



HG659b Home Gateway

## **User Guide**



# HG659b Home Gateway

V100R001

## User Guide

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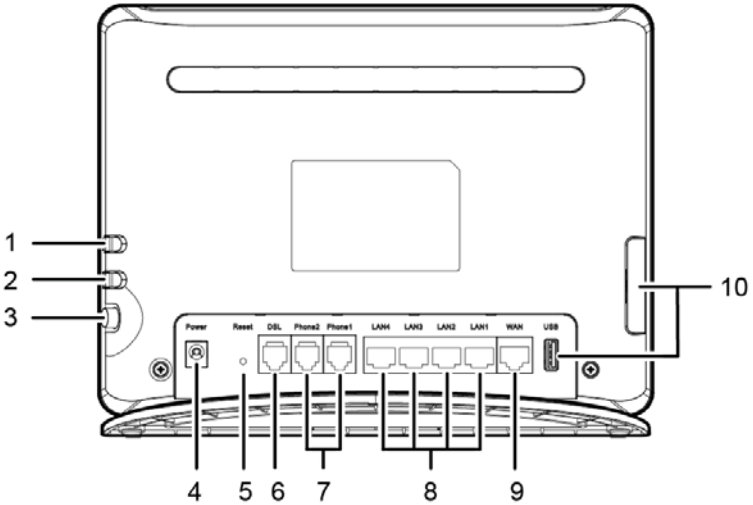
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# 1 Product Overview

## 1.1 Ports and Buttons



Number	Port or Button	Description
1	WPS	Starts Wi-Fi protected setup (WPS) negotiation.
2	WLAN	Enables or disables the WLAN function.
3	On/Off	Powers the HG659b on or off.
4	Power	Connects to a power adapter.



Number	Port or Button	Description
5	Reset	<p>Restores the HG659b to its default settings after you press and hold this button for 8 seconds to 10 seconds while the HG659b is powered on.</p> <p><b>CAUTION</b></p> <p>A reset will result in all custom data and settings being lost. Use with caution.</p>
6	DSL	Used to connect to the MODEM port on the splitter or connect to the telephone wall jack.
7	Phone1 ~ Phone2	Connects to a telephone.
8	LAN1 ~ LAN4	Connects to Ethernet devices, such as computers, set-top boxes (STBs), and switches.
9	WAN	Connects to an Ethernet device that provides Internet access, such as a fibre ONT, modem or switch.
10	USB	<p>Connects to a USB device, such as a USB storage device or a printer.</p> <p><b>CAUTION</b></p> <p>If you connect a USB device to the HG659b, verify that the input voltage and current of the USB device does not exceed 5 V/0.65 A. Otherwise, the HG659b may malfunction.</p>



Indicator	Status	Description
	Blinking	<ul style="list-style-type: none"> <li>● The HG659b is working in routing mode.</li> <li>● The WAN connection is set up.</li> <li>● Data is being transmitted.</li> </ul>
	Off	<ul style="list-style-type: none"> <li>● The HG659b is working in bridge mode.</li> <li>● The HG659b is working in routing mode, but the connection to the WAN has not been set up.</li> <li>● The HG659b is powered off.</li> </ul>
WLAN	Steady on	The HG659b has WLAN enabled, but is not transmitting data.
	Fast Blinking (2Hz)	The HG659b has WLAN enabled, and data is being transmitted.
	Slow Flashing (1Hz)	<p>The HG659b is attempting to connect to a wireless client over the WLAN using the WPS function.</p> <p>This process lasts for no longer than 120 seconds.</p>
	Off	<ul style="list-style-type: none"> <li>● The WLAN function is disabled.</li> <li>● The HG659b is powered off.</li> </ul>
VoIP	Steady on	The HG659b is registered with a SIP server, but no data is being transmitted.
	Blinking	The HG659b is registered with a SIP server, and data is being transmitted.
	Off	<ul style="list-style-type: none"> <li>● The HG659b is not registered with a SIP server.</li> <li>● The HG659b is powered off.</li> </ul>

<b>Indicator</b>	<b>Status</b>	<b>Description</b>
LAN1 ~ LAN4	Steady on	The HG659b is connected to a device properly.
	Blinking	Data is being transmitted between the HG659b and the device connected.
	Off	<ul style="list-style-type: none"> <li>● No connection is set up on the port.</li> <li>● The HG659b is powered off.</li> </ul>
USB	Blinking	<ul style="list-style-type: none"> <li>● The HG659b is being activated through USB modem.</li> <li>● Data is being transmitted on the USB port.</li> </ul>
	Steady on	<ul style="list-style-type: none"> <li>● The HG659b is activated through USB modem.</li> <li>● A portable storage device is connected to the USB port.</li> </ul>
	Off	<ul style="list-style-type: none"> <li>● The USB port is not connected.</li> <li>● The HG659b is powered off.</li> </ul>

## 2 Hardware Installation

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### 2.1 Selecting an Installation Location

