Chapter1: Overview

1.1 Product Description

1GE+1FE+WiFi+CATV dual mode ONU meets telecom operators FTTO (office), FTTD(Desk), FTTH(Home) broadband speed, SOHO broadband access, video surveillance and other requirements and design an GPON/GEPON Gigabit Ethernet products. It is based on mature GPON and Gigabit EPON technology, and has high ratio of performance to price, stable, cost-effective, high reliability, easy management, configuration flexibility and good quality of service (QoS) guarantees. It is fully compliant with GPON and EPON technical regulations such as ITU-T G.984.x, IEEE802.3ah and technical requirement of EPON Equipment from China Telecom. Dual mode ONU can detect and exchange PON mode automatically.

Figure 1　1GE+1FE+WiFi+CATV Dual Mode ONU

1.2 Application Chart

Figure 2 Application Chart

1.3 Technical Parameters

Technical item	1GE+1FE+WiFi+CATV
Interface	1 WDM, SC/APC connector or 1 PON SC/UPC+CATV SC/APC connector, single/double fiber. GPON: uplink 1.25Gbps, downlink 2.5Gbps; EPON: symmetric 1.25Gbps.
Wavelength	PON Tx1310nm,Rx 1490nm, CATV 1550nm.
LAN interface	1x 10/100/1000Mbps Auto-negotiation Ethernet interfaces. 1x10/100Mbps Auto-negotiation Ethernet interfaces.
Wireless	Compliant with IEEE802.11b/g/n, 300Mbps, 2T2R, 2 external antenna.
CATV	SCTE type F
LED	7, For Status of POWER、LOS、PON、LAN、WiFi、CATV.
Operating condition	Temperature: -5℃～55℃ Humidity: 10%～90%（non-condensing）
Storing condition	Temperature :-30℃～60℃ Humidity :10%～90%（non-condensing）
Power supply	DC 12V/1A
Power consumption	≤7W
Dimension	185mm×120mm×34mm（L×W×H）
Net weight	0.3Kg

Table 1 Technical Parameters

1.4 Equipment List

Contents	Quantity
ONU	1 pcs
Power adapter	1 pcs
User manual	1 pcs

1.5 Certification Card

P01.030385

Chapter2: Installation

2.1 Installation Requirements

To avoid equipment damage caused by improper use and personal injury, please observe the following precautions:

- Do not place the device near water or in damp places, in order to prevent water or moisture from entering the device.
- Do not place the device in an unstable place, avoid falling damage to equipment.
- Make sure that the supply voltage of the device matches the required voltage value.
- Do not open the equipment chassis without permission.
- Unplug before cleaning the power plug; prohibit the use of liquid cleaning.

Installation Environment Requirements

ONU equipment must be installed in the interior, and to ensure the following conditions:

- Confirmation at the ONU installation at sufficient space to facilitate cooling machine.
- ONU suitable operating temperature of -5℃ ~ 55 ℃, humidity 10% to 90%.

Electromagnetic Environment

ONU equipment in use can be affected by external electromagnetic interferences, such as radiation and conduction through the impact on the device, this should note the following:

- Device workplace should avoid radio transmitters, radar stations, and high-frequency interference from power equipment.

- Users cable typically require alignment indoors if outdoor lightning traces measures should.

Equipment Installation

ONU product is a fixed configuration cassette equipment, site equipment installation is relatively simple. Simply install the device on a specified place, connecting the upstream fiber subscriber line connections, connect the power cable. Actual operation is as follows:

1. Installed on the desktop

Place the machine on a clean bench, this installation is relatively simple, you can observe the following operation:

- Ensure the smooth workbench.
- Around the device enough space for heat dissipation.
- Do not place objects on the device.

2. Mounted on the wall

- Observation ONU equipment chassis two cruciform recess, in accordance with the position of the groove, installed two screws in the wall.
- The original selected two mounting screws gently snap into recesses aligned.
- Slowly let go, so that the device under the support of the screw hanging on the wall.

