

# EchoLife HG520s Home Gateway User Manual

Issue 01

Date 2006-08-26

No. 202013

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This product has been designed to comply with the requirements on environmental protection. For the proper storage, use and disposal of this product, national laws and regulations must be observed.

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

Class B:

FEDERAL COMMUNICATIONS COMMISSION INTERFERENCE  
STATEMENT

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.

CAUTION:

Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.

RF exposure warning ·

This equipment must be installed and operated in accordance with provided instructions and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. End-users and installers must be provide with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.

## Safety Precautions



### Basic Requirements:

- Read this manual carefully before installing and using the equipment.
- Take waterproof measures during storage, transportation and operation of the equipment.
- Avoid collision during storage, transportation and operation of the equipment.
- Without prior written consent from Huawei, no company or individual is allowed to decompile, disassemble, modify or reverse engineer the equipment and shall be solely responsible for any effect resulted from such action.



### Environmental Requirements:

- Place the equipment in a well-ventilated place. Avoid direct irradiation of any strong light (such as sunlight).
- Keep the equipment clean.
- Place the equipment on a flat and stable platform which is beyond the reach of children.
- Do not place heavy objects on the equipment.
- Maintain at least 10 cm space around the equipment for heat dissipation. Do not cover the equipment with any object or block the ventilation holes of the equipment.
- Keep the equipment away from appliances with a strong electric field or magnetic field, such as a microwave oven and a refrigerator.



### Usage:

- Use only the power adapter provided with the equipment.
- The power supply must meet the equipment specifications.
- Before plugging or unplugging the cables, turn off the equipment and unplug the power supply.
- In a lightning storm, turn off the equipment and unplug the power supply, to avoid lightning strike.
- Unplug the power supply if the equipment is not used for a long time.

- The temperature of the equipment shell goes up when used for long hours. This is a normal phenomenon.



Cleaning:

- Before cleaning the equipment, turn off the equipment and unplug the power supply.
- Clean the equipment shell with a piece of soft cloth.
- Do not spray liquid onto the equipment, to avoid damage to the internal circuit.
- Keep the power socket clean and dry, to avoid electric shock or other dangers.

# Table of Contents

|                                                                 |    |
|-----------------------------------------------------------------|----|
| Chapter 1 Introduction .....                                    | 1  |
| 1.1 Functions and Features.....                                 | 1  |
| 1.2 Hardware Configuration .....                                | 1  |
| 1.2.1 Front Panel .....                                         | 2  |
| 1.2.2 Rear Panel.....                                           | 3  |
| 1.2.3 Splitter.....                                             | 4  |
| Chapter 2 Installation of the HG520s.....                       | 5  |
| 2.1 Preparation.....                                            | 5  |
| 2.2 Connecting the HG520s.....                                  | 5  |
| 2.3 Establishing Configuration Environment .....                | 7  |
| 2.3.1 Parameter Configuration.....                              | 7  |
| 2.3.2 Steps.....                                                | 7  |
| 2.4 Introduction to the Configuration Management Interface..... | 8  |
| Chapter 3 Service Configuration.....                            | 10 |
| 3.1 Method .....                                                | 10 |
| 3.1.1 Protocol Model.....                                       | 10 |
| 3.1.2 Steps.....                                                | 11 |
| 3.2 Service Modes of the HG520s .....                           | 12 |
| 3.3 Configuring the Pure Bridge Mode.....                       | 13 |
| 3.3.1 Preparation .....                                         | 13 |
| 3.3.2 Steps.....                                                | 14 |
| 3.4 Configuring the PPPoE Mode .....                            | 16 |
| 3.4.1 Preparation .....                                         | 16 |