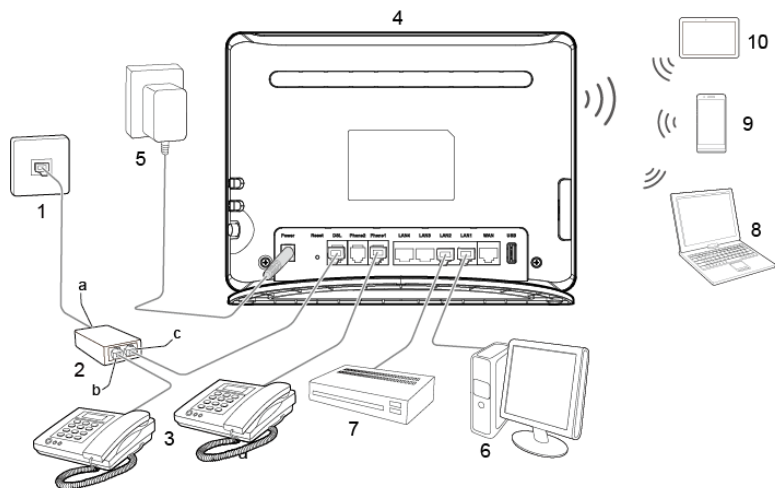
Place the HG659b on a well-ventilated even surface without exposure to direct sunlight. For the best possible performance, take note of the following:

- Make sure there are no obstacles, such as concrete or wooden walls, between the computer and HG659b.
- Ensure that the computer and HG659b are far from electric appliances that generate strong magnetic or electric fields, such as microwave ovens.

## 2.2 Installing the HG659b on a DSL Broadband Service

If you have subscribed to digital subscriber line (DSL) broadband, you can connect the HG659b to a telephone port for Internet access.

Connect your devices in the sequence indicated in the following figure.



- |                        |                    |                     |
|------------------------|--------------------|---------------------|
| 1. Telephone wall jack | 2. DSL filter      | 3. Telephone        |
| 4. HG659b              | 5. Power adapter   | 6. Desktop computer |
| 7. Set-top Box         | 8. Laptop computer | 9. Mobile phone     |
| 10. Tablet             |                    |                     |



### NOTE

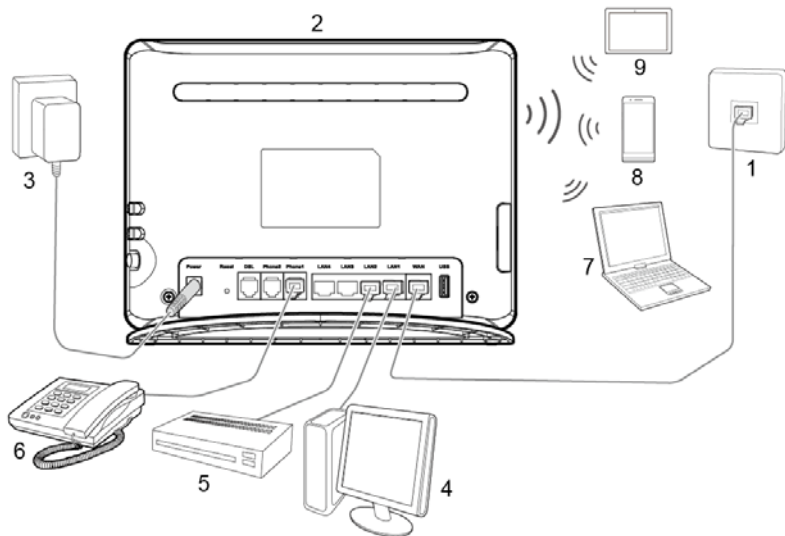
When setting up the HG659b for the first time, connect the HG659b to a computer using an Ethernet cable.

## 2.3 Installing the HG659b on a Fibre Broadband Service

In some regions, broadband service is delivered by a Fibre connection. On this network, your HG659b gateway is directly connected to the Internet through the local fibre company optical termination point (ONT) installed in your premise.

If you have subscribed to fibre broadband services, connect your HG659b WAN Ethernet port to your fibre company ONT using the blue Ethernet cable supplied.

Connect your devices in the sequence indicated in the following figure.

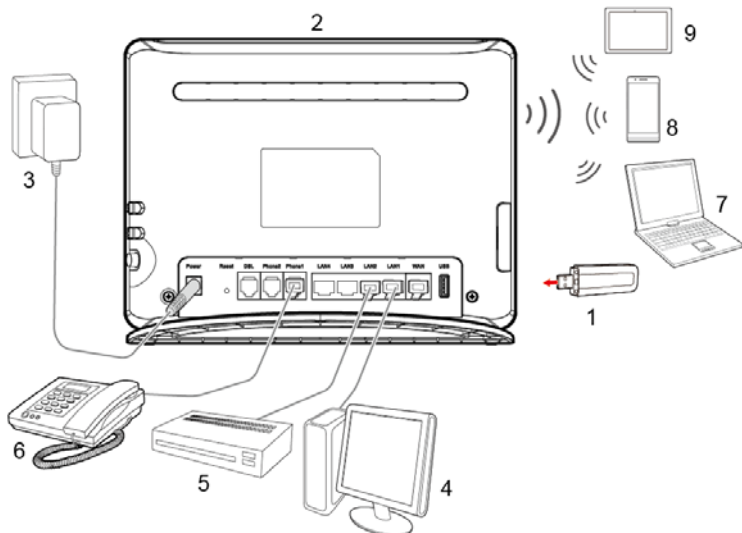


- |                       |                 |                  |
|-----------------------|-----------------|------------------|
| 1. Ethernet wall jack | 2. HG659b       | 3. Power adapter |
| 4. Desktop computer   | 5. Set-top Box  | 6. Telephone     |
| 7. Laptop computer    | 8. Mobile phone | 9. Tablet        |

## 2.4 Installing USB Mobile Broadband on the HG659b

If you wish to use 3G mobile broadband to access the Internet, plug in a supported 3G USB Mobile Broadband T-Stick into the USB interface in the rear of the HG659b.

Connect your devices in the sequence indicated in the following figure.



