On hook
VoIP	Green/Solid	VoIP is OK
	OFF	VOIP is NOT OK
WPS	Green/Solid	"In Progress" and "Success" status
	Red	"Error" and "Session Overlap" status

LED Name	Color	Indicates
	OFF	WPS disable
WLAN	Green/Solid	Connected
	Green/Flash	data receive and transfer（2H flash）
	OFF	Error/WLAN is not connected/WLAN diasble

Table 8 ONT Status LEDs description

5.2 Troubleshooting Procedures

Problem	Possible Solutions
The PWR LED is off	Check whether the ON/OFF button on the rear „ panel is pressed.
	Check whether the power adapter matches the G-83HG1.
	Check whether the power connection is correct.
The LINK LED is off	Check whether the optical fiber is connected correctly.
	Check whether there is dirt on the optical connector.
The LINK LED is on, but the AUTH LED is off.	The G-83HG1 may not receive the downstream optical signal sent by the service provider. Contact the service provider for help.
The LAN LED is off	Check whether the Ethernet cable delivered with the device is used.
	Check whether the Ethernet cable is connected correctly.
	Check whether the indicator of the network adapter is on.
	Check whether the network adapter works normally: Check whether there are devices with the ? or ! mark under Network adapters. If there are such devices, uninstall and then re-install them, or insert the network adapter into another slot. If the problem remains, change the network adapter.
The TEL LED is off	Check whether the connection of the telephone cable is correct
	Check whether the telephone is onhook.
The VoIP LED is off	Check whether to provision the VoIP service.
	Check whether the phone works in the normal state.
	Check whether the connection of the telephone cable is correct.
The WPS LED is off	Check whether the WPS service is started.
The WLAN LED is off	Check whether the WLAN service is started.

Table 9 Troubleshoot procédures