



EchoLife HG556 Home Gateway

## User Guide



EchoLife HG556 Home Gateway  
V100R001

## User Guide

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# 1 Safety Precautions

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For safety purposes, carefully read through these safety precautions and observe them during operation.

## Basic Requirements

- Keep the device dry during storage, transportation, and operation of the device.
- Prevent collision of the device with other objects during storage, transportation, and operation of the device.
- Do not attempt to dismantle the device. In case of any fault, contact the authorized maintenance center for assistance or repair.
- Without prior written consent, no organization or individual is permitted to make any change to the structure, safety, and performance design of the device.
- While using the device, observe all applicable laws, directives and regulations, and respect the legal rights of other people.

## Environmental Requirements

- Place the device in a well-ventilated place. Do not expose the device to direct sunlight.
- Keep the device clean, free of dust and stain.
- Do not place the device near a water source or in a damp area.
- Place the device on a stable surface.
- Do not place any object on the top of the device. Reserve a minimum space of 10 cm at the four sides and on the top of the device for heat dissipation.
- Do not place the device on or near inflammable materials such as foam.
- Keep the device away from heat source or fire, such as a radiator or a candle.
- Keep the device away from any household appliances with strong magnetic field or electric field, such as microwave oven, refrigerator, or mobile phone.

## Operation Requirements

- Do not allow children to play with the device or accessories. Swallowing the accessories may be fatal.
- Use the accessories such as the power adaptor and battery provided or authorized only by the manufacturer.
- Make sure that the device does not get wet. If water gets into the device, disconnect the power supply immediately and unplug all the cables connected to the device,



such as the power cable, telephone cable, and RF cable, and then contact the authorized maintenance center.

- The power supply of the device must meet the requirements of the input voltage of the device.
- Before plugging or unplugging any cable, shut down the device and disconnect the power supply.
- While plugging or unplugging any cable, make sure that your hands are dry.
- Do not step on, pull, or stretch any cable. Otherwise, the cable may get damaged, leading to malfunction of the device.
- Do not use old or damaged cables.
- Keep the power plug clean and dry, to prevent electric shock or other dangers.
- During lightning, disconnect the device from the power supply and unplug all the cables connected to the device, such as the power cable, telephone cable, to prevent lightning strike.
- If the device is not used for a long time, disconnect the power supply and unplug the all the cables connected to the device, such as the power cable, telephone cable, and RF cable.
- Do not stare at the optical interface and the laser-transmitting interface on the device, or the infrared transmitting interface on the remote control. Otherwise, your eyes may get injured.
- If smoke, sound, or smell is emitted from the device, stop using the device immediately, disconnect the power supply, unplug the power supply and other cables, and remove the batteries. Contact the authorized maintenance center for repair.
- Make sure that no object (such as metal shavings) enters the device through the heat dissipation vent.
- Do not scratch or abrade the shell of the device. The shed painting may lead to skin allergy or malfunctions of the device. If the shed painting material drops into the host, a short circuit may occur.

## **Cleaning Requirements**

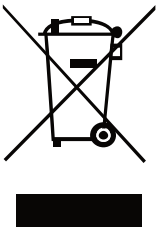
- Before cleaning the device, stop using it, disconnect the power supply, and unplug all the cables connected to the device, such as the power cable, and telephone cable.
- Do not clean the device cover with any cleaning solution or cleanser spray. Use a piece of soft cloth to clean the device cover.

## **Wireless Product Usage Requirements**

- Keep the device away from magnetic storage devices (e.g., a magnetic card or a floppy disk), to prevent loss of the stored information.
- Stop using the device or disconnect the power supply in situations where wireless device is prohibited or using of a wireless device leads to interference or danger.
- The user who uses an electronic assistant medical-treatment device needs to confirm with the service center regarding the effects of the radio wave on this device.

- Do not take the device to the operation theater, Intensive Care Unit (ICU) or the Coronary Care Unit (CCU).
- When using the device maintain distance of 3 cm between your body and the antenna of the device.
- In the area with inflammable or explosive materials, turn off your wireless device, and follow the relevant instructions given in the label, to prevent explosion or fire.
- Protect the wireless device and its accessories, and use it in a clean and dust-free environment. Make sure that the wireless device does not come in contact with flame or a cigarette that is lit.
- Make sure that the wireless device and its accessories are dry.
- Do not drop, throw or try to bend your wireless device.
- Do not place the wireless device and its accessories in high temperature areas.

## Environmental Protection



This marking on the device (and any included batteries) indicates that they should not be disposed of as normal household garbage. Do not dispose of this device or batteries as unsorted municipal waste. The device (and any batteries) should be handed over to a certified collection point for recycling or proper disposal at the end of their life.

For more detailed information about the recycling of the device or batteries, please contact your local city office, the household waste disposal service or the retail store where you purchased this device.

The disposal of this device is subject to the Waste from Electrical and Electronic Equipment (WEEE) directive of the European Union. The reason for separating WEEE and batteries from other waste is to minimize the potential environmental impacts and effects on human health of any hazardous substances that may be present.

## REACH Declaration

This device is in compliant with the REACH regulation (Regulation 1907/2006/EC) . For more information about the device's REACH compliance, please visit [www.huaweidevice.com/certification](http://www.huaweidevice.com/certification). You are recommended to visit the Web site regularly for up-to-date information.

## EU Regulatory Conformance

The antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20cm from all persons.

This equipment may be operated in all European countries.

**France:** Outdoor use limited to 10 mW e.i.r.p. within the band 2454-2483.5 MHz

**Italy:** For private use, a general authorisation is required if WAS/RLAN's are used outside own premises. For public use, a general authorisation is required

**Luxembourg:** General authorisation required for network and service supply

**Norway:** This subsection does not apply for the geographical area within a radius of 20 km from the centre of Ny-Ålesund

Hereby, Huawei Technologies Co., Ltd., declares that this product is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

**CE0678**

The declaration of conformity may be consulted at  
[www.huaweidevice.com/certification](http://www.huaweidevice.com/certification).