- |                     |                 |                  |
|---------------------|-----------------|------------------|
| 1. Data card        | 2. HG659b       | 3. Power adapter |
| 4. Desktop computer | 5. Set-top Box  | 6. Telephone     |
| 7. Laptop computer  | 8. Mobile phone | 9. Tablet        |



### NOTE

Using 3G Mobile Broadband incurs mobile broadband data charges. Ensure your mobile broadband data plan is correct for your needs before using.



## 2.5 Getting Started

To power on the HG659b, press its power button.

After the HG659b is powered on, the HG659b indicator turns on. If the indicators do not behave as expected, ensure that everything is plugged in correctly.

## 3 Setting Network Parameters

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### 3.1 Logging In to the Web Management Page

The HG659b provides an intuitive web management page where you can view or set the HG659b parameters.



#### NOTE

Before you log in to the HG659b web management page, ensure that the computer used for the login is connected to the HG659b and has been configured to automatically obtain an IP address or assigned with a static IP address.

**Step 1** Open a browser. In the address box, enter **http://192.168.1.254** and press **Enter** to access the web management page.

**Step 2** Enter the login user name (**admin** by default) and password (**admin** by default). Click **Login**.



#### NOTE

To protect against unauthorized access, change the user name and password after the first login.

### 3.2 Setting Network Access Parameters

#### 3.2.1 Configuring an Automatical Connection to Access the Internet

The HG659b supports you to choose the proper connection mode automatically to access the Internet, meaning you do not need to install dial-up software or perform dial-up operations on your computer and just following the **Start Wizard** page.

To set up an automatical connection to access the Internet:

**Step 1** Log in to the web management page.

**Step 2** On the **I want to... Connect to the Internet** page, choose **Connect automatically**.

**Step 3** In the displayed dialog box, enter the user name and password that are provided by your service provider, and then click **Next**.

The HG659b supports DSL/Ethernet/3G compliance uplink mode, meaning you can use the HG659b with a telephone port, a network interface on the wall or the data card for Internet access.

Then check the status of the **Internet** indicator. When the **Internet** indicator turns green, you can access the Internet.

The preceding operations need only be performed once. The next time you power on the computer, you can access the Internet without performing the same configurations.

### 3.2.2 Configuring a Wireless Account

After you complete the preceding settings, click **Set Up WLAN**, you will see the **I want to Set Up WLAN** page used to configure the wireless account.



#### NOTE

The default SSID and WLAN Key printed on the HG659b's rear panel are unique and secure. If you do not want to change them, just turn the WLAN switch on.

For security reasons or to make the password easy to remember, you can change the wireless network name and password as follows:

**Step 4** On the **I want to Set Up WLAN** page, choose the 2.4 GHz or the 5 GHz WLAN network.

**Step 5** Enter your desired SSID (WLAN name) and WLAN password.

**Step 6** Click **Save**.

## 4 Wireless Connection Setup

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### 4.1 Enabling and Disabling the WLAN on the HG659b

#### 4.1.1 Using the WLAN Button

Press the WLAN button in the HG659b to enable or disable the WLAN. To ascertain whether the WLAN is enabled, view the WLAN indicator.

The WLAN function is enabled by default. You can enable or disable the WLAN as follows:

- Press the WLAN button (more than 1 second) the first time to disable WLAN.
- Press the WLAN button (more than 1 second) the second time to enable WLAN.

#### 4.1.2 Using the Web Management Page

**Step 1** Log in to the web management page.

**Step 2** In the navigation tree, choose **Home Network > WLAN Settings > Basic Settings**.

**Step 3** On the **Basic Settings** page, enable or disable your WLAN, and click **Save**.

## 4.2 Setting Up a Wireless Connection Using the WPS Button

Push the WPS button once to quickly set up a wireless connection between the HG659b and any WPS-capable device.

- The wireless device (laptop, tablet, or mobile phone) to connect to the HG659b is WPS-capable.
- The wireless network security mode of the HG659b is WPA2-PSK or WPA-PSK/WPA2-PSK, for the WPS function can be used only when the security mode of the WLAN is set to WPA2-PSK, or WPA-PSK/WPA2-PSK.

Table 4-1 Security mode and description

Security mode	Description
<b>None</b>	It is the open system authentication mode. In this mode all wireless devices can access the wireless network.
<b>WEP</b>	Include the open system authentication and shared key authentication. When a wireless client accesses the wireless network, an encryption key is required for authentication.
<b>WPA-PSK</b>	The WPA-PSK is a simplified WPA authentication mode that uses a pre-shared key.
<b>WPA2-PSK</b>	The WPA2-PSK is a simplified WPA2 (IEEE 802.11i) authentication mode, which is another authentication mode that uses a pre-shared key, and is a more robust security mode.
<b>WPA-PSK + WPA2-PSK</b>	Compatible with WPA-PSK and WPA2-PSK authentication mode.

Before you set up a wireless connection using the WPS button, verify the following:

**Step 1** Enable the HG659b's WPS function.

1. Log in to the web management page.
2. In the navigation tree, choose **Home Network > WLAN Access**.
3. Select **Enable WPS** to enable the WPS function.
4. In **WPS configuration**, click **WPS by push button (PBC)**, and click **Save**.

**Step 2** Press the WPS button on the wireless device to start WPS negotiation. For details, see the user guide for the wireless device.

**Step 3** Within 2 minutes, press and hold the WPS button on the HG659b for 1 second or more. The WPS button indicator blinks.

When the WPS button indicator on the HG659b is steady on, a connection between the HG659b and wireless device is set up. The WPS button indicator is on for 300 seconds.

## 4.3 Manually Setting Up a Wireless Connection

The wireless configuration software provided by Windows is used as an example to describe how to set up a wireless connection.



