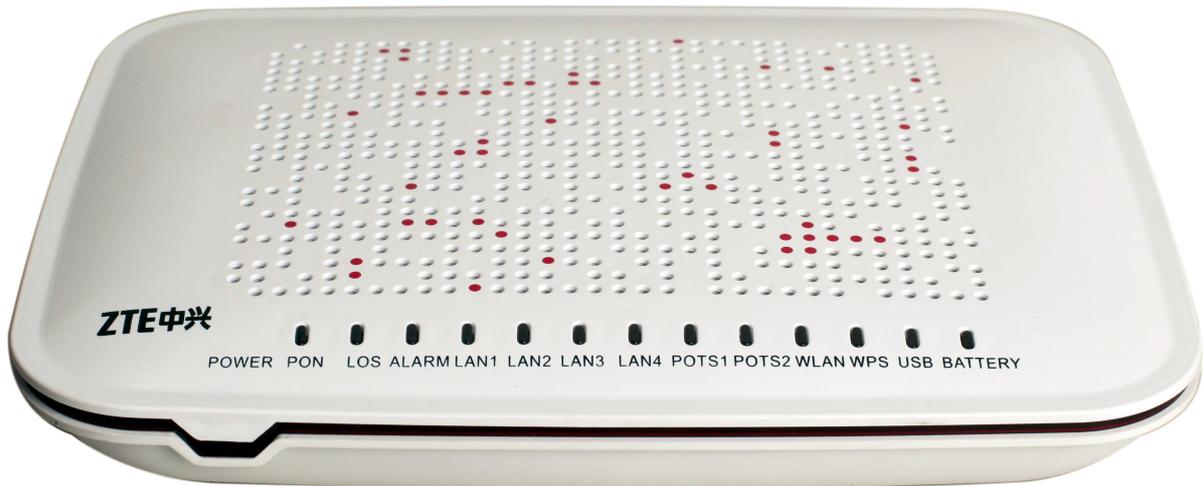**ZXHN F668**
Optical Network Unit or Terminal
GibFibreSpeed Customer Service Reference Manual

Revision History

Document Revision	Revision Description
GFSCSM-F668-RevA	First Edition

Contents

1. Product Overview

1.1 Safety Precautions

Usage Cautions

- Read all the safety cautions carefully before using the device.
- Only use the accessories included in the package, such as power supply adapter and battery.
- The power supply voltage must meet the requirements of the device input voltage (The voltage fluctuation range is less than 10%).
- Keep the power plug clean and dry to prevent any risk of electronic shock or other danger.
- Power off and disconnect the device from the electricity if not in used for a lo long periods.
- Do not attempt to open the covers of the device. It is dangerous to do so when the device is powered ON.
- Do not directly stare at the optical interface to prevent the eyes from being hurt.
- Power off and stop using the device under the following conditions: abnormal sound, smoke, and strange smell. Contact the service provider for maintenance if the device is faulty.

Note: The users should read the usage cautions above carefully and will be responsible for any incident resulted from the violation of the cautions above.

Environment Requirements

- Ensure the proper ventilation to the device. Place the device out of the direct sunlight.
- Keep the device ventilated and dry. Never spill any liquid on the device.
- Do not place any object on the device, in case it gets deformed and damaged.
- Do not place the device near any source of heat or water.
- Keep the device away from any household appliances with strong magnetic or electric fields, such as microwave oven and refrigerator.

Cleaning Requirements

- Before the cleaning, power off the device, and unplug all the cables connected to the device, such as power cable, optical fiber, and Ethernet cable.
- Do not use any liquid or spray to clean the device. Use the soft dry cloth.

Environment Protection

- Do not dispose the device or battery improperly.
- Observe the local regulations about the equipment disposal or treatment.

1.2 Packing List

After opening the ZXHN F668 packing box, make sure that it contains the following components, as listed below.