|                                                             |    |
|-------------------------------------------------------------|----|
| 3.4.2 Steps .....                                           | 17 |
| 3.5 Configuring the PPPoA mode .....                        | 19 |
| 3.6 Configuring the DHCP Mode.....                          | 19 |
| 3.6.1 Preparation .....                                     | 19 |
| 3.6.2 Steps.....                                            | 20 |
| 3.7 Configuring the Static IP Mode .....                    | 21 |
| 3.7.1 Preparation .....                                     | 21 |
| 3.7.2 Steps.....                                            | 22 |
| 3.8 Configuring the IPoA Mode .....                         | 24 |
| Chapter 4 Other Settings .....                              | 25 |
| 4.1 Changing the IP Address of the LAN of the HG520s .....  | 25 |
| 4.2 Changing the Administrator Password of the HG520s ..... | 26 |
| 4.3 Restoring the Default Factory Settings .....            | 26 |
| Chapter 5 Troubleshooting .....                             | 28 |
| 5.1 Quick Failure Location.....                             | 28 |
| 5.2 FAQs .....                                              | 29 |
| Chapter 6 Technical Specifications .....                    | 31 |
| Chapter 7 Appendix .....                                    | 33 |
| 7.1 Default Factory Settings .....                          | 33 |
| 7.1.1 Common Default Parameters .....                       | 33 |
| 7.1.2 Default PVC Parameters .....                          | 33 |
| 7.2 Abbreviations.....                                      | 34 |

# Chapter 1 Introduction

This chapter introduces functions and structure of the EchoLife HG520s Home Gateway (hereinafter referred to as the HG520s).

## 1.1 Functions and Features

The HG520s is a type of Asymmetric Digital Subscriber Line (ADSL) terminal. Data, video and audio are transmitted through the common telephone line at a higher rate by the HG520s.

The features of the HG520s are:

- High transmission rate: The maximum downstream transfer rate is 24 Mbit/s; the maximum upstream transfer rate is 1.2 Mbit/s.
- Strong network adaptability: The HG520s can be interconnected with multiple Digital Subscriber Line Access Multiplexes (DSLAMs).
- Strong maintainability: The HG520s provides multiple indicator status, which is convenient to locate failures.
- Easy operation: The HG520s has a simple operation for the configuration and management page.

## 1.2 Hardware Configuration

This section introduces the appearance and structure of the HG520s.

---

 **Note:**

Figures of the front panel and the rear panel are only for your reference.

---

## 1.2.1 Front Panel

Figure 1-1 shows the front panel of the HG520s.

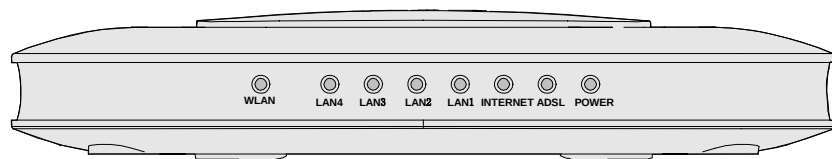


Figure 1-1 Front panel of the HG520s

Table 1-1 shows indicator descriptions of the HG520s in the front panel.

Table 1-1 Indicator descriptions[a1]

| Indicator | Color | Status   | Description                                                                                |
|-----------|-------|----------|--------------------------------------------------------------------------------------------|
| Power     | Green | On       | Power is on.                                                                               |
|           |       | Off      | Power is off.                                                                              |
| ADSL      | Green | On       | DSL connection is established.                                                             |
|           |       | Blinking | The DSL link is in the activation process.                                                 |
|           |       | Off      | DSL connection is not established.                                                         |
| INTERNET  | Green | On       | A link is established and activated in the routing mode, but no data is being transmitted. |
|           |       | Blinking | Data is being transmitted in the routing mode.                                             |

| Indicator                                     | Color | Status   | Description                                                                                |
|-----------------------------------------------|-------|----------|--------------------------------------------------------------------------------------------|
|                                               |       | Off      | The HG520s is in the bridging mode; or it is in the routing mode with no link established. |
| LAN1~4                                        | Green | On       | LAN connection is established.                                                             |
|                                               |       | Blinking | LAN data is being transmitted.                                                             |
|                                               |       | Off      | LAN connection is not established.                                                         |
| WLAN                                          | Green | On       | WLAN connection is established.                                                            |
|                                               |       | Blinking | WLAN data is being transmitted.                                                            |
|                                               |       | Off      | No WLAN connection is established.                                                         |
| <b>Note:</b><br>PPP = Point-to-Point Protocol |       |          |                                                                                            |

---

 **Note:**

If the HG520s fails to activate, it tries again after an interval. The ADSL LINK indicator is off during the interval, lasting for about 1 minute.