### NOTE

You can also use the tool built into the network adapter to set up a wireless connection. For details, see the network adapter's user guide.

Before setting up a wireless connection, record the WLAN name and password of the HG659b. The default WLAN name and password are printed on the HG659b cover label.

### On Windows XP

**Step 1** Choose **Start > Control Panel > Network and Internet Connections > Network Connections**. Right-click **Wireless Network Connection** and choose **View Available Wireless Networks** from the shortcut menu.

**Step 2** From the wireless network list, select the WLAN provided by the HG659b. Click **Connect**.

**Step 3** In the displayed dialog box, enter the WLAN password and click **Connect**. Note that the WLAN password is case sensitive.

**Step 4** In the wireless network list, check the WLAN connection status. If the status is **Connected**, the computer is wirelessly connected to the HG659b.

### On Windows Vista

**Step 1** Choose **Start > Control Panel > Network and Internet > Network and Sharing Center > Manage wireless networks**.

**Step 2** In the **Connecting to a network** window, double-click the WLAN provided by the HG659b.

**Step 3** In the displayed dialog box, enter the password and click **Connect**.

**Step 4** In the wireless network list, check the WLAN connection status. If the status is **Connected**, the computer is wirelessly connected to the HG659b.

## On Windows 7

**Step 1** Choose **Start > Control Panel > Network and Internet > Network and Sharing Center > Change adapter settings**. Right-click **Wireless Network Connection**, and select **Connect/Disconnect**.

**Step 2** From the wireless network list, select the WLAN provided by the HG659b. Click **Connect**.

**Step 3** In the displayed dialog box, enter the WLAN password and click **OK**. Note that the WLAN password is case sensitive.

**Step 4** In the wireless network list, check the WLAN connection status. If the status is **Connected**, the computer is wirelessly connected to the HG659b.

## On Windows 8 Desktop


**Step 1** From the wireless network list on the right side of the desktop, select the SSID of the wireless network you want to connect to, and then click **Connect**.

**Step 2** In the displayed dialog box, enter the password and click **Next**. You can also press the WPS button on the access point or wireless router.

**Step 3** Choose whether to enable sharing and connect to devices on your network according to the wireless network environment.

**Step 4** Check the connecting status of the wireless network. **Connected** indicates that you have successfully connected to the wireless network.

## On Windows 8 Mobile

**Step 1** From the Home screen, touch  > **SETTINGS > WIFI**.

**Step 2** Under **SETTINGS WiFi**, switch **Wi-Fi** to **ON** .

Your phone then searches for WLANs within range.




**Step 3** From the search results, touch the WLAN provided by the HG659b.

**Step 4** In the displayed dialog box, enter the WLAN password and touch **done**. Note that the WLAN password is case sensitive.

**Step 5** When **connected** is displayed under the HG659b's SSID, the device is connected to the wireless network.

## On Google Android 4

**Step 1** From the Home screen, touch  > **Settings**.

**Step 2** In **WIRELESS & NETWORKS**, switch **Wi-Fi** to **ON** .


Your phone then scans for available Wi-Fi networks and displays them.

**Step 3** From the search results, touch the WLAN provided by the HG659b.

**Step 4** In the displayed dialog box, enter the WLAN password and touch **Connect**. Note that the WLAN password is case sensitive.

**Step 5** When **Connected** is displayed under the HG659b's SSID, the device is connected to the wireless network.

## On Apple Mac OS X

**Step 1** Click  on the status bar on the Mac desktop. Choose **Turn AirPort On** from the displayed menu.

The device then scans for available wireless networks within range.


**Step 2** From the search results, select the WLAN provided by the HG659b.

**Step 3** In the displayed dialog box, enter the WLAN password and click **Join**. Note that the WLAN password is case sensitive.

**Step 4** When a check mark appears next to the HG659b's SSID, the device is connected to the wireless network.

## On Apple iOS

**Step 1** From the Home screen, touch Settings > Wi-Fi.

**Step 2** In Wi-Fi Networks, with Wi-Fi to on .

Your phone then scans for available wireless networks within range.

- Step 3** From the search results, select the WLAN provided by the HG659b.
- Step 4** In the displayed dialog box, enter the WLAN password and click **Join**. Note that the WLAN password is case sensitive.
- Step 5** When a check mark appears next to the HG659b's SSID, the device is connected to the wireless network.

## 4.4 Changing Your WLAN Name and Password

WLAN access requires the WLAN name and password. To improve your WLAN security, regularly change your WLAN name and password.

- Step 1** Log in to the web management page.
- Step 2** In the navigation tree, choose **Home Network > WLAN Settings**
- Step 3** On the **Basic Settings** page, enable your WLAN, and click **Save**.
- Step 4** On the **WLAN Encryption** page, enter your desired WLAN SSID and Key, and click **Save**.
- Step 5** In **SSID** and **WPA Pre-Shared Key**, enter your desired WLAN SSID and key.
- Step 6** Click **Submit** to save the settings.

# 5 USB Device

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## 5.1 USB Storage Device

USB storage devices use their USB ports to exchange data with other devices.

You can connect a USB storage device to your HG659b and access the USB device from your computer. Both the USB drive and removable hard disk can connect to your HG659b. Your HG659b supports the following file systems for reading and writing.

- FAT32/FAT
- NTFS
- MAC OS
- Ext 2/3

## 5.2 Connecting a USB Device

After you connect a USB device to your HG659b, computers or other devices connected to the HG659b network can access and share the data in or applications provided by the USB device.



If you connect a USB device to the HG659b, verify that the input voltage and current of the USB device does not exceed 5 V/0.65 A. Otherwise, the HG659b may malfunction.