Packing List

1x ZXHN F668
1x Power adapter
1x RJ-45 network cable

1.3 Features and Specifications

Interface Features

The interface features are as follows:

- **GPON interface:** in compliance with the PON standard, SC/APC, and ITU G.984.1–G.984.5 standards
- **Ethernet interface:** 10/100/1000 Mbps GE interfaces (RJ-45), in compliance with IEEE
- **POTS interface:** RJ-11
- **WLAN interface:** in compliance with the IEEE 802.11n standard with built-in antenna

Technical Features

The ZXHN F668 implements the following functions:

- Broadband access: connects to the OLT through the GPON access method.
- Ethernet function: provides GE or FE Ethernet interfaces to connect to the Ethernet devices.
- IPTV function: provides IPTV service.
- For data access, the ZXHN F668 implements L2 data switching and forwarding.
  By working with relevant network devices through signalling protocols such as H.248 and SIP, the ZXHN F668 implements the IP voice function.
- The ZXHN F668 provides the security, QoS, and network management functions, such as multi-level authentication based on devices, users, and services.
  It supports data channel encryption, implementation of QoS requirements matching the local devices and network according to services with different requirements, and network management based in various management modes.

Product Specifications

The ZXHN F668 specifications are as follows:

- Rated current: 1.5 A
- Rated voltage: 12 V DC
- Operating temperature: –5℃ to 45℃
- Operating humidity: 5%–95%
- Dimensions: 199 mm × 35 mm × 150 mm (Width × Height × Depth)

1.4 Product Appearance
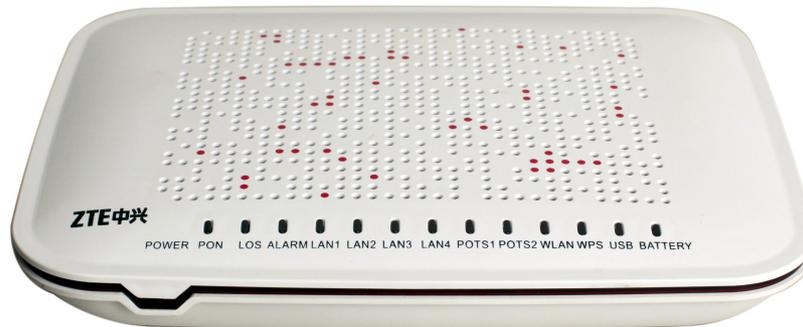**Front Panel**

Figure 1-1 ZXHN F668 Front Panel

Table 1-1 lists LEDs on the front panel.

Table 1-1Front Panel LEDs

LED	Status	Description
Power	Solid Green	The device is powered on.
	Off	The device is powered off.
PON	Solid Green	The device is registered and the link is activated.
	Off	The device is not discovered or registered.
	Flashing	The device is attempting to register or set up the connection.
LOS	Solid Red	The device has an optical power problem.
	Off	The device is receiving optical power.
Alarm	Solid Red	The device is has discovered a problem.
	Off	The device is working normally
	Flashing	The device is downloading or updating the version
LAN1-LAN4	Solid Green	The network interface is connected, but no data is being transmitted.
	Off	The device is powered off or the interface is not connected to a network device.
	Flashing	The network interface is connected and data is being transmitted.
POTS1-POTS2	Solid Green	The device is registered at the Soft Switch but no data is being transmitted.
	Off	The device is powered off or failed to register on the Soft Switch.
	Flashing	The device is registered and data is being transmitted.
WLAN	Solid Green	The Wireless LAN function is enabled.
	Off	The device is powered off or the Wireless LAN function is disabled.
	Flashing	Wireless data its being transmitted.
WPS	Yellow	WPS is being established.
	Green	WPS is complete.
	Red	WPS fails.
USB	Solid Green	USB storage device is connected but not transmitting data.
	Off	USB storage device is not connected.
	Flashing	USB Interface is transmitting data.
Battery	Solid Green	The battery is connected and in good condition.
	Off	The battery is not connected.
	Flashing	The battery is connected but there is an abnormal status.

Back Panel

Figure 1-2 shows the back panel of the ZXHN F668.

Figure 1-2 Back Panel

Table 1-3 lists the interfaces and buttons on the back panel.

Table 1-3 Interfaces and Buttons on the Back Panel

Interface/Button	Description
Red Button	Press this button to power on or off the device.
Power Socket	Connected the 12vDC power supply here.
PON	Optical fibre connects here. (Class 1 Laser Product)
POTS1-POTS2	RJ11 Telephone Interface.
LAN1-LAN4	RJ-45 LAN interface. Connect a PC or IP STB using RJ-45 network cable.
Battery	Backup power monitoring interface. (Battery not supplied with F668)

Side Panel

Figure 1-3 shows the side panel of the ZXHN F668.

Figure 1-3 Side Panel

Table 1-4 lists the interfaces and buttons on the side panel.