---

## 1.2.2 Rear Panel

Figure 1-2 shows the rear panel of the HG520s.

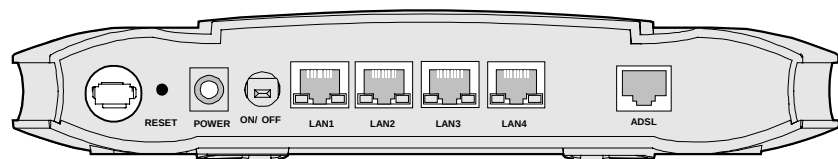


Figure 1-2 Rear panel of the HG520s

Table 1-2 shows descriptions of interfaces and buttons in the rear panel of the HG520s.

Table 1-2 Descriptions of Interfaces and Buttons[a2]

| Interface/Button | Description                                                                                                                                                                                                                                                                                                                                 |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Antenna          | Antenna for wireless Internet access.                                                                                                                                                                                                                                                                                                       |
| ADSL             | RJ-11 connector for connection with the telephone jack or a splitter through a telephone line.                                                                                                                                                                                                                                              |
| LAN1~4           | RJ-45 connector for connection with the Ethernet port of a computer or a LAN hub.                                                                                                                                                                                                                                                           |
| RESET            | To make the equipment restored and restarted, press the RESET button and release it within 3 seconds. To make the equipment restore the default settings of the HG520s, press the RESET button and release it after 3 seconds. Once you use this function, all your customized settings will be lost. Therefore, please be careful with it. |
| POWER            | Connect to the power adapter.                                                                                                                                                                                                                                                                                                               |
| ON/OFF           | Switch on/off HG520s.                                                                                                                                                                                                                                                                                                                       |

### 1.2.3 Splitter

The external splitter can efficiently reduce the signal disturbance on the telephone line. When voice and data are transmitted through the same telephone line at the same time, you need an external splitter to separate the voice and data signals:

- LINE: Connecting to the phone jack on the wall.
- PHONE: Connecting to the telephone.
- MODEM: Connecting to the ADSL interface of the HG520s.

# Chapter 2 Installation of the HG520s

This chapter introduces the installation when the HG520s is used for the first time.

## 2.1 Preparation

Connect your computer with the HG520s through the Ethernet interfaces. Before installing the HG520s, make sure that your computer is equipped with the Ethernet card.

## 2.2 Connecting the HG520s

Figure 2-1 shows the connection of the HG520s.

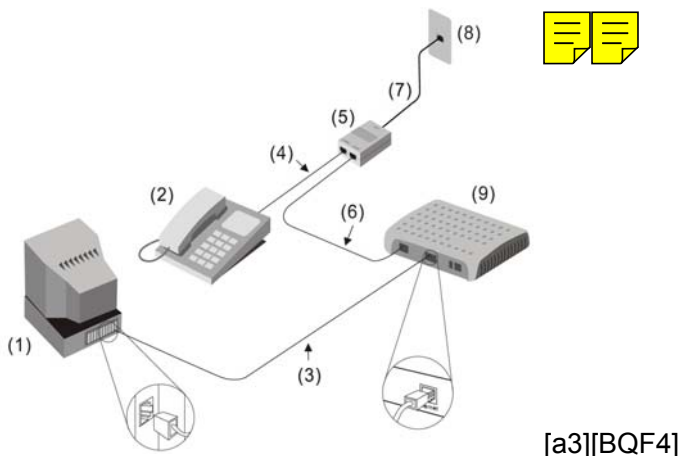


Figure 2-1 Connection of the HG520s

- |                          |                |                          |
|--------------------------|----------------|--------------------------|
| (1) PC                   | (2) Phone      | (3) RJ-45 Ethernet cable |
| (4) RJ-11 telephone line | (5) Splitter   | (6) RJ-11 telephone line |
| (7) RJ-11 telephone line | (8) Phone jack | (9) HG520s               |

Connect the HG520s as follows:



Caution:

Before connecting the HG520s, power off the HG520s and your computer.