You can connect the following USB devices to your HG659b:

- Spark USB Mobile Broadband T-Stick
- USB storage device
- USB printer

## 5.3 Content Sharing

The HG659b supports a home storage function, you can read and write files on a storage device and access the removable storage device through the HG659b, and configure the HG659b through a FTP server or Samba server to access the portable storage device from the LAN or Internet.

### 5.3.1 Setting the FTP Access Permission

#### Accessing to FTP Server Through the User Name and Password

**Step 1** Connect the mobile storage device to the HG659b's USB port.

**Step 2** Enable the FTP server, and configure the FTP server settings.

1. Log in to the web management page.
2. Choose **Share > Storage Share**.
3. In **Service Settings**, select **Enable FTP** for FTP server.
4. Click **Save** to save the settings.

**Step 3** Set the user name and password of the portable storage device

1. In **Username** and **Password**, enter a user name and password for the FTP server, and re-enter the password to confirm it.
2. In **Directory mode**, select **Choose directory**, and then click **Choose Directory** to choose a file sharing path.
3. In **Privilege**, select the desired right.
4. Select **Enable account**.
5. Click **Save** to save the settings.

## Accessing to FTP server Anonymously

**Step 1** Connect the portable storage device to the HG659b's USB port.

**Step 2** Enable the FTP server.

1. Log in to the web management page.
2. Choose **Share > Storage Share**.
3. In **Service Settings**, select **Enable FTP** for FTP server.
4. Click **Save** to save the settings.

**Step 3** Enable anonymous users.

1. In **FTP Anonymous Users**, select **Enable anonymous users**.
2. In **Directory mode**, choose a file sharing path.
3. In **Privilege**, select the desired right.
4. Click **Save** to save the settings.

## Accessing a USB Storage Device Using FTP

You can access a USB storage device through the FTP server.

To access a USB storage device using FTP, connect the USB storage device to your HG659b and set the FTP login parameters.

**Step 1** Open a browser on your computer.

**Step 2** In the address box, enter **ftp://192.168.1.254**. Press **Enter**.

**Step 3** In the **Login** dialog box, enter the login user name and password you set in the HG659b's **Storage Share** page (Anonymous users select the anonymous directly). Click **Login**.

Once you pass the authentication, the directory of and files in the USB storage device will be displayed.

### 5.3.2 Setting the Samba Access Permission

To prevent unauthorized users from accessing data stored in USB devices, you can set the Samba access permission for the HG659b. After this permission is set, only authorized users can access data stored in USB devices.

**Step 1** Connect the portable storage device to the HG659b's USB port.

**Step 2** Enable the samba server.

1. Log in to the web management page.
2. Choose **Share > Storage Share**.
3. In **Service Settings**, select **Enable SAMBA** for samba server.
4. Click **Save** to save the settings.

**Step 3** Set the user name and password of the portable storage device.

1. In **Username** and **Password**, enter a user name and password for the samba server, and re-enter the password to confirm it.
2. In **Directory mode**, choose a file sharing path.
3. In **Privilege**, select the desired right.
4. Click **Save** to save the settings.

### Accessing Data Using Samba

Using Samba, you can securely and easily access data stored in USB devices by accessing shared network directories. You have connected a USB device to the HG659b and set its access permission.

**Step 4** On your computer, open a browser.

**Step 5** Enter \\192.168.1.254 in the address box, and then press **Enter**.

If the access permission of the USB device is set, your identity will be authenticated. During the authentication, follow the onscreen instructions. When the authentication is successful, you will be able to access data stored in the USB device.

## 5.4 Sharing a USB Printer

HG659b supports USB printers. After you connect a USB printer to your HG659b through the USB port, and install the printer's driver in your computer, you can access the printer from the Internet or internal network.

**Step 1** Connect the USB cable of the printer to the USB port on the HG659b.

**Step 2** Add a Network Printer.

### On Windows XP

1. Choose **Start > Printers and Faxes**.
2. Choose **Add a printer**.
3. In the **Add Printer Wizard** dialog box, click **Next**.
4. Choose **A network printer, or a printer attached to another computer** and click **Next**.
5. Choose **Connect to a printer on the Internet or on a home or office network** and enter the printer's address `http://192.168.1.254:631/printers/myprinter` in the **URL** text box. **myprinter** is the customized name of the printer to add. Click **Next**.
6. Select the model of the printer you want or click **Have Disk** to manually install the printer drive. Click **OK**.
7. Determine whether to set the printer as the default printer. Click **Next**.
8. Click **Finish**.

### On Windows Vista

1. Choose **Start > Control Panel > Hardware and Sound >**



## **Printer.**

2. Choose **Add Printer**.
3. Choose **Add a network, wireless or Bluetooth printer**.
4. The operating system will now attempt to independently make the printer connected locate. If the connected printer can not be found, click **The printer that I want isn't listed**.
5. Choose **Select a shared printer by name** and enter the printer address  
http://192.168.1.254:631/printers/myprinter in the text box. **myprinter** is the customized name of the printer to add. Click **Next**.
6. Select the model of the printer you want or click **Have Disk** to manually install the printer drive. Click **OK**.
7. Determine whether to set the printer as the default printer. Click **Next**.
8. Click **Finish**.

## **On Windows 7**

1. Choose **Start > Devices and Printers**.
2. Choose **Add a printer**.
3. Choose **Add a network, wireless or Bluetooth printer**.
4. Select **The printer that I want isn't listed to add a new one**.
5. Choose **Select a shared printer by name** and enter the printer address  
http://192.168.1.254:631/printers/myprinter in the text box. **myprinter** is the customized name of the printer to add. Click **Next**.