Table 1-4 Interfaces and Buttons on the Side Panel

Interface/Button	Description
WLAN	WLAN button, to enable or disable WLAN function.
WPS	WPS switch, to enable or disable Wi-Fi Protection Set-up.
Reset	With device powered ON, press this button for 10 seconds will restore the device to default settings.
USB	USB interface, for connecting a storage device for file sharing, data backup or data recovery.

1.5 System Requirements

The ZXHN F668 system requirements are as follows:
- An optical fibre connection to the GibFibreSpeed Network.
- A device installed with a 10 Mbps/100 Mbps/1000 Mbps Ethernet interface or an 802.11b/g/n wireless card is needed.
- A Web browser, such as Chrome, IE, Mozilla Firefox, Opera, etc.

1.6 Hardware Connection

Figure 1-4 shows the entire connections between the ZXHN F668 and other devices.
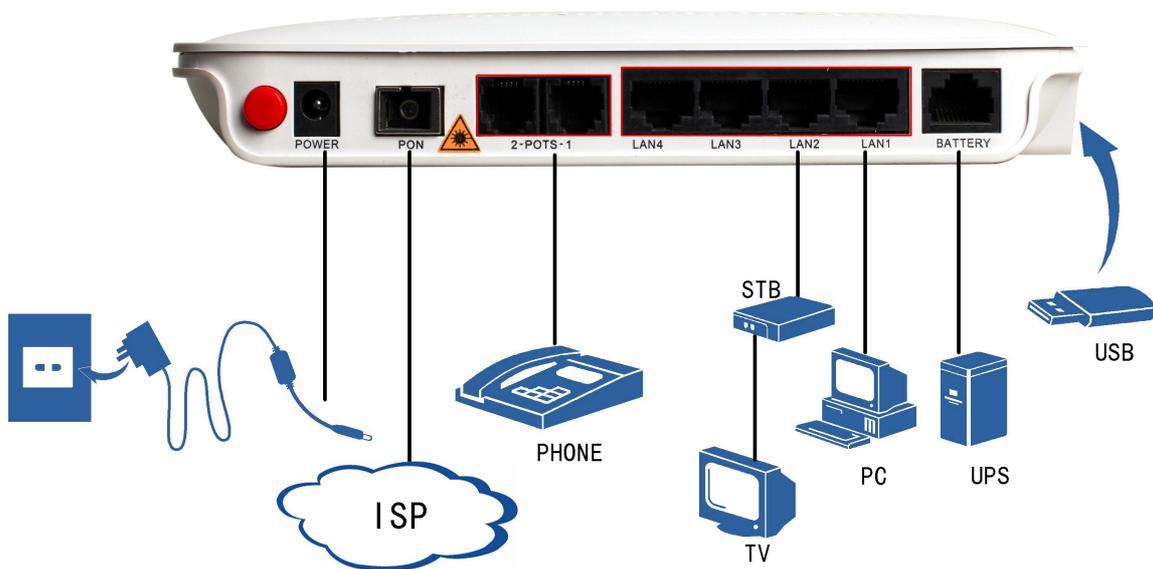
Figure 1-4 Hardware Connections

Figure 1-5 shows how to connect the power supply to the ZXHN F668.