2.2 Panel Lights

LED	Mark	Status	Description
Power	POWER	On	The device is powered up.
		Off	The device is powered down.
Optical signal loss	LOS	Blink	Device does not receive optical signals.
		Off	Device has received optical signal.
Registration	REG	On	The device is registered to the PON system.
		Off	Device is not registered to the PON system.
		Blink	Device registration is incorrect.
Interface	LINK/ACT	On	Port is connected properly (LINK).
		Off	Port connection exception or not connected.
		Blink	Port is sending or/and receiving data (ACT).
WiFi	WiFi	On	WiFi is working
		Off	WiFi is not working
CATV	CATV	On	CATV is working
		Off/ Blink	CATV signal is abnormal

Table 3 Panel Lights

2.3 LAN Port Connection Definition

Grade No.	Function		direction	
	FE	GE	FE	GE
1	RX+(receive data +)	BI_D0+(Bi-directional Data+)	input	Input/output
2	RX-(receive data -)	BI_D0- (Bi-directional Data-)	input	Input/output
3	TX+ (send data +)	BI_D1+(Bi-directional Data+)	output	Input/output
4	NC(null)	BI_D2+(Bi-directional Data+)	-	Input/output
5	NC(null)	BI_D2- (Bi-directional Data-)	-	Input/output
6	TX- (send data -)	BI_D1-(Bi-directional Data-)	output	Input/output
7	NC(null)	BI_D3+(Bi-directional Data+)	-	Input/output
8	NC(null)	BI_D3- (Bi-directional Data-)	-	Input/output

Table 4 FE/GE Connection Definition

Chapter3: Web Management

1GE+1FE+WiFi+CATV dual mode ONU provides simple Web management functions, including Device Information , WAN connection, Lan management IP address, Loid, Password, Configuration File , Backup, Upload, Restore, Firmware upgrade etc.

NOTE:
More ONU detail configurations should be configured via ONU web.

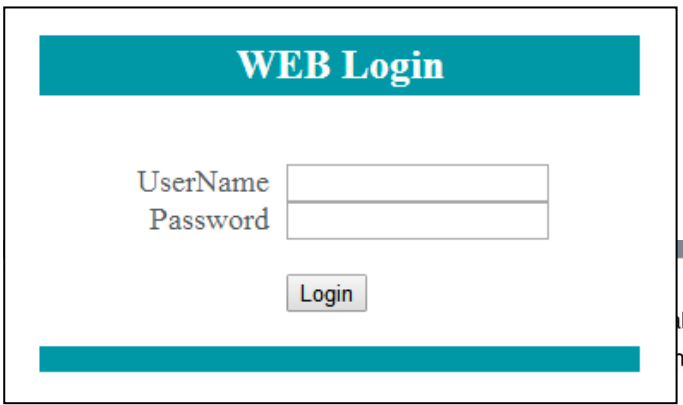
3.1 Default configuration

The following is the default device configuration information.

- Local (LAN access) Username: **admin** , Password: **admin**
- LAN port management IP address: 192.168.1.1/24