## Federal Communications Commission (FCC) Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.



Warning: Changes or modifications made to this device not expressly approved by Huawei Technologies Co., Ltd. may void the FCC authorization to operate this device.

This device complies with part 68 of the FCC Rules.

The antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20cm from all persons.

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# 2 Product Overview

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## 2.1 Product Features

The EchoLife HG556 (hereinafter referred to as the HG556) is a high-performance Asymmetrical Digital Subscriber Line (ADSL) voice gateway designed for home users and small office and home office (SOHO) users. This section describes the features of the HG556.

### Flexible Routing

- Providing an embedded Point to Point Protocol over Ethernet (PPPoE) dialer
- Supporting the Dynamic Host Configuration Protocol (DHCP) server
- Supporting simultaneous multi-user access

### Abundant Service Interfaces

- Providing four high-speed Ethernet interfaces
- Supporting the routing mode and the bridge mode
- Providing the voice function through the Plain Old Telephone Service (POTS) interface
- Supporting the multi-service set identifier (MSSID) of Wireless Fidelity (WiFi), which enables users to use wireless networks conveniently and securely
- Providing mobile storage capability through the USB host interface

### Outstanding Voice Functions

Providing VoIP service and T.38 facsimile service

### Standard TR-069 Management Capability

- Providing complete compatibility with the TR-069 standard of the Digital Subscriber Line (DSL) Forum
- Providing complete remote management and diagnosis
- Providing a zero-configuration solution, which significantly lowers the operation and maintenance costs and can be combined with the automatic upgrade and service provisioning processes to conveniently distribute customized services

## ADSL/ADSL2+ Interface

- Providing embedded ADSL/ADSL2+ broadband network functions
- Supporting the ITU-T G.994.1 (G.hs) handshake protocol
- Providing compatibility with Annex A ANSI T1.413 Issue 2, ITU-T G.992.1 (G.dmt), G.992.3 (ADSL2), and G.992.5 (ADSL2+)

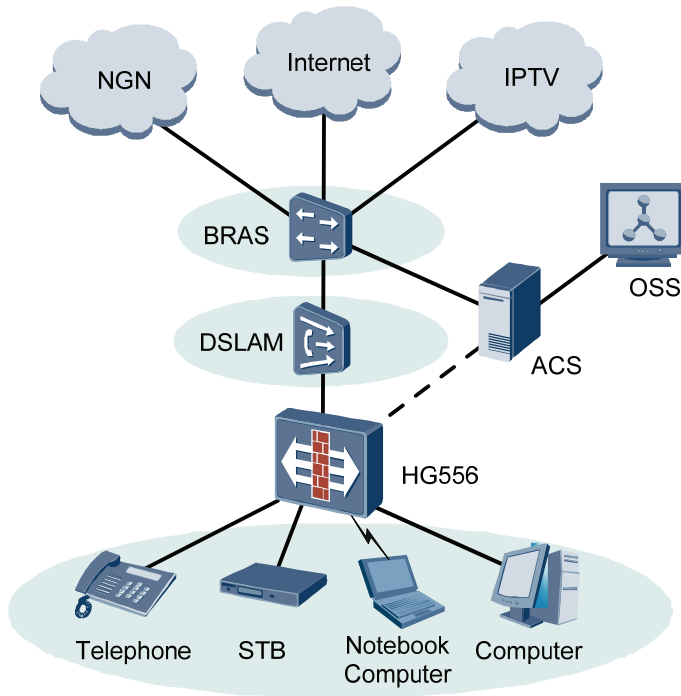
## Wide Area Network (WAN) Protocol

- Supporting multiple AAL5 protocols, such as LLC and VC-MUX (RFC1483/2684)
- Supporting PPPoE (RFC2516)
- Supporting routing and bridging in conformance with RFC 2684

## 2.2 Network Application

Figure 2-1 shows the network application of the HG556.

**Figure 2-1** Network application of the HG556



 **NOTE**




-  : indicates an actual network connection.
-  : indicates a logical management channel.
-  : indicates a wireless connection.

Table 2-1 describes the elements shown in Figure 2-1.

Table 2-1 Description of the elements for the network application diagram

Name	Full Spelling
NGN	Next Generation Network
Internet	-
IPTV	Internet Protocol Television
BRAS	Broadband Remote Access Server
DSLAM	Digital Subscriber Line Access Multiplexer
OSS	Operations Support System
ACS	Auto-Configuration Server
STB	Set-Top Box
Notebook Computer	-

## 2.3 Indicators, Interfaces and Buttons

### 2.3.1 Indicators

The indicators of the HG556 are located on the front panel, as shown in Figure 2-2.

Figure 2-2 Indicators

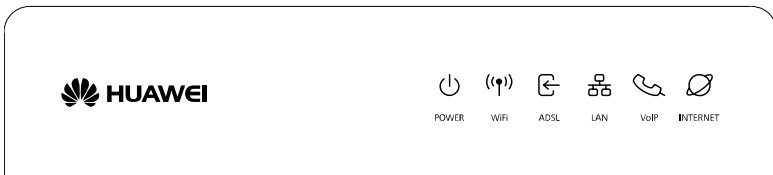



Table 2-2 describes the meanings of the indicators.