6. Select the model of the printer you want or click **Have Disk** to manually install the printer drive. Click **OK**.
7. Click **Next**.
8. Determine whether to set the printer as the default printer. Click **Finish**.

### **On Windows 8 Desktop**

1. Choose **Start > Control Panel > Hardware and Sound > Devices and Printers**.
2. Choose **Advanced Printer Setup**.
3. Choose **Add a printer**.
4. The operating system will now attempt to independently make the printer connected locate. If the connected printer can not be found, click **The printer that I want isn't listed**.
5. Choose **Select a shared printer by name** and enter the printer address  
`http://192.168.1.254:631/printers/myprinter` in the text box. **myprinter** is the customized name of the printer to add. Click **Next**.
6. Select the model of the printer you want or click **Have Disk** to manually install the printer drive. Click **Next**.
7. Click **Next**.
8. Click **Finish**.

### **On Mac OS X**

1. Choose **System Preferences > Print & Fax**.
2. Click **+** to add a new printer.

3. Select **IP Printer** on the **Printer Browser**.
4. Set the printer information as follows:
  - **Protocol: Internet Printing Protocol-IPP**
  - **Address: 192.168.1.254:631**
  - **Queue: printers/myHG659bPrinter**

The printer name **myHG659bPrinter** is the customized name of the printer, which can be any text string up to 40 characters.

- **Print Using:** Select a correct driver for the printer.
5. Click **Add**.

Then check the status of new printer from **Print & Fax**, status should be shown ready.

After you complete the preceding settings, open the files you want to print on your computer. Then you can choose the printer just installed to print your files.

## 6 IP Telephony

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### 6.1 Introduction to IP Telephony

IP telephony, namely voice over Internet Protocol (VoIP), is also called broadband telephony or Internet telephony. It utilizes Internet Protocol (IP) network technologies to implement voice communication. During a VoIP call, voice signals are digitized, encoded, packetized, and transmitted as packets over a network. On the receiving side, the packets are then decoded, and digital signals are converted to reproduce the original voice streams, which can be heard by the called party. Different from traditional PSTN calls, VoIP calls are transported over IP networks, meaning voice streams are

transmitted over users' existing broadband Internet. This makes full use of broadband resources.

## 6.2 Configuring VoIP

The HG659b supports VoIP. You can place VoIP calls after your phone is connected to the Phone port on the HG659b.

To use the HG659b to place VoIP calls, ask your network service provider to activate VoIP services for you. By default, your network service provider will have all related parameters, such as the VoIP account and address, set for you. You will not need to configure any settings to place VoIP calls.

To configure voice services, do as follows:

### Step 1 Configure a VoIP provider.

1. Choose **Telephony** > **VoIP** to display the VoIP provider page.
2. Click **New VoIP provider**.
3. Enter the VoIP provider name provided by the service provider.
4. Enter the IP address or name of the SIP registrar server provided by the service provider in the **Primary registrar** text box.
5. Enter the port number of the SIP registrar server provided by the service provider in the primary registrar **Port** text box. If the service provider does not provide the port number, the default value should be used.
6. Enter the IP address or name of the SIP proxy server provided by the service provider in the **Primary proxy** text box.
7. Enter the port number of the SIP proxy server provided by

- the service provider in the primary proxy **Port** text box.
8. Enter the home domain name of the SIP user in the **SIP domain** box.
  9. Click **Save** to save the settings.

**Step 2** Configure a VoIP number.

1. Choose **Telephony > VoIP > VoIP Numbers** to display the VoIP configuration page.
2. Select the VoIP provider name from the drop-down list box.
3. Enter the SIP phone number.
4. Enter the SIP user name and password.
5. Click **Save** to save the settings.

**Step 3** Associate your telephone to the VoIP number.

1. Choose **Telephony > Telephone** to display the telephony page.
2. Associate your telephone to the VoIP number.

## 6.3 Placing a VoIP Call

Once your network service provider has activated VoIP services for you, you will be assigned a VoIP account, which is also your VoIP call number.

Before placing a VoIP call, ensure that the HG659b has connected to the network. When the call is established, your VoIP call number is displayed on the called party's phone.

For VoIP call tariffs, contact your network service provider.

# 7 IPTV

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## 7.1 Introduction to IPTV

Internet Protocol Television (IPTV) is digital television delivered on your television (and not PC) through high speed internet (broadband) connection. In this service, channels are encoded in IP format and delivered to the TV through a set top box.

## 7.2 Configure IPTV

The HG659b supports IPTV. You can watch IPTV from your network service provider after your STB is connected to the LAN port on the HG659b.

To use the HG659b to watch IPTV, ask your network service provider to activate IPTV services for you.

By default, your network service provider will have all related parameters, such as the VLAN id, internet account and password, set for you.

To configure voice services, do as follows:

**Step 1** Log in to the web management page.

**Step 2** Choose **Internet** > **IPTV Service**.

**Step 3** In **IPTV Setup**, select **Enable IPTV**.

**Step 4** In **Access type**, select your IPTV access type.

**Step 5** In **LAN interface**, select a LAN port for IPTV service.



### NOTE

The LAN port which bound for IPTV service will not be used for internet access.

**Step 6** In **Connection type**, select your IPTV connection type.

**Step 7** In **VPI/VCI**, enter the VPI and VCI parameters provided by your IPTV service provider.

**Step 8** Enable the VLAN and enter the VLAN id provided by your IPTV service provider.

**Step 9** Click **Save**.

## 8 Advanced Configuration

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### 8.1 Parent Control

#### 8.1.1 Controlling Computer Internet Access

Your HG659b provides time control function. With this function, you can set limits on the duration of Internet usage. You can confine Internet access to specific computers or deprive specific computers of Internet access.