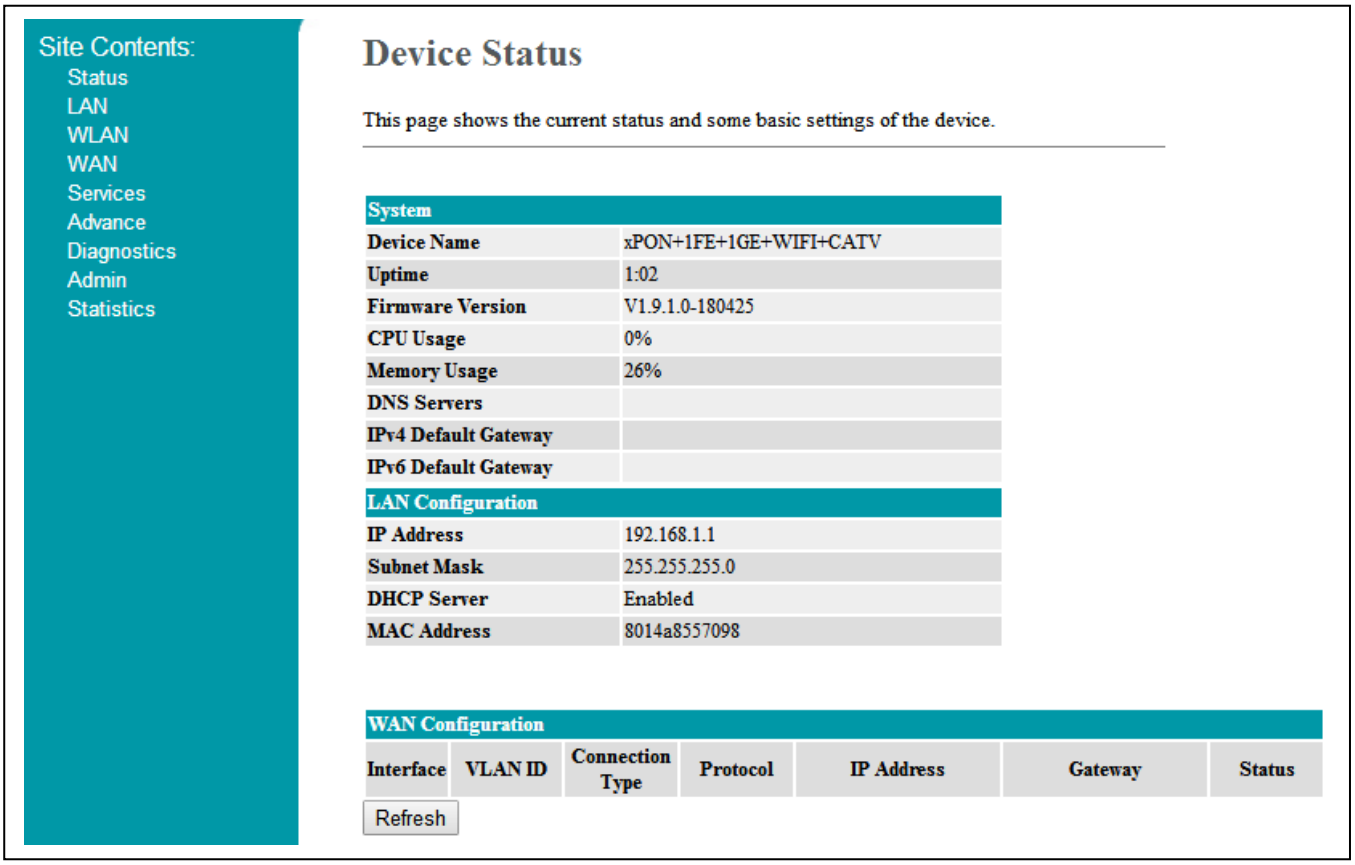
3.2 Basic Configuration

Figure 3 Web login



Web login default username: **admin**, password: **admin**

Figure 4 Device Information

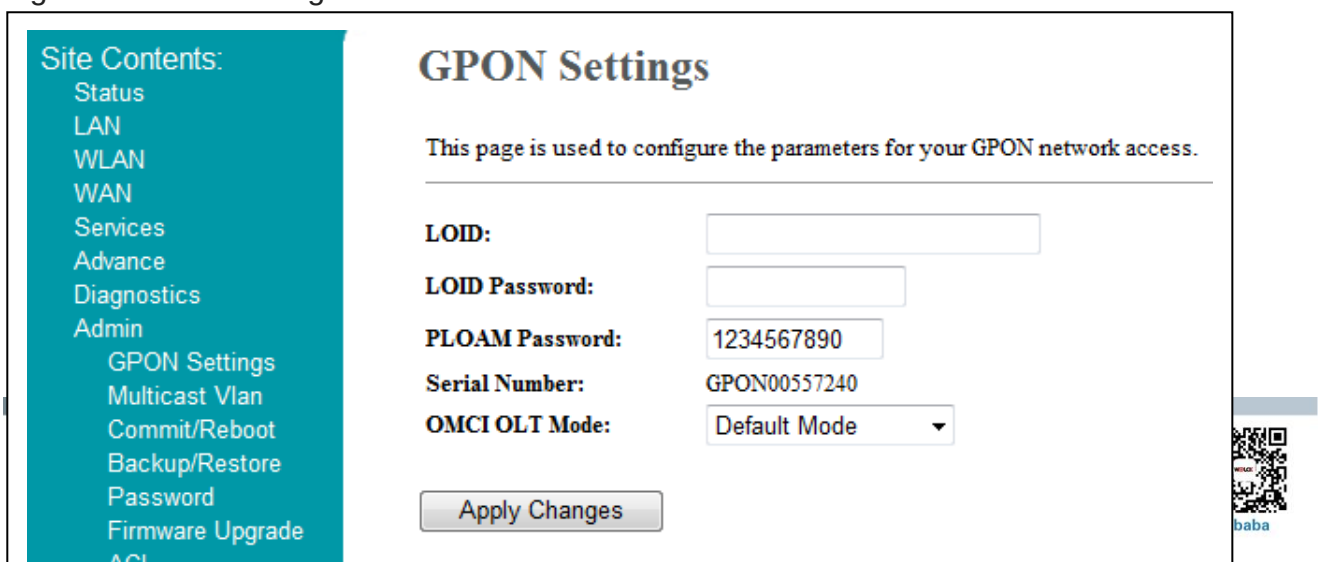