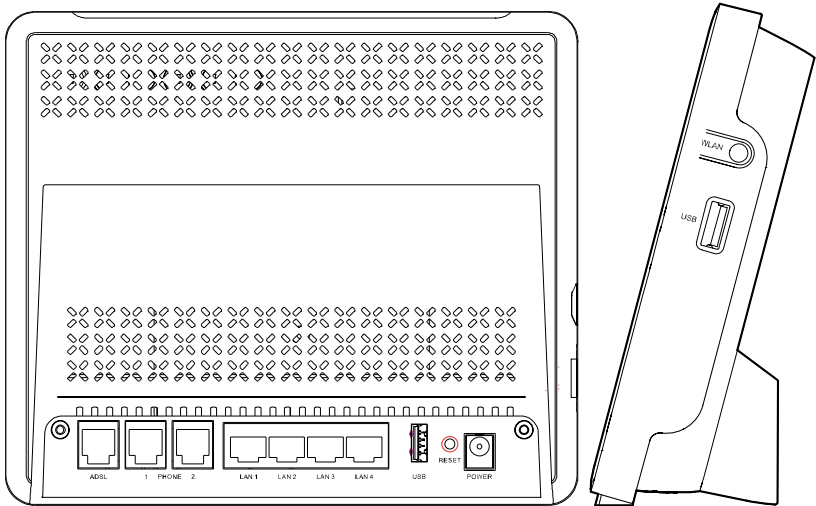
Table 2-2 Meanings of the indicators

Indicator	Status	Meaning
POWER	On	The HG556 is powered on.
	Off	The HG556 is powered off.
WIFI	On	The WLAN connection is normal but no data is being transmitted.
	Blinking	The WLAN connection is normal and data is being transmitted.
	Off	The HG556 is powered off, the wireless function is disabled, or the WLAN module is faulty.
ADSL	On	The ADSL connection is established and activated.
	Blinking slowly at 2 Hz	The ADSL connection is being activated.
	Blinking quickly at 4 Hz	The software of the HG556 is being upgraded.
	Off	The HG556 is powered off or faulty.
LAN	On	At least one Ethernet interface is connected normally but no data is being transmitted.
	Blinking	Data is being transmitted over the LAN.
	Off	The HG556 is powered off or the network cable is not connected properly.
VOIP	On	The HG556 is successfully registered with at least one SIP server.
	Off	The HG556 is powered off or fails to be registered with the SIP server.
INTERNET	On	The WAN connection is successfully established but no data is being transmitted.
	Blinking	The WAN connection is successfully established (the HG556 has obtained an IP address through IPoE or PPPoE) and data is being transmitted.
	Off	The HG556 is powered off or the WAN connection is not yet established.
 <b>NOTE</b> <ul style="list-style-type: none"> <li>● WLAN = Wireless Local Area Network</li> <li>● SIP = Session Initiation Protocol</li> <li>● IPoE = IP over Ethernet</li> </ul>		

## 2.3.2 Interfaces and Buttons

The interfaces and buttons of the HG556 are located on the rear panel and side panel, as shown in Figure 2-3.

**Figure 2-3** Interfaces and buttons



### NOTE

- The rear panel of the HG556 is shown on the left side of Figure 2-3. The following interfaces are located on the rear panel: **ADSL**, **PHONE1**, **PHONE2**, **LAN1–LAN4**, **USB**, **RESET**, and **POWER**.
- The side panel of the HG556 is shown on the right side of Figure 2-3. The **USB** interface and the **WLAN** button.
- The rear panel view and side panel view are for reference only. The actual appearance may differ.

Table 2-3 lists the functions of the interfaces and buttons.

Table 2-3 Functions of the interfaces and buttons

Interface or Button	Function
ADSL	Connects a splitter.
PHONE1, PHONE2	Connects a phone.
LAN1–LAN4	Connect PCs, switches, or other equipment.
POWER	Connects a power adapter.



Interface or Button	Function
USB	Connects a USB storage device, such as a USB disk.
RESET	Restarts the equipment if this button is pressed and held for three to six seconds; restores the factory settings of the equipment if held for more than six seconds. <b>NOTE</b> After you restore the default settings, the customized data will be lost. Therefore, press the <b>RESET</b> button with caution.
WLAN	Start the WiFi function.

## 2.4 System Requirements

Make sure that the following requirements are met before using the HG556.

### Operating System Requirements

The operating system (OS) requirements are as follows:

- Windows 98
- Windows Me
- Microsoft NT4
- Windows 2000
- Windows XP
- Windows Vista

### PC Hardware Configuration

The requirements for the hardware configuration of the device are as follows:

- Memory: greater than 64 MB
- Remaining space of disk C: greater than 128 MB
- CD-ROM drive

### Web Browser

Internet Explorer (IE) 6.0 or later versions, including FireFox2.0

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# 3 Product Installation

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## 3.1 Selecting the Installation Position

Place the HG556 in a ventilated and shaded area according to the instructions given in "Safety Precautions."

If you need to use the WLAN function of the HG556, pay attention to the following requirements when selecting the installation position of the HG556:

- Obstacles, such as cement walls and wooden plate walls, would affect the radio signal propagation effect of wireless networks. Therefore, it is recommended that the HG556 be installed in an open space so that no obstacles exist between the PC and the HG556 to block signal propagation.
- Ensure that the HG556 and the PC are placed away from electrical appliances generating a strong magnetic or electric field, such as microwave ovens.