**Step 1** Log in to the web management page.

**Step 2** In the navigation tree, choose **Internet > Parental Control > Time Rules**.

**Step 3** Click **New time rule**.

**Step 4** In **Rule name**, enter a new rule name you specified.

**Step 5** In **Time allowed**, set the time range that allowed to access the Internet.

**Step 6** Select the device you want to control.

**Step 7** Click **Save**.

#### 8.1.2 Filtering Out Inappropriate Websites

Use URL filtering to prevent certain websites from being accessed.

**Step 1** Log in to the web management page.

**Step 2** In the navigation tree, choose **Internet > Parental Control > URL Fliter**.

**Step 3** Click **New URL fliter**.

**Step 4** In **URL**, enter the website address you specified.

**Step 5** Select **Manage devices manually**, and select the device you want to apply to.

**Step 6** Click **Save**.

## 8.2 Configuring the DMZ

The HG659b supports Demilitarized Zone (DMZ), which is used to solve the problem that the external network equipped with a firewall cannot access the internal network server. After DMZ is enabled, the computer that is configured as a DMZ host is exposed to the Internet.

For example, when building a server, you can configure the computer providing external services as a DMZ host, which helps protect other computers on the home network.

To assign a computer or server to be a DMZ host:

**Step 1** Log in to the web management page.

**Step 2** In the navigation tree, choose **Internet > Network Security**.

**Step 3** Click **DMZ**.

**Step 4** In **Host address**, select or add a computer's IP address that assigned to be a DMZ host.

**Step 5** Select **Enable DMZ**.

**Step 6** Click **Save** to activate the DMZ host.

## 8.3 Configuring the DLNA

You can play media files on a portable storage device using the DLNA function of the HG659b.

To play media files on the portable storage device with Windows Media Player, do as follows:

**Step 1** Enable the DLNA function.

1. Log in to the web management page.
2. In the navigation tree, choose **Internet > Multimedia Share**.
3. Select the sharing directory mode you want to apply to.



4. Click **Save**.

**Step 2** Access your portable storage device using Windows Media Player.

1. Open the Windows Media Player on your computer.
2. In the navigation tree, choose **Home Gateway Media Server**.

You can then select media files (such as music, video, photo) and enjoy them.

## 8.4 Configuring the Firewall

The firewall can protect the terminal against malicious access on the WAN port and is used when the HG659b works in routing mode. To configure the firewall, do as follows:

**Step 1** Log in to the web management page.

**Step 2** In the navigation tree, choose **Internet > Network Security > Firewall**.

**Step 3** Select a firewall level for **Firewall level**.

- **Off:** The firewall does not monitor or filter through any Internet activities.
- **Low:** The firewall monitors and filters through some Internet activities. If you play network games and access entertainment services often without connecting to computers on the home network, select this level.
- **High:** The firewall monitors and filters through all Internet activities. If you have high security requirements, select this level.

**Step 4** Click **Submit**.

# 9 Maintenance Guide

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## 9.1 Changing the Web Management Page User Name and Password

The correct user name and password are required to log in to the web management page. Regular changes to the web management page user name and password can effectively prevent unauthorized users from logging in and modifying important parameters.

**Step 1** Log in to the web management page.

**Step 2** In the navigation tree, choose **Maintain > Account Management**.

**Step 3** Click **Edit**.

**Step 4** Enter your current password, and a new password. Re-enter the new password to confirm it.

**Step 5** Click **Save**.

When modify password successfully, this page will jump to the login page, enter the new user name and password to log in.



### NOTE

If you forget the password, you can press and hold the Reset button for 6 seconds or more, then the user name and password of the web management page will back to factory value. This operation will make your own configuration data lost, please perform this operation with caution.

## 9.2 Restoring Default Settings



If you restore the HG659b to its default settings, all customized user data will be lost. Use this function only when necessary.

## 9.2.1 Using the Configuration Tool

If the HG659b parameter settings were configured incorrectly, log in to the web management page to reload the default configuration file and restore the user to its default settings. Perform this operation with caution. After the user is restored to its default settings, all custom data and settings will be lost, and the password will be restored to user.

**Step 1** Log in to the web management page.

**Step 2** In the navigation tree, choose **Maintain > Device Management**.

**Step 3** In **Factory Restore**, click **Reset**.

**Step 4** In the displayed dialog box, click **OK**.

## 9.2.2 Using the Reset Button

If you forget the login password to the web management page or could not access the web management page, use the Reset button on the HG659b rear panel to restore the HG659b to its default settings. Perform this operation with caution. After the HG659b is restored to its default settings, all custom data and settings will be lost, and the password will be restored to user.

**Step 1** Press the HG659b power button to power the HG659b on.

**Step 2** Press and hold the **Reset** button for 8 seconds to 10 seconds.

The HG659b will restart, which will cause temporary network interruptions.



### NOTE

After the HG659b is restored to its default settings, change the computer IP address so that it is in the same network segment as the 192.168.1.254 default IP address.

## 9.3 Changing the Web Management Page IP

To make the login IP address easy to remember or from avoiding the IP address of the router conflict with other device in your home, you can change the IP address of the router after logging in to the web management page.

**Step 1** Log in to the web management page.

**Step 2** Choose **Home Network > LAN Interface**.

**Step 3** Click **LAN Interface Settings**.

**Step 4** In **IP address**, enter the new IP address you specified, and then click **Save**.

**Step 5** In the displayed dialog box, click **OK**.

After you change the IP address successfully, enter the new IP address for logging in.