---

- (1) Connect the interfaces of the splitter with the corresponding equipment by using the telephone line.
  - Connect the LINE interface of the splitter with the telephone jack on the wall.
  - Connect the MODEM interface of the splitter with the ADSL interface of the HG520s.
  - Connect the PHONE interface of the splitter with the interface of the telephone line.
- (2) Connect the Ethernet interface of the HG520s with the Ethernet interface of the computer by using the straight through network cable.
- (3) Plug the output end of the provided power adapter into the power input interface of the HG520s; plug the other end into the power socket.
- (4) Press the Power button of the HG520s in the rear panel to power on the HG520s.  
Check the Power indicator in the front panel of the HG520s. If it is on, the HG520s is powered on.

## 2.3 Establishing Configuration Environment

You can configure the HG520s on the Web configuration page. This chapter describes the process to establish the configuration and management environment of the HG520s.

### 2.3.1 Parameter Configuration

Before establishing the configuration environment, set the following parameters.

Table 2-1 Parameters for the configuration environment

| Name                                                | Description                                                                                                                                                                                                            |
|-----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Administrator username and password of the HG520s   | Default: <ul style="list-style-type: none"><li>• Username: admin</li><li>• Password: admin</li></ul>                                                                                                                   |
| IP address and subnet mask of the LAN of the HG520s | Default: <ul style="list-style-type: none"><li>• IP address: 192.168.1.1</li><li>• Subnet mask: 255.255.255.0</li></ul>                                                                                                |
| IP address and subnet mask of the computer          | Set them to be in the same network segment as the IP address of the LAN of the HG520s<br>For example: <ul style="list-style-type: none"><li>• IP address: 192.168.1.100</li><li>• Subnet mask: 255.255.255.0</li></ul> |

### 2.3.2 Steps

Follow the steps to establish the configuration environment.

| Step | To...              | Do...                                                                   |
|------|--------------------|-------------------------------------------------------------------------|
| 1    | Connect the HG520s | For details to connect the HG520s, refer to 2.2 "Connecting the HG520". |

| Step | To...                                  | Do...                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|------|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2    | Make sure not to use the proxy server. | <p>The process to unselect this function is described below taking Internet Explorer 6.0 as an example:</p> <ol style="list-style-type: none"> <li>(1) Start the Internet Explorer. Select <b>Tools &gt; Internet Options...</b> to display the <b>Internet Options</b> dialog box.</li> <li>(2) Select the <b>Connections</b> tab. Click <b>LAN Settings....</b></li> <li>(3) Deselect <b>Use a proxy server for your LAN (These settings will not apply to dial-up or VPN connections)</b>.</li> </ol> |
| 3    | Log in to the Web configuration page   | <ol style="list-style-type: none"> <li>(1) In the address bar of Internet Explorer, enter <b>http://192.168.1.1</b> (the default IP address of the HG520s). Then press <b>Enter</b>. The login window is displayed.</li> <li>(2) Enter the username and the password of the administrator in the login window. When the password is authenticated, you can access the Web configuration page.</li> </ol>                                                                                                 |

---

 **Note:**

After configuring the working parameters of the HG520s, configure the computer (such as resetting the IP address of the computer or installing the dial-up software) according to the configuration status of the HG520s. Then the computer can access the Internet through the HG520s. For details, please refer to Chapter 3 "Service Configuration".

---

## 2.4 Introduction to the Configuration Management Interface

The Web configuration page of the HG520s is divided into two parts:

- The navigation tree: It is on the left side of the page. You can enter the corresponding configuration and management interfaces by clicking the related link.
- Configuration and management area: It is on the right side of the page.

# Chapter 3 Service Configuration

This chapter introduces how to use the Web configuration page to configure the HG520s.

---

 Note:

The figures in the introduction to the configuration operation are only for your reference.

---

## 3.1 Method

### 3.1.1 Protocol Model

Figure 3-1 shows the protocol model of HG520s connection and the access equipment DSLAM at the office end.