## 3.2 Connecting the Cables

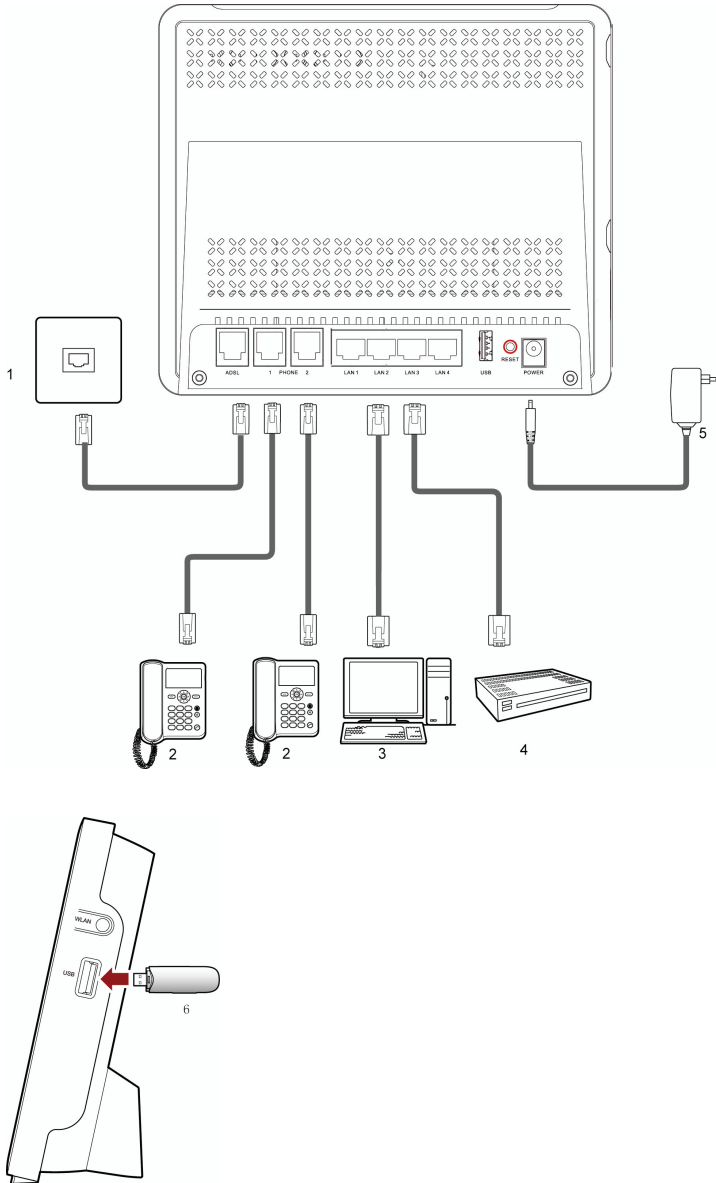


### CAUTION

Before connecting the cables, power off all equipment connected to it including the HG556, the PC, and the switch.

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Connect the other equipment, such as the PC and the telephone, to the HG556 according to Figure 3-1.

**Figure 3-1** Connecting the HG556

- |   |                            |   |               |   |          |
|---|----------------------------|---|---------------|---|----------|
| 1 | Telephone jack on the wall | 2 | Phone         | 3 | PC       |
| 4 | Set-top box                | 5 | Power adapter | 6 | USB disk |

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# 4 Configuring the HG556

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## 4.1 Accessing the Web Configuration Page

The HG556 provides simple and easy-to-use Web configuration pages, through which you can check and configure the working parameters of the HG556.

To log in to the Web configuration page, do as follows:

- Step 1** Start the Internet Explorer on the PC.
- Step 2** Enter **http://192.168.1.1** in the address bar of the Internet Explorer, and then press **Enter**.
- Step 3** Enter the administrator name (**admin** by default) and password (**admin** by default) in the **Login** page, and then click **Login**.

## 4.2 Changing the Administrator Password

For safety reasons or to make the password easy to remember, you can change the administrator password after logging in to the Web-based configuration utility.

To change the password, do as follows:

- Step 1** Log in to the Web-based configuration utility.
- Step 2** Choose **Maintenance > Account** in the navigation tree to display the account page.
- Step 3** Enter the current password and the new password. Then enter the new password again in the **Confirm Password** text box for confirmation.
- Step 4** Click **Submit** to save the settings.

After you change the password successfully, next time log in to the Web-based configuration utility, enter the new password, and then click **Login**.



### NOTE

If you forget the password that has been changed, you can restore the default settings of the HG556 by pressing and holding the RESET button for over six seconds. Then, the user name and password that are used for logging in to the Web-based configuration utility are restored to default values. After you restore the default settings, however, your customized data is lost. Therefore, use this function with caution.

# 5 Data Services

## 5.1 Introduction

The HG556 supports ADSL2+ uplink and High-Speed Packet Access (HSPA) uplink through Huawei HSPA datacard. Realizes dynamic mutual backup of voice and data services through the DSL link and HSPA link.

## 5.2 Configuring the HSPA uplink

When the HG556 is working through Huawei HSPA datacard, you need to install the Huawei HSPA datacard on the HG556 so that your PC can connect to the Internet through HSPA uplink. To create a HSPA uplink connection, do as follows:

- Step 1** Log in to the Web-based configuration utility.
  - Step 2** Click **Basic** > **WAN** in the navigation tree to display the **WAN Connection Page**.
  - Step 3** Click **New** to create a new **WAN Connection** setting.
  - Step 4** In **Access type**, choose **UMTS** option button.
  - Step 5** In **WAN connection**, select **Enable**.
  - Step 6** Enter the APN that are provided by the network operator in the **APN** text box, enter \*99# in the **Dial number** text box.
  - Step 7** Enter the user name and password in the **User name** and **Password** text boxes that you can configure.
  - Step 8** Click the **Submit** button to finish the UMTS settings.
- If you want to verify the PIN code of your SIM card, then do as follows:
- Step 1** Click **Advanced** > **PIN** in the navigation tree to display the **PIN Page**.
  - Step 2** Enter the original PIN number in the **PIN** text box. Enter the new PIN number in the **New PIN** text box and confirm the new PIN number again.
  - Step 3** Click the **Submit** button to finish the settings on the **PIN Page**.



### NOTE

Use the default values for the other parameters. In general, they do not need to be configured.

## 5.3 Configuring the ADSL uplink

When the HG556 is working through ADSL uplink, the WAN interface of the HG556 supports multiple work modes, as listed in Table 5-1. You can select any of them as required.

Table 5-1 Work mode of the WAN interface

Work Mode	Description
Route	<ul style="list-style-type: none"> <li>The HG556 serves as a router.</li> <li>There are five connection types: DHCP, Static, PPPoE, IPoA, PPPoA.</li> </ul>
Bridge	<ul style="list-style-type: none"> <li>The HG556 serves as a network bridge.</li> <li>Dialing is performed through the PPP dialer software installed on the PC.</li> </ul>
<p><b>NOTE</b></p> <p>DHCP = Dynamic Host Configuration Protocol            PPPoE = Point to Point Protocol over Ethernet            IPoA = IP over ATM            PPP = Point to Point Protocol            PPPoA = Point to Point Protocol over ATM</p>	



### NOTE

The steps of configuring the five types of Route mode are similar. So just take the steps of configuring the PPPoE mode for example.