# 10 FAQs

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How can I quickly restore the default settings of the HG659b?

When the HG659b is powered on, press and hold the **Reset** button for 6 or more seconds, and then release it. The HG659b then automatically restarts and the default settings are restored.

What can I do if I cannot access the HG659b configuration page?

**Step 1** Check the IP address of your computer and ensure that this IP address is in the same network segment as the HG659b LAN IP address.

**Step 2** Ensure that your Web browser does not use a proxy server.

**Step 3** Ensure that you have entered the valid user name and password used to access the HG659b configuration page.

If the problem persists, restore the default settings of the HG659b.

If my computer fails to connect to a WLAN after I press and hold the WPS button, what should I do?

**Step 1** Ensure that only one computer is connecting to the HG659b through the WPS function at one time.

**Step 2** On the HG659b, ensure that the wireless network function and the WPS function implemented through the PBC method are enabled.

**Step 3** Ensure that the security mode of the WLAN is set to **WPA2-PSK** or **WPA-PSK+WPA2-PSK**. Note that the WPS function of the HG659b is forcibly disabled if the WEP encryption is used for the WLAN.

**Step 4** Check the positions of the HG659b and computer. Ensure that they are far from electric appliances that generate strong magnetic or electric fields, such as microwave ovens, refrigerators, and cordless telephones.

**Step 5** Place the HG659b and the computer in an open space. Although radio signals can pass through obstacles, passing

through too many obstacles, such as walls and columns may negatively impact the transmission of WLAN radio signals.

What can I do if I cannot access the Internet through a wireless network adapter?

**Step 1** Ensure that the power cables and telephone lines of the HG659b are connected properly.

**Step 2** Check whether the **WLAN** indicator of the HG659b is on.

If the **WLAN** indicator is off, the WLAN function of the HG659b is disabled. If this is the case, enable the WLAN function.

For details about how to enable the WLAN function, see section 5.1 "Enabling or Disabling the WLAN Function."

**Step 3** Look at the description of the wireless network adapter that is installed on the computer and check whether the wireless network adapter supports the 802.11b, 802.11g, or 802.11n protocols.

If the wireless network adapter does not support the preceding protocols, replace it.

**Step 4** Check whether the driver for the wireless network adapter is installed on the computer properly.

If the driver is installed improperly, re-install it.

**Step 5** Check whether the computer can receive signals from the WLAN.

If the computer cannot detect a WLAN, place the computer close to the HG659b and ensure that no obstacles (such as cement or wooden walls) are present between the computer and the HG659b.

**Step 6** Check whether the computer accesses the WLAN of the HG659b successfully.

Check the list of wireless network connections and ensure that the HG659b is connected to the WLAN.

**Step 7** Try to access different web sites to check whether the HG659b can access other web sites.

If the HG659b cannot access other web sites, restore to the default settings of the HG659b. If the problem persists, contact your service provider.

### How do I improve the transmission quality of wireless signals?

**Step 1** Check the positions of the HG659b and computer. Ensure that they are far from electric appliances that generate strong magnetic or electric fields, such as microwave ovens, refrigerators, and cordless telephones.

**Step 2** Place your HG659b in an open space.

Although radio signals can pass through obstacles, passing through too many obstacles, such as cement or wooden walls may negatively impact the transmission of WLAN radio signals.

**Step 3** Place your computer close to your HG659b.

If your computer is far from your HG659b, the transmission of radio signals may be negatively impacted.

**Step 4** Place your HG659b and computer in a different direction.

**Step 5** Avoid using your HG659b to access a WLAN during thunderstorms.

### I Often Need to Restart the HG659 to Display Web Pages. What Can I Do?

Verify the following:

**Step 1** The HG659b and other devices such as telephones or fax machines are connected to the plain old telephone service (POTS) line through a digital subscriber line (DSL) filter. For details about how to install a DSL filter, see the description in the DSL filter manual.

**Step 2** Cables are securely connected to HG659b ports. Otherwise, network stability may suffer.

**Step 3** Your computer and the HG659b are far from electric appliances that generate strong magnetic or electric fields, such as microwave ovens, refrigerators, and cordless telephones.

If the problem persists, contact your Internet Service Provider.



# 11 Appendix

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## 11.1 Default Settings

Parameter	Setting
IP address of the LAN port	192.168.1.254
Subnet mask of the LAN port	255.255.255.0
User name used to log in to the web-based configuration utility	admin
Password used to log in to the web-based configuration utility	admin
SSID used to access wireless network	Check the label on the HG659b's rear panel
WLAN key used to access wireless network	Check the label on the HG659b's rear panel
DHCP server function	Enable
WLAN function	Enable

## 11.2 Technical Specifications

Item	Specification	
Power supply	12 V DC, 2 A	
Ambient temperature for operation	0°C to 40°C (32°F to 104°F)	
Dimensions (H × W × L)	About 232 mm × 181 mm × 35 mm	
Weight (Not including the power adapter)	< 350 g	
Relative humidity for operation	5% to 95%, non-condensing	
WLAN standards	802.11b, 802.11g and 802.11n (2.4 GHz)	
Wireless transmission rates	802.11b	Up to 11 Mbit/s
	802.11g	Up to 54 Mbit/s
	802.11n	Up to 300 Mbit/s

## 12 For More Help

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Please visit [www.huaweidevice.com/worldwide/support/hotline](http://www.huaweidevice.com/worldwide/support/hotline) for recently updated hotline and email address in your country or region.

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