Figure 1-5 Power Supply Connection
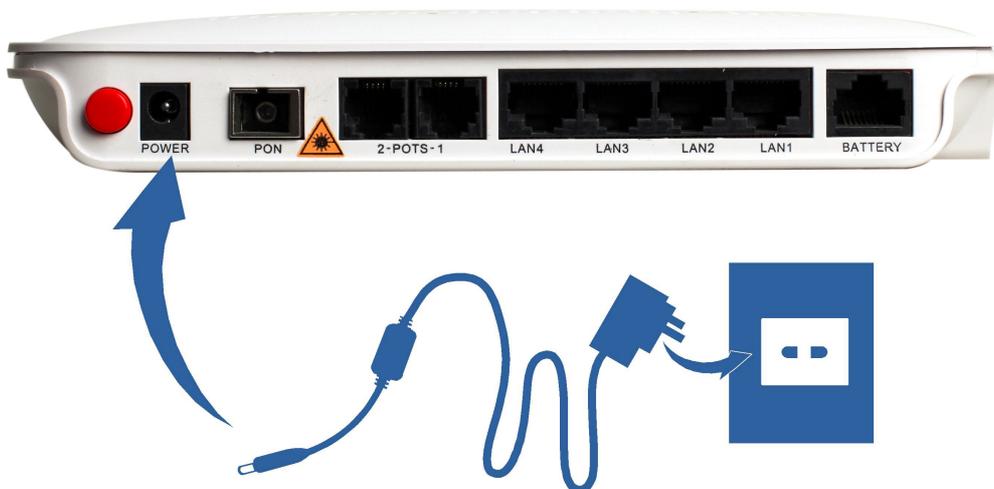
Figure 1-6 shows the optical fibre cable connecting to the ZXHN F668 PON interface.
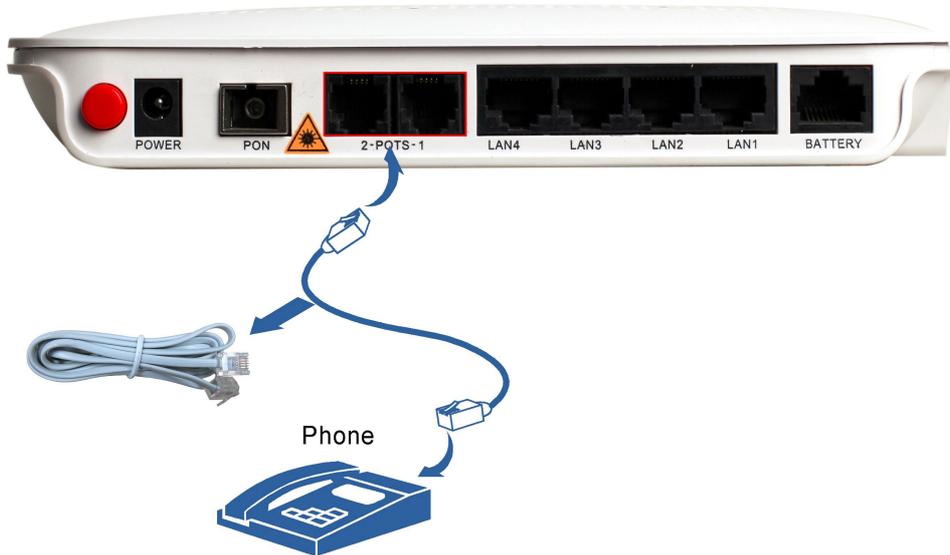
Figure 1-6 PON Connection
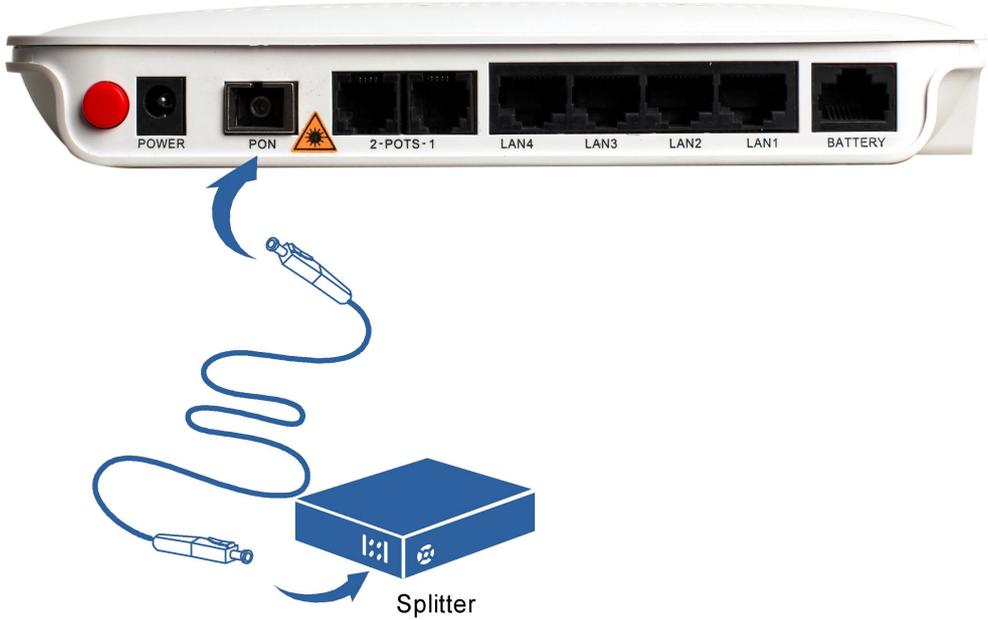
Use a RJ-45 network cable to connect the computer or the IPTV STB with the ZXHN F668, as shown in Figure 1-7.