### 5.3.2 Configuring the PPPoE Mode

In PPPoE mode, the HG556 performs dialing through the embedded PPP dialer software and serves as a router to connect user PCs to the Internet.

#### Getting Started

Table 5-2 lists the configuration information to be collected before configuring the PPPoE mode.

Table 5-2 Configuration information to be collected before configuring the PPPoE mode

Item	Description
Connection mode	PPPoE
VPI/VCI	It is provided by the service provider.
Encapsulation mode	It is provided by the service provider.

Item	Description
User name and password for PPPoE dialing	It is provided by the service provider.
Authentication mode	It is provided by the service provider.
LAN IP address and subnet mask of the HG556	<ul style="list-style-type: none"><li>• Default LAN interface IP address: 192.168.1.1.</li><li>• Default subnet mask: 255.255.255.0.</li></ul>
Default gateway address	It is recommended that the default gateway address be automatically obtained.
DNS address	It is recommended that the DNS address be automatically obtained.
<b>NOTE</b> DNS = Domain Name Server	

## Configuring the PPPoE Mode for the WAN Interface

To configure the PPPoE mode for the WAN interface, do as follows:

- Step 1** Log in to the Web-based configuration utility.
- Step 2** Click **Basic** > **WAN** in the navigation tree to display the **WAN Connection** Page.
- Step 3** Enter the VPI and VCI that are provided by the network operator in the **VPI** and **VCI** text boxes.
- Step 4** Choose the encapsulation mode required by the service provider from the **Encapsulation Mode** drop-down list box, and configure the other parameters according to the requirements of the service provider.
- Step 5** Enter the user name and password provided by the service provider for PPPoE dialing, and then finish the configuration.
- Step 6** Click **Submit** to save the settings.

## Configuring the Work Parameters of the LAN Interface

To configure the work parameters of the LAN interface, do as follows:

- Step 1** Click **Basic** > **LAN** in the navigation tree to display the **DHCP** page.
- Step 2** Configure the IP address and subnet mask of LAN interface on the HG556.
- Step 3** Select **Enable DHCP Server** and configure the relevant parameters.

### **TIP**

The DHCP function is enabled to allocate IP addresses to PCs in the LAN. Generally, use the default setting.

- You can skip this step if only one PC is located in the LAN and a static IP address has been specified for the PC.
- It is recommended that the DHCP service be enabled if multiple PCs access the Internet through the HG556.

**Step 4** Click **Submit** to save the settings.

Next, you need to configure only the network adapter on the PC so that the PC can automatically obtain the IP address, gateway, DNS and other relevant information to access the Internet through the HG556.

### 5.3.3 Configuring the Bridge Mode

When the WAN interface of the HG556 is working in bridge mode, the HG556 serves as a network bridge. In this case, each user PC connected to the HG556 can dynamically obtain an IP address according to the configuration of the upper-layer equipment or can be installed with PPP dialer software to access the Internet.

#### Getting Started

Table 5-3 lists the configuration information to be collected before configuring the bridge mode.

Table 5-3 Configuration information to be collected before configuring the bridge mode

Item	Description
Connection mode	Bridge
VPI/VCI	It is provided by the service provider.
Encapsulation mode	It is provided by the service provider.

#### Configuring the Bridge Mode for the WAN Interface

The steps for configuring the bridge mode for the WAN interface are similar to those for configuring the PPPoE mode. The difference is that you should select **Bridge** from the **Connection mode** drop-down list box on the **WAN** page displayed after you choose **Basic > WAN**.

For details, see section "**Configuring the PPPoE Mode for the WAN Interface**".

#### Creating a PPP Dialup Connection on the PC

When the gateway is working in bridge mode, you need to install the PPP dialer software on your PC so that your PC can dial-up to the Internet. If the operating system (OS) installed on the PC is Windows XP, the PC can also dial up to the Internet through the PPP dialer software provided by Windows XP. Take Windows XP as an example. To create a dialup connection, do as follows:



- Step 1** In the task bar, choose Start > All Programs > Accessories > Communications > Network Connections.
- Step 2** In the **Network Tasks** area, choose **Create a new connection**, and then click **Next**.
- Step 3** Select **Connect to the Internet**, and then click **Next**.
- Step 4** Select **Set up my connection manually**, and then click **Next**.
- Step 5** Select **Connect using a broadband connection that requires a user name and password**, and then click **Next**.
- Step 6** Enter the name of the dialup connection (you can enter any name) in the **ISP Name** text box, and then click **Next**.
- Step 7** Select **Anyone's use** or **My use only**, and then click **Next**.
- Step 8** Enter the user name and password provided by the service provider for dialing, and then click **Next**.
- Step 9** Select Add a shortcut to this connection to my desktop, and finally click Finish.

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# 6 Voice Services

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## 6.1 Introduction

The HG556 supports voice services based on the Session Initiation Protocol (SIP).

The SIP is an application layer protocol used to create, modify, or end multimedia sessions. Based on text coding, the SIP references the Hyper Text Transport Protocol (HTTP) and the Simple Mail Transfer Protocol (SMTP), and can cooperate with other protocols, such as the Real-time Transport Protocol (RTP), the Real-time Transport Control Protocol (RTCP), the Session Description Protocol (SDP), and the Domain Name Server (DNS) protocol to implement voice services and the facsimile service.

The HG556 enables voice service interworking between the Voice over Internet Protocol (VoIP) and the Public Switched Telephone Network (PSTN).

## 6.2 Voice Service Configuration

### 6.2.1 Networking

Figure 6-1 shows the network model of voice services.