Status Menu displays the current device base information, LAN information, WAN information, PON information and so on.

Note:

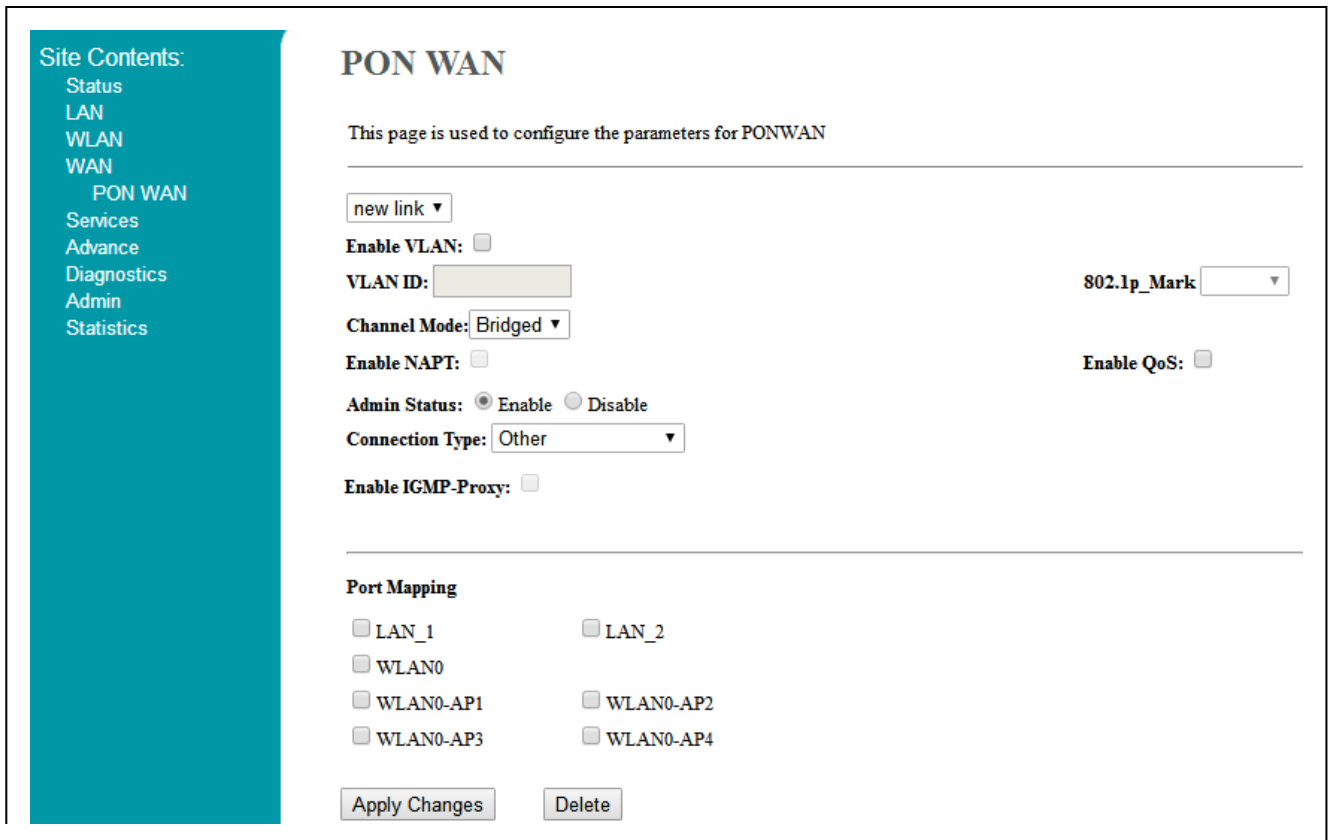
All the device information may be changed, the received device shall prevail.