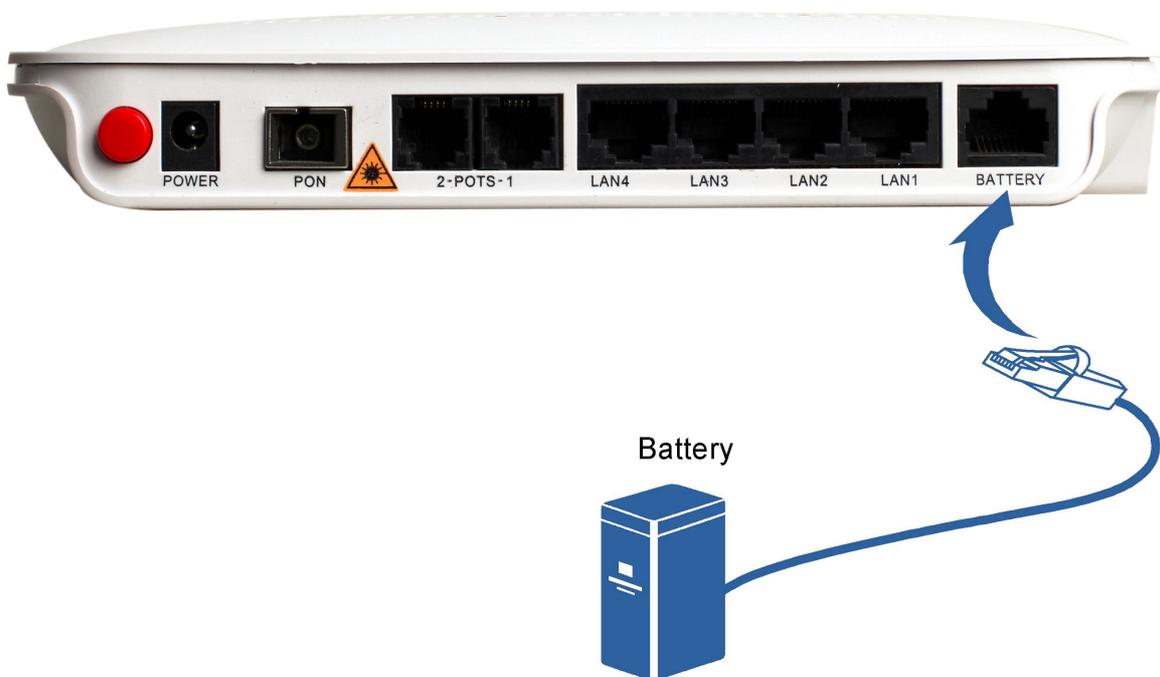Figure 1-7 LAN Interface Connection
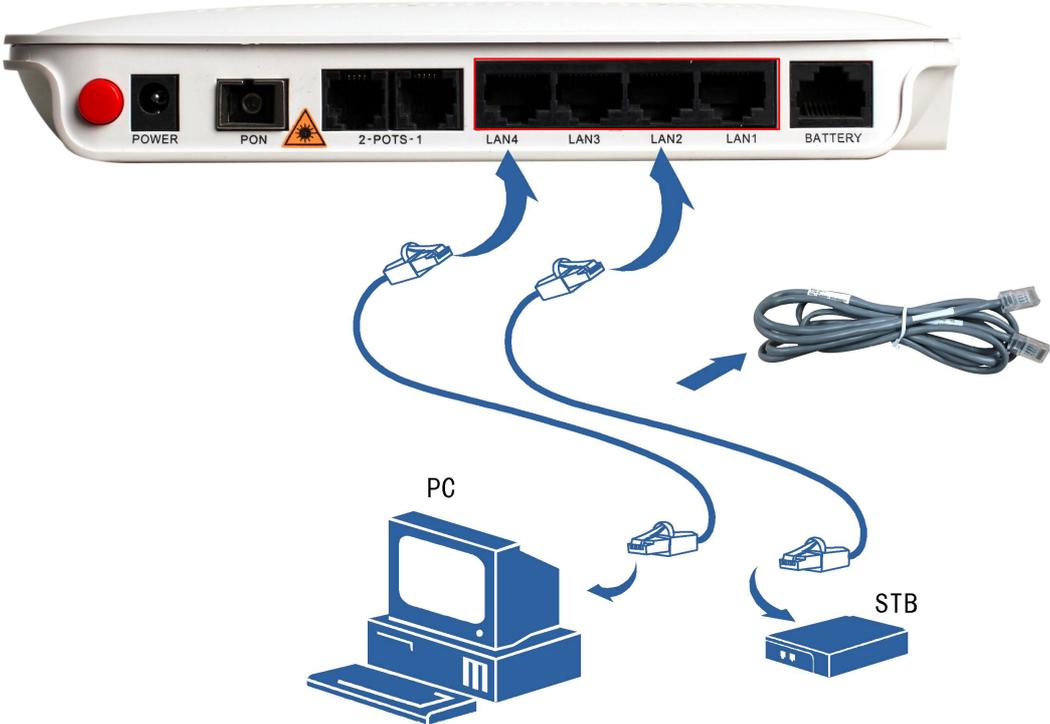
Use a RJ-11 cable to connect a phone to the ZXHN F668, as shown below.