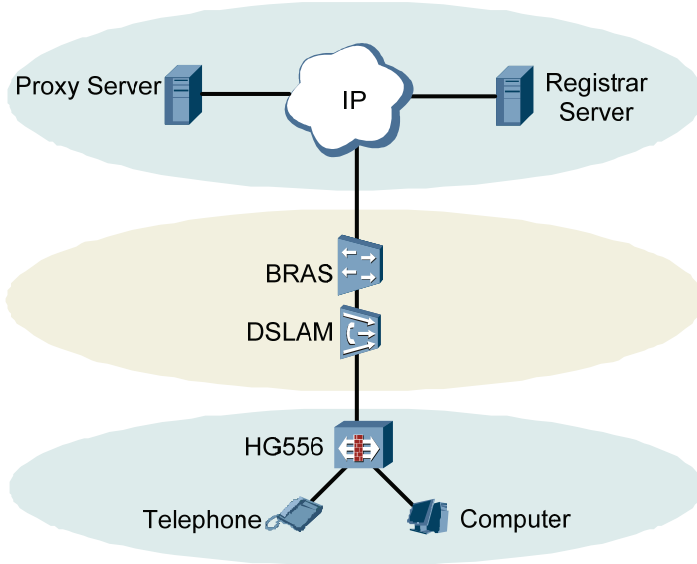
**Figure 6-1** Network model of voice services

Table 6-1 describes the equipment in voice service networking.

Table 6-1 Description of the equipment in voice service networking

Equipment	Description
Proxy Server	A server that forwards requests or responses in place of the client
Registrar Server	A server that receives registration requests
BRAS	Broadband Remote Access Server
DSLAM	Digital Subscriber Line Access Multiplexer

## 6.2.2 Getting Started

Table 6-2 lists the configuration information to be collected before configuring voice services.

Table 6-2 Configuration information to be collected before configuring voice services

Item	Description
SIP account number	It is the SIP account number of the gateway.
User name and Password	The user name and the password of the SIP account, it is provided by the service provider.
Local SIP port	It is provided by the service provider.
Caller ID display mode	It is used to select a mode for displaying the caller ID among <b>Display</b> , <b>Anonymous</b> , and <b>Privacy</b> .
Proxy server address and Proxy server port	It is provided by the service provider. If the service provider does not provide the port number, the default value should be used.
Server	It is used to select the primary server or the secondary server.
Registration server address	It is provided by the service provider.
Registration server port	It is provided by the service provider. If the service provider does not provide the port number, the default value should be used.
SIP server domain name	After you set the domain name, the server address in the packet is displayed as a domain name.

## 6.2.3 Configuration Procedure

To configure voice services, do as follows:

**Step 1** Configure the WAN interface. For details, see section 5 "Data Services".



### NOTE

If you want to configure the VoIP service, you should choose **VOICE**, **VOICE\_INTERNET**, **VOICE\_TR069** or **VOICE\_TR069\_INTERNET** from the **Server list** drop-down list box on the **WAN Connection** page.

**Step 2** Configure the SIP user.

1. Choose **Basic > VoIP** in the navigation tree to display the **VoIP** page.
2. Click **New** to create a new **SIP account**.
3. Enter the SIP account number of the gateway provided by the service provider in the **SIP account number** text box.
4. Enable the SIP user.
5. Enter the user name and the password of the SIP account provided by the service provider in the **User name** and the **Password** text box.
6. Enter the port of the SIP account provided by the service provider in the **Local SIP port** text box.

**Step 3** Configure the SIP server.

1. Enter the address and the port of the proxy server provided by the service provider in the **Proxy server address** and the **Proxy server port** text box.
2. Choose the primary server or secondary server from the **Server** drop-down list box.
3. Enter the address and the port of the registration server provided by the service provider in the **Registration server address** and the **Registration server port** text box.
4. Enter the home domain name of the SIP user in the **SIP Server domain name** box.

 **NOTE**

Enter the home domain name of the SIP user according to the actual conditions:

- If the service provider does not provide the home domain name of the SIP user, you can enter the same name as in the **Registration Server Address** text box or leave the **SIP Server domain name** text box blank.
- If the service provider has provided the home domain name of the SIP user, you must enter it in the relevant text box.

**Step 4** Click **Submit** to save the settings. **NOTE**

If you want to call out by the VoIP service, you should bind the call out line and the call out number.

 **TIP**

You can use the default value for this parameter. In general, this parameter does not need to be configured.

# 7 Wireless Services

## 7.1 Introduction

The HG556 supports 802.11n and provides wireless networking and interconnection at home. To access the WLAN through the wireless data card on your PC, you only need to activate the wireless network function on the HG556.

## 7.2 Wireless Service Configuration

Table 7-1 lists the configuration information to be collected before configuring wireless service.

Table 7-1 Configuration information to be collected before configuring wireless service

Item	Description
SSID	Indicates the ID of a service area in the wireless network. The initial value is provided by the service provider.
Security	It is used to enable or disable the network authentication function. <ul style="list-style-type: none"><li>• <b>Open:</b> Any wireless device can access the WLAN.</li><li>• <b>Shared:</b> The simplified Shared authentication mode. The HG552 encrypts all the communications by using the WEP key.</li><li>• <b>WPA-PSK:</b> The simplified WPA authentication mode. The HG552 encrypts all the communications by using the WPA pre-shared key.</li><li>• <b>WPA2-PSK:</b> The simplified WPA2 authentication mode. The HG552 encrypts all the communications by using the WPA2 pre-shared key.</li><li>• <b>Mixed WPA2/WPA-PSK:</b> The mixed authentication mode of WPA2-PSK and WPA-PSK.</li></ul>
WPS	It is used to specify whether to enable the WPS function, only the first SSID provides the WPS function.

## 7.3 Configuring the MSSID Service

### 7.3.1 Function

The HG556 supports the multi-service set identifier (MSSID) function. You can configure encryption parameters separately for each service set identifier (SSID).