Figure 5 PON settings



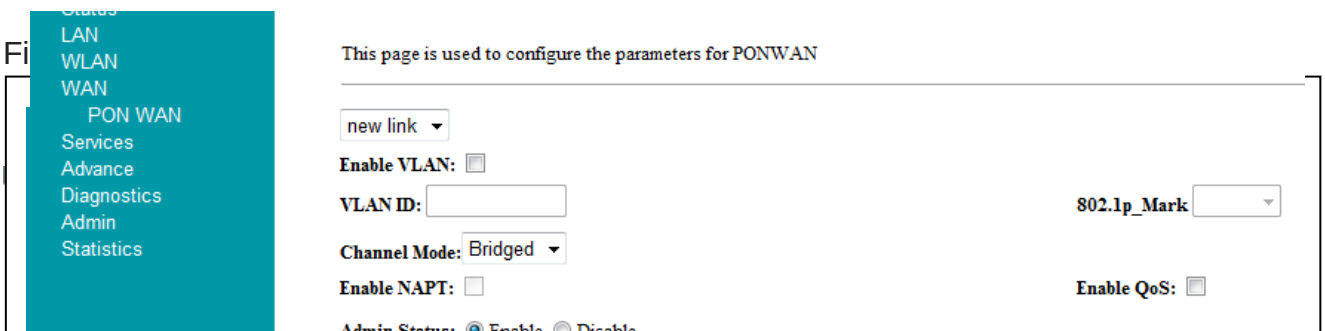
This page is used to configure LOID and its password, and other PON parameters such as PLOAM password, SN, OMCI mode for GPON and LLID MAC mapping for EPON.
Loid: 0-24 bytes.
Password: fixed 10 bytes.
Note: All the changes take effect in the equipment after the restart.