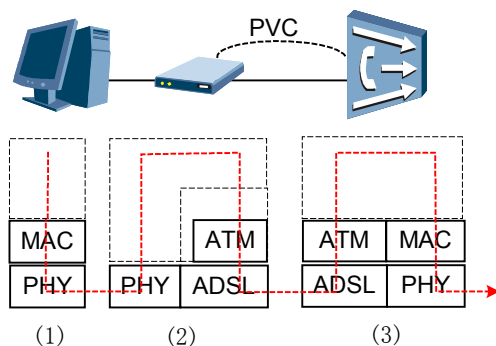


Figure 3-1 Protocol model

(1) PC

(2) HG520s

(3) DSLAM

From the previous figure, you can know that the transmission of the HG520s and the DSLAM is based on the Asynchronous Transfer Mode (ATM). To realize all the service modes of the HG520s, configure the relevant parameters of the HG520s. For example, configure the Permanent Virtual Channel (PVC) parameter and others.

### 3.1.2 Steps

The service modes of HG520s can be realized by configuring the corresponding working parameters.

The steps to realize a service mode are described below.

| Step                                                                                       | To...                                   | Do...                                                                                                                                                                                                                                                                                       |
|--------------------------------------------------------------------------------------------|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1                                                                                          | Establish the configuration environment | Refer to 2.3 "Establishing Configuration Environment".                                                                                                                                                                                                                                      |
| 2                                                                                          | Configure the HG520s                    | (1) Select the PVC to be configured.<br>(2) Select the service mode of this PVC and configure the working parameters of the PVC.<br>(3) Configure functions according to the requirement.<br>For example, configure the DHCP function.<br>(4) Save the configuration and reboot the HG520s. |
| 3                                                                                          | Configure your computer                 | Configure the working parameters of the computer NIC or install the dial-up software in the computer according to the service mode of the HG520s.                                                                                                                                           |
| <b>Note:</b><br>NIC = Network Interface Card<br>DHCP = Dynamic Host Configuration Protocol |                                         |                                                                                                                                                                                                                                                                                             |

## 3.2 Service Modes of the HG520s

The HG520s supports multiple service modes and the configuration of the DSLAM at the office end should be taken into consideration when a service mode is being selected. The various service modes are listed in Table 3-1.

Table 3-1 the HG520s service mode introduction

| Service Mode | Working Method                                                                                                                                                                                                                                    | Configuration                                  |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|
| Pure bridge  | <ul style="list-style-type: none"><li>Take the HG520s as pure bridge equipment.</li><li>Use the PPPoE dial-up software of the computer to dial a number.</li></ul>                                                                                | Refer to 3.3 "Configuring the Bridge Mode".    |
| PPPoE        | <ul style="list-style-type: none"><li>Take the HG520s as a router.</li><li>Use the built-in PPPoE dial-up software of the HG520s to dial a number.</li><li>Use the PPPoE/PPPoA encapsulation mode to encapsulate the packets.</li></ul>           | Refer to 3.4 "Configuring the PPPoE Mode".     |
| PPPoA        | <ul style="list-style-type: none"><li>Take the HG520s as a router.</li><li>Use the PPPoE dial-up software of the HG520s to dial a number.</li><li>Use the PPPoA encapsulation mode to encapsulate the packets.</li></ul>                          | Refer to 3.5 "Configuring the PPPoA mode".     |
| DHCP         | <ul style="list-style-type: none"><li>Take the HG520s as a router.</li><li>The ISP dynamically allocates the IP address for the HG520s to access the Internet.</li><li>Use the IPoE/IPoA encapsulation mode to encapsulate the packets.</li></ul> | Refer to 3.6 "Configuring the DHCP Mode".      |
| Static IP    | <ul style="list-style-type: none"><li>Take the HG520s as a router.</li><li>The HG520s uses the static public IP address to access the Internet.</li><li>Use the IPoE/IPoA encapsulation mode to encapsulate the packets.</li></ul>                | Refer to 3.7 "Configuring the Static IP Mode". |

| Service Mode                                                                                                                                                          | Working Method                                                                                                                                                                                                                    | Configuration                             |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|
| IPoA                                                                                                                                                                  | <ul style="list-style-type: none"> <li>Take the HG520s as a router.</li> <li>The HG520s uses the static public IP address to access the Internet.</li> <li>Use the IPoA encapsulation mode to encapsulate the packets.</li> </ul> | Refer to 3.8 "Configuring the IPoA Mode". |
| <b>Note:</b><br><i>ISP = Internet Service Provider</i><br><i>PPPoE = PPP over Ethernet</i><br><i>PPPoA = PPP over ATM</i><br><i>IPoA = Internet Protocol over ATM</i> |                                                                                                                                                                                                                                   |                                           |



Caution:

Some configurations are validated only after they are saved and the HG520s is rebooted. Follow the prompt in the configuration page to perform this operation.