With the MSSID function, you can virtualize multiple independent access points (APs) used in wireless networks. In terms of the wireless network, client each virtualized wireless AP is equivalent to a physical wireless AP. Each wireless AP has its own SSID.

The HG556 supports four SSIDs, which can be configured through the Web configuration page of the HG556 or configured remotely through the management system of the HG556.

### 7.3.2 Configuration Steps

To configure the SSIDs of the HG556, do as follows:

**Step 1** Choose **Basic** > **LAN** > **WLAN** on the Web configuration page to show the **wireless settings** page.

**Step 2** Select **Enable WLAN** to enable the WLAN function.

**Step 3** Select an appropriate channel in the **Channel** text box based on the settings of the WLAN.



#### NOTE

To avoid signal interference, channels allocated to each AP should be different. You are recommended to select **Auto** in the **Channel** text box.

**Step 4** Select SSID1 in the **SSID index** drop-down list box. Specify the name of the SSID you want in the **SSID** text box.

**Step 5** Select **Enable** to enable the selected SSID.

**Step 6** Select the security mode in the **Security** drop-down list box.



#### NOTE

When you specify the security mode, the gateway supports the corresponding WPA pre-shared key and WPA encryption mode for the SSID. You can also specify the WPA pre-shared key and must remember it.

**Step 7** Click **Submit** to save the settings.



#### NOTE

On the **WLAN Filtering** page, you can configure MAC address filtering for the WiFi.

# 8 FAQs

## 8.1 How can I configure a computer to use a static IP address?

Take a computer that runs Windows XP as an example. To configure the computer to use a static IP address, do as follows:

- Step 1** In the Control Panel window, double-click Network Connections to display the Network Connections window.
- Step 2** In the **Network Connections** window, right-click the working **Local Area Connection** and choose **Properties**.
- Step 3** In the **This connection uses the following items** group box of the Local Area Connection Properties dialog box, select Internet Protocol (TCP/IP). Click Properties.
- Step 4** Select Use the following IP address.
- Step 5** Set the IP address of the computer and ensure that the IP address is in the same network segment as the local area network (LAN) IP address of the terminal.

Assume that the default LAN IP address of the terminal is 192.168.1.1. To set the IP address of the computer, do as follows:

1. In **IP address**, enter **192.168.1.100**. Ensure that this IP address is unique and not used by other computers.

 **NOTE**

The configurable static IP address ranges from 192.168.1.2 to 192.168.1.254.

2. In Subnet mask, enter 255.255.255.0.
  3. In Default gateway, enter 192.168.1.1.
- Step 6** Consult your network service provider about the IP address of the domain name server (DNS). In **Preferred DNS server** and **Alternate DNS server**, enter the IP address.
- If you configure the static IP address for the purposes of accessing the Web configuration page of the terminal, you can skip this step.
- Step 7** In the Internet Protocol (TCP/IP) Properties dialog box, click OK. Then in the Local Area Connection Properties dialog box, click OK.



## 8.2 What can I do if I cannot visit Web sites through the terminal?

**Step 1** Check whether the POWER indicator of the terminal is on.

If the POWER indicator is off, perform further checks as follows:

1. Ensure that the power switch of the terminal is turned on.
2. Ensure that electricity comes from the socket and that the input power of the socket meets the requirements described on the label of the terminal power adapter. If the voltage is unsteady, for example, if the voltage is too high or too low, do not use the terminal. Wait until the voltage restores to its normal level, and then use the terminal.
3. Ensure that the terminal is properly connected to the socket through the power adapter.

If the POWER indicator is still off, contact an authorized maintenance center.

**Step 2** After powering on the terminal, wait for about three minutes. Then check whether the ADSL indicator of the terminal is on.

If the ADSL indicator blinks for a long time, perform further checks as follows:

1. Ensure that telephone lines are properly connected.
2. Ensure that terminal cables or telephone lines are far from the electric appliances that generate strong magnetic or electric fields.
3. Replace telephone lines.

If the ADSL indicator still blinks, contact your network service provider.

**Step 3** Check whether the LAN indicator of the terminal is on.

If the LAN indicator is off, perform further checks as follows:

1. Ensure that the network adapter of the computer is enabled.
2. Ensure that the network cable between the terminal and the computer is properly connected.
3. Remove and then insert the network cable or replace the network cable.

If the LAN indicator is still off, contact an authorized maintenance center.

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

Take a computer that runs Windows XP as an example. To check whether the driver for the network adapter is installed, do as follows:

1. On the desktop, right-click **My Computer** and choose **Manage**.
2. In the navigation tree of the **Computer Management** window, choose **Device Manager**.
3. In the right pane of the **Computer Management** window, click **Network adapters** to view the information about the network adapter of the computer.

If no network adapter is detected or if a question mark (?) or an exclamation mark (!) is displayed next to the icon of the network adapter, you can infer that the driver for the network adapter is not properly installed. In this case, re-install the driver for the network adapter of the computer.

For details about how to set the parameters, see the description of the PPP dialing software.

**Step 5** Ensure that you have entered the correct user name and user password that are required by the PPP dialing software.

The user name and the user password are provided by your network service provider.

**Step 6** Check whether you can use the PPP dialing software to dial successfully (the terminal is configured as Bridge mode).

If you cannot use the PPP dialing software to dial successfully, perform further checks as follows:

1. Stop the PPP dialing software and then power off the terminal. After five minutes, power on the terminal and use the PPP dialing software to dial again.
2. Restore the default settings of the terminal.

If the problem persists, contact your network service provider.

**Step 7** Check whether the proxy server of the Web browser is correctly configured. Take the Internet Explorer installed on a computer that runs Windows XP as an example. To check whether the proxy server of the Web browser is correctly configured, do as follows:

1. Start the Internet Explorer.
2. Choose Tools > Internet Options.
3. In the **Internet Options** dialog box, click the **Connections** tab.
4. In the Local Area Network (LAN) settings group box, click LAN settings.
5. In the **Proxy server** group box of the **Local Area Network (LAN) Settings** dialog box, ensure that **Use a proxy server for your LAN (These settings will not apply to dial-up or VPN connections)** is not selected.