Figure 1-8 Telephone Connection

Phone

Use the special power cable to monitor the battery, (Optional and not supplied with F668).

Figure 1-9 Battery Connection

Battery

A USB storage device is connected to the ZXHN F668, as shown below.

Figure 1-10 USB Storage Device Connection

Press the button to power ON the ZXHN F668, as shown below. The POWER LED, PON LED, LAN LED (if device connected), and POTS LED (if device connected) should be ON. This indicates that all services are running normally.

Figure 1-11 Power On

2. Configuration Preparation

2.1 Preliminary Set-up

The GibFibreSpeed Network Access team will set-up and configure the F668 remotely.

The F668 has a default Wi-Fi SSID and WAP-PSK, which can be found on a label attached underneath the unit. The SSID and WPA-PSK can be change for, or by, the client if required.

2.2 Logging in to the Device

Perform this procedure to log in to the device.

Prerequisites

Ensure all optical fibre and LAN cables are connected properly to the F668 and a computer or other device is correctly configured.

1. Open a Web Browser and enter http://192.168.1.1 (default IP address of the device) in to the URL address bar and press **Enter**.
    The login dialog box is displayed, as shown in Figure 2-1.

    Enter the **Username** and **Password** (by default, both are admin).
    Click **Login** to open the main window.
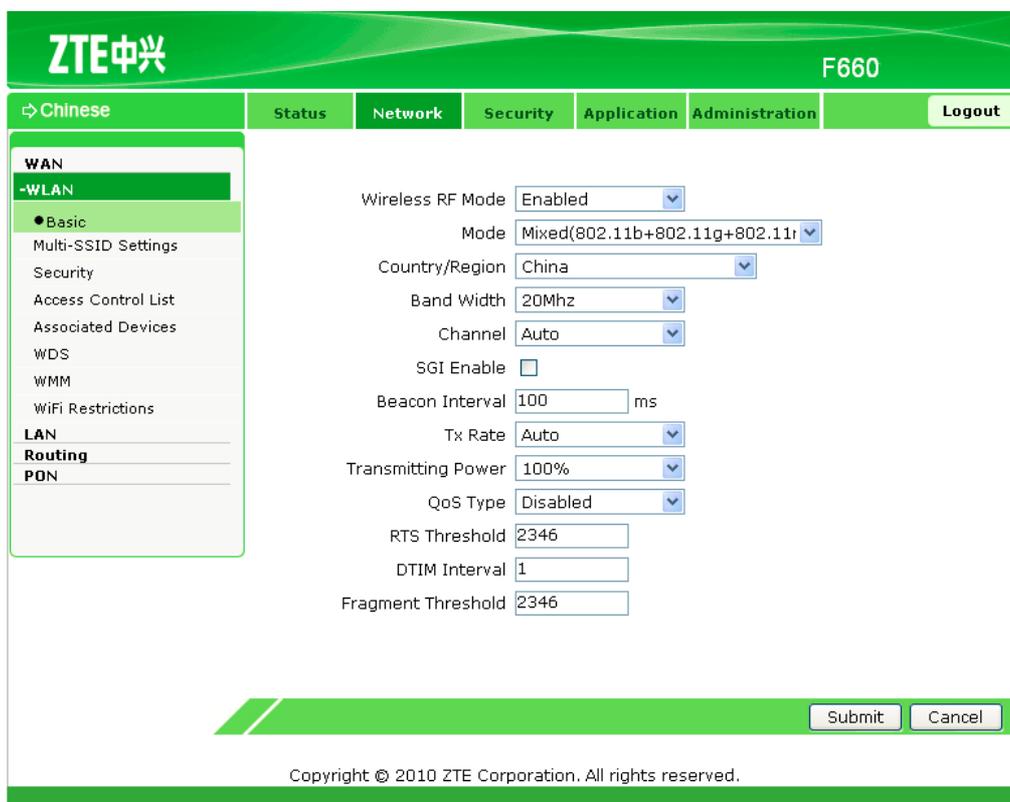