## 3.3 Configuring the Bridge Mode<sup>[a5]</sup>

In the pure bridge mode, the HG520s serves as a bridge. You need to install the PPP dial-up software to realize the dial-up access to the Internet.

This section describes the process to configure the HG520s to work in the pure bridge mode and the process to configure your computer to access the network through the HG520s.

### 3.3.1 Preparation

Table 3-2 shows the configuration preparation.

Table 3-2 Configuration for the pure bridge mode

| Name                                        | Configuration                                                                                                                                        |
|---------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| PVC mode                                    | Pure Bridge                                                                                                                                          |
| PVC operation mode                          | Enable                                                                                                                                               |
| VPI/VCI                                     | Provided by the ISP                                                                                                                                  |
| Encapsulation                               | Provided by the ISP                                                                                                                                  |
| PPP dial-up software                        | Install the PPP dial-up software on your computer to access the Internet (The Windows XP operating system is provided with the PPP dial-up software) |
| Username and password for the PPPoE dial-up | Provided by the ISP                                                                                                                                  |

### 3.3.2 Steps

Configure the following equipment:

- The HG520s
- Your computer

#### 1. Configuring the HG520s

Follow the steps described below:

- (1) Log in to the Web configuration page of the HG520s. For the procedure, refer to 2.3 "Establishing Configuration Environment".
- (2) Select **Basic > WAN Settings** in the navigation tree to display the WAN configuration page.
- (3) In the WAN configuration page, select the PVC that needs to be configured. Click the editing icon of the PVC to display the configuration page.

- (4) Select **Pure Bridge** in the PVC configuration page. Set the operation mode to **Enable**. Configure relevant parameters in Figure 3-2 according to the values in the Table 3-2.

|                                       |                                                                       |
|---------------------------------------|-----------------------------------------------------------------------|
| PVC                                   | PVC-0                                                                 |
| Operation Mode                        | <input checked="" type="radio"/> Enable <input type="radio"/> Disable |
| VPI/VC1                               | 0 / 35                                                                |
| Mode                                  | Pure Bridge                                                           |
| Encapsulation                         | <input checked="" type="radio"/> LLC <input type="radio"/> VC-Mux     |
| Configured MTU                        | 9164                                                                  |
| Actual MTU                            | 9164                                                                  |
| Traffic Index                         | 0                                                                     |
| <input type="button" value="Submit"/> |                                                                       |

Figure 3-2 Configuring the pure bridge mode

- (5) Click **Submit**.
- (6) Select **Tools > Save & Reboot** in the navigation tree.
- (7) Select **Save** in the Save/Reboot page. Click **Submit** to save the configuration.
- (8) Select **Reboot** in the Save/Reboot page. Click **Submit** to reboot the HG520s.

## 2. Configuring your computer

After completing the configuration of the HG520s, you need to install the PPP dial-up software to access the network.

The Windows XP (Professional) operating system has a built-in PPPoE dial-up software. To set up a dial-up connection in Windows XP system, do as follows:

- (1) Select **Start > All Programs > Accessories > Communications > Network Connections**.
- (2) Click **Create a new connection** in the displayed page.

- (3) Click **Next** in the **New Connection Wizard** dialog box.
- (4) Select **Connect to the Internet** and click **Next**.
- (5) Select **Set up my connection manually** and click **Next**.
- (6) Select **Connect using a broadband connection that requires a username and password** and click **Next**.
- (7) Enter the name of the connection. You can name it as you like. Then click **Next**.
- (8) Select an option from **Anyone's use** or **My use only** and click **Next**.
- (9) Enter the username and password. Then click **Next**.
- (10) Click **Finish**.