**Step 8** Try to access multiple other Web sites to check whether the terminal can access.

If the terminal still cannot access other Web sites, contact your network service provider.

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

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

**Step 2** Check whether the WIFI indicator of the terminal is on.

If the WIFI indicator is off, you can infer that the wireless local area network (WLAN) function of the terminal is disabled. In this case, enable the WLAN function.

For details about how to enable the WLAN function, see the manual of the terminal.

**Step 3** See the description of the wireless network adapter that is installed on the computer and check whether the wireless network adapter supports the 802.11b and 802.11g protocols.

If the wireless network adapter does not support the 802.11b and 802.11g protocols, replace it with the network adapter that supports the protocols.

- Step 4** Check whether the driver for the wireless network adapter is properly installed on the computer.  
If the driver is improperly installed, install it properly.
- Step 5** Check whether the computer can receive the signals of a WLAN.  
Take a computer that runs Windows XP as an example. To check whether the computer can receive the signals of a WLAN, do as follows:
1. In the Control Panel window, double-click Network Connections to display the Network Connections window.
  2. In the Network Connections window, right-click Wireless Network Connection and choose View Available Wireless Network.
- If the computer cannot detect a WLAN, place the computer close to the terminal and ensure that no obstacles such as cement or wooden walls are present between the wireless client and the terminal.
- Step 6** Check whether the computer accesses the WLAN of the terminal successfully.  
Check the list of wireless network connections and ensure that the terminal is connected to the WLAN.
- Step 7** Check whether you can use the PPP dialing software to dial successfully (the terminal is configured as Bridge mode).
- Step 8** Try to access multiple Web sites to check whether the terminal can access other Web sites.  
If the terminal cannot access other Web sites either, restore the default settings of the terminal. If the problem persists, contact your network service provider.

## 8.4 What can I do if sometimes the terminal cannot access the Internet through a wireless network adapter or if the WLAN connection is unsteady?

- Step 1** Check the positions of your terminal and computer. Ensure that they are far from the electric appliances such as microwave ovens, refrigerators, or cordless telephones that generate strong magnetic or electric fields.
- Step 2** Place your terminal in an open position.  
Although radio signals can pass through obstacles, the transmission effects of WLAN radio signals are affected if radio signals pass through too many obstacles such as cement or wooden walls.
- Step 3** Place your computer close to your terminal.  
If your computer is far from your terminal, the effects of the WLAN are affected.
- Step 4** Place your terminal and computer in another direction.
- Step 5** Do not use your terminal to access a WLAN during thunderstorms.

## 8.5 What can I do if the WLAN of the terminal is not encrypted and the computer cannot access the WLAN?

**Step 1** Delete the settings of wireless network connections from your computer.

Take a computer that runs Windows XP as an example. To delete the settings of wireless network connections, do as follows:

1. In the Control Panel window, double-click Network Connections to display the Network Connections window.
2. In the Network Connections window, right-click Wireless Network Connection and choose Properties.
3. In the Wireless Network Connection Properties dialog box, click the Wireless Networks tab.
4. In the **Preferred Networks** group box, select the latest wireless network connection saved on your computer. Then click **Remove**.
5. Delete all the other wireless network connections from the **Preferred Networks** group box.
6. Click **OK**.

**Step 2** Create a wireless network connection that is not encrypted.

## 8.6 Is there any restriction on the number of the computers that access a WLAN through wireless network adapters?

Theoretically, the terminal supports hundreds of concurrent computers that access the Internet through wireless network adapters. In practical applications, for the purposes of the high performance of a wireless network, the number of the concurrent computers that connect to the terminal should not exceed five.

## 8.7 What can I do if I cannot access the terminal configuration page?

**Step 1** See the answer to 8.2 "What can I do if I cannot visit Web sites through the terminal?" and ensure that the power supply of the terminal works properly and that the telephone lines and network cables of the terminal are properly connected.

**Step 2** Check the IP address of your computer and ensure that this IP address is in the same network segment as the LAN IP address of the terminal.

**Step 3** Ensure that your Web browser does not use a proxy server.

**Step 4** Ensure that you have entered the correct user name and user password that are used for accessing the terminal configuration page.

**Step 5** If the problem persists, restore the default settings of the terminal.

## 8.8 What can I do if Web pages often cannot be displayed during Web page browsing and can be displayed after the terminal is restarted?

**Step 1** Ensure that the terminal and other devices such as telephones or fax machines are connected to the telephone line through a splitter.

For details about how to install a splitter, see the related description in the manual.

**Step 2** Ensure that telephone lines are properly connected.

If the telephone lines are improperly connected, the stability of the network connection is affected.

**Step 3** Check the positions of your terminal and computer. Ensure that they are far from the electric appliances such as microwave ovens, refrigerators, or cordless telephones that generate strong magnetic or electric fields.

If the problem persists, contact your service provider.

## 8.9 What can I do if noises exist during telephone calls?

**Step 1** Ensure that a splitter is installed.

A splitter helps to protect the call quality of the asymmetric digital subscriber line (ADSL) from being affected due to the interference of other type of signals.

**Step 2** Ensure that telephone lines are properly connected.

**Step 3** Replace telephone lines and ensure that the telephone lines are not faulty.

## 8.10 After a broadband terminal is installed, does Internet access degrade call quality or do telephone calls lower the Internet access rate?

No. The terminal uses the frequency division multiplexing (FDM) and splitter technologies to separate voice signals from data signals. Although the two types of signals are transmitted through one telephone line, they are carried by different frequency bands. Therefore, they do not interfere with each other. In this case, you can make a telephone call and access the Internet at the same time, without degrading call quality or lowering the Internet access rate.

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