Figure 2-1 Login Window
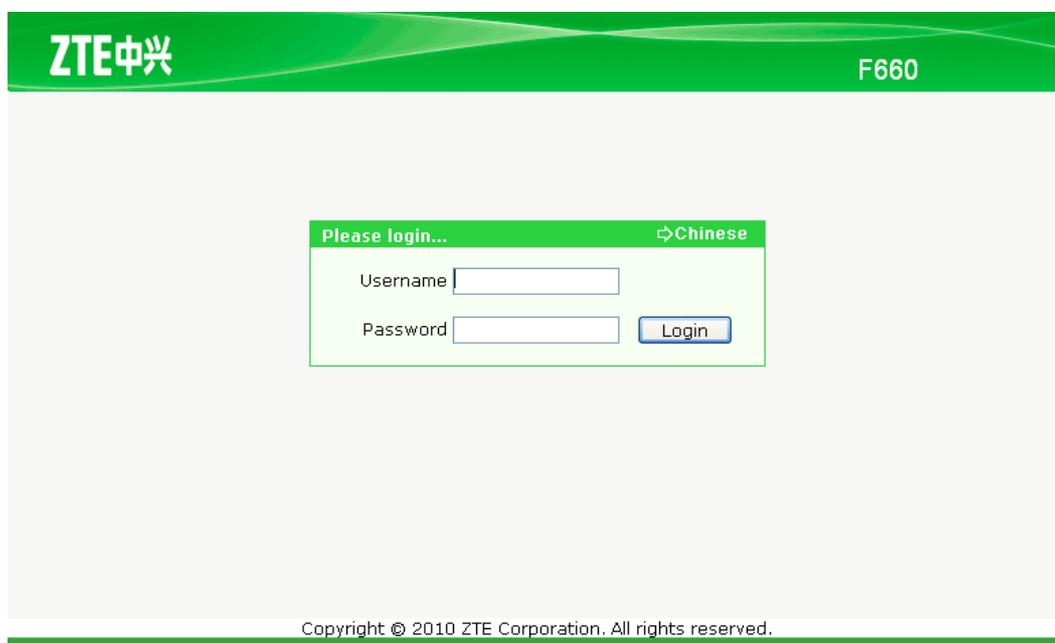
2.3 WLAN Configuration

2.3.1 Configuring Basic WLAN Parameters
Perform this procedure to configure the basic WLAN parameters.

1. From top menu bar, click on the Network tab and choose WLAN, then Basic.

2. Check the parameters in Table 2-1 match the contents of the main window of Figure 2-2. Amend if required and click Submit to apply the changes.

Figure 2-2

Table 2-1 Parameter Description

Parameter	Description
Wireless RF Mode	Set to Enabled – Options are Enabled, Disabled and Scheduled.
Mode	Set to Mixed (802.11b+802.11g+802.11n)
Country/Region	Set to United Kingdom or Other
Bandwidth	Set to 20Mhz (Default setting)
Channel	Set to Auto as default. (switches channels if interference is detected)
Transmit Power	Default 100%

Note All other parameters in this section should remain as default

2.3.2 Security

Perform this procedure to configure WLAN security.

WPA2-PSK

To configure the WPA/WPA2-PSK authentication mode, perform the following steps:

1. On the menu bar at the top of the window click on the Network tab and then from the menu on the left choose WLAN and then Security.

2. In the middle window, select WPA/WPA2-PSK from the Authentication Type drop-down list. Next Type a memorable password into WPA Passphrase box and select TKIP+AES from the WPA Encryption Algorithm drop-down list.

Select Submit and the security configuration is complete.