Figure 6 WAN Configuration



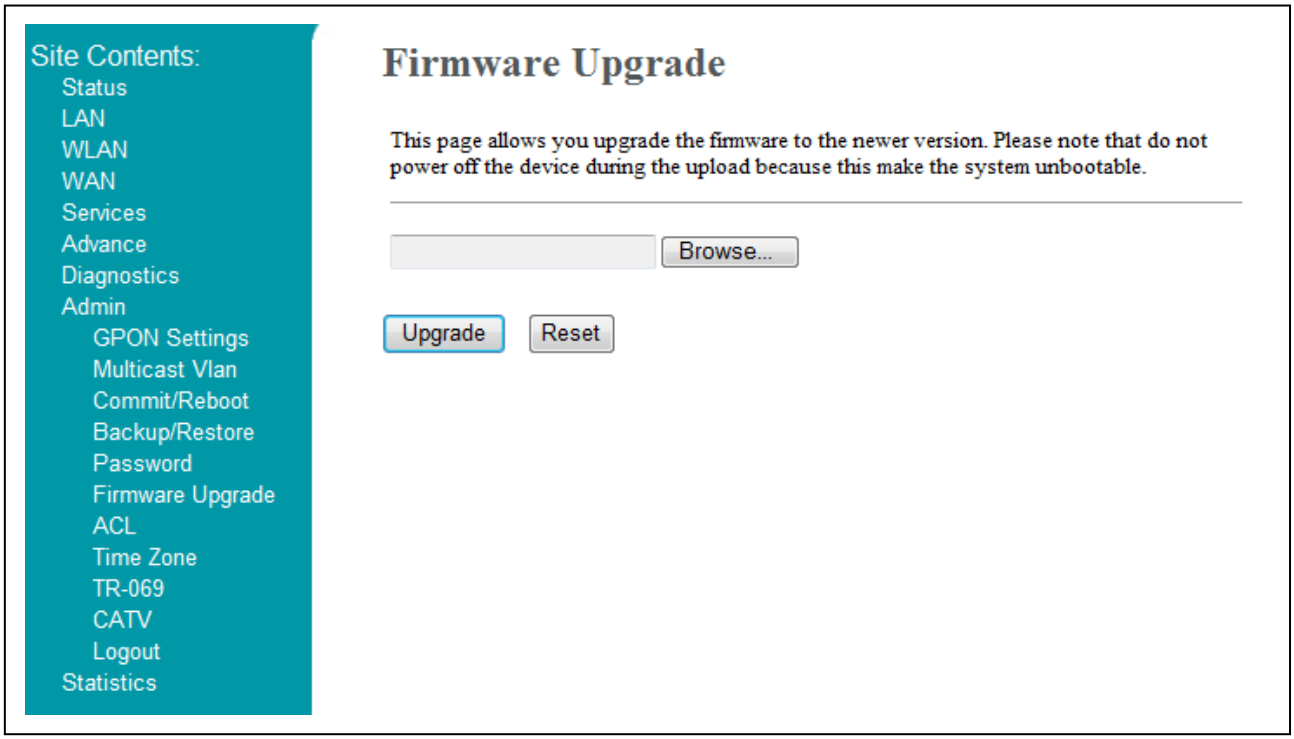
WAN configuration: to configure ONU WAN parameters, including WAN mode, VLAN, IP address and so on.

Fi



This page is used to back up and restore settings; reset device to factory default.
Backup: to backup configuration from the device.
Restore: to restore configuration from a configuration file.
Reset: to reset device to factory default.

Figure 8 Upgrade



Upgrade Menu displays the current equipment upgrades related information.

Chapter4: Troubleshooting

1. After power all the lights are lit ?

Reasons:
1) Power connection errors;
2) Power is not normal.
Solution:
1) Check that the power cable is connected;
2) The rear panel of the power supply is turned on.

2. GE / FE led does not light?

Reasons:
1) Network cable is damaged or loose connection;
2) Cable type error;
3) Long lines outside the allowable range.
Solution:
1) Replace the network cable, and pay attention to the standard Ethernet cable must be parallel or crossing lines.

3. After working for some time to stop working?

Reasons:
1) Power supply is not working properly;
2) The equipment from overheating.
Solution:
1) Check if there is contact with abnormal voltage is too high or too low;
2) Check the ambient conditions, vents are normal ventilation.

4. LOS led flashes?

Reasons:
1) Fiber failure;
2) Central office equipment failure.
Solution:
1) Inspect fiber is connected properly, is connected to the correct connector, optical power is normal;
2) Contact your operator.

5. PON led flashes?

Reasons:
1) Fiber optic connector is loose;
2) Central office equipment failure;
3) Fiber optic connectors are dust.
Solution:
1) Inspect fiber is connected properly;

2) Cotton ball with alcohol swabbing fiber optic connectors;
3) Contact your operator.