## 3.4 Configuring the PPPoE Mode

In the PPPoE mode, the HG520s uses the built-in PPP dial-up software to dial a number. The HG520s serves as a router to connect your computer to the network.

This chapter describes the process to configure the HG520s to work in the PPPoE mode and the process to configure your computer to access the network through the HG520s.

### 3.4.1 Preparation

Table 3-3 shows the configuration preparation.

Table 3-3 Configuration for the PPPoE mode

| Name               | Configuration       |
|--------------------|---------------------|
| PVC mode           | PPPoE               |
| PVC operation mode | Enable              |
| Default route      | Enable              |
| DNS                | Enable              |
| VPI/VCI            | Provided by the ISP |

| Name                                        | Configuration          |
|---------------------------------------------|------------------------|
| Encapsulation                               | Provided by the ISP    |
| Username and password for the PPPoE dial-up | Provided by the ISP    |
| DHCP mode of the HG520s                     | Enable the DHCP server |

---

 **Note:**

After the DHCP server is enabled, the HG520s allocates the private IP address for the computer.

---

### 3.4.2 Steps

#### 1. Configuring the HG520s

Follow the steps described below:

- (1) Log in to the Web configuration page. For the procedure, refer to 2.3 "Establishing Configuration Environment".
- (2) Select **Basic** > **WAN Settings** in the navigation tree to display the WAN configuration page.
- (3) In the WAN configuration page, select the PVC that needs to be configured. Click the editing icon of the PVC to display the configuration page.
- (4) Select **PPPoE** in the PVC configuration page. Set the operation mode **Enable**. Configure the relevant parameters in Figure 3-3 according to the values in the Table 3-3.

|                |                                                                       |
|----------------|-----------------------------------------------------------------------|
| PVC            | PVC-0                                                                 |
| Operation Mode | <input checked="" type="radio"/> Enable <input type="radio"/> Disable |
| VPI/VCI        | 0 / 35                                                                |
| Mode           | PPPoE                                                                 |
| Encapsulation  | <input checked="" type="radio"/> LLC <input type="radio"/> VC-Mux     |
| Default Route  | <input checked="" type="radio"/> Enable <input type="radio"/> Disable |
| IGMP           | <input checked="" type="radio"/> Enable <input type="radio"/> Disable |
| Traffic Index  | 0                                                                     |
| Service Name   |                                                                       |
| Username       | guest                                                                 |
| Password       | •••••                                                                 |
| IP Unnumber    | <input type="radio"/> Enable <input checked="" type="radio"/> Disable |
| Use DNS        | <input checked="" type="radio"/> Enable <input type="radio"/> Disable |
| Configured MTU | 1500                                                                  |
| Actual MTU     | 9164                                                                  |
| Submit         |                                                                       |

Figure 3-3 Configuring the PPPoE mode

- (5) Click **Submit**.
- (6) Select **Basic > DHCP** in the navigation tree to display the DHCP configuration page.
- (7) Select **DHCP Server** in the DHCP configuration page. Click **Submit**.
- (8) Select **Tools > Save & Reboot** in the navigation tree.
- (9) Select **Save** in the Save/Reboot page. Click **Submit** to save the configuration.
- (10) Select **Reboot** in the Save/Reboot page. Click **Submit** to reboot the HG520s.

## 2. Configuring Your Computer

Configure your computer NIC, to enable the computer to automatically obtain information such as the IP address, gateway and Domain Name Server (DNS).

### 3.5 Configuring the PPPoA mode

In the PPPoA mode, the HG520s uses the built-in PPP dial-up software to dial a number.

Configuring PPPoA mode is similar to configuring PPPoE mode. The only difference is that you have to select **PPPoA** in the PVC configuration mode to configure PPPoA and select **PPPoE** to configure PPPoE. For details, refer to 3.4 "Configuring the PPPoE Mode".

### 3.6 Configuring the DHCP Mode

This section mainly describes the process to configure the HG520s in the DHCP mode and the process to configure your computer to access the network through the HG520s.

#### 3.6.1 Preparation

Table 3-4 shows the preparation for the configuration.

Table 3-4 Configuration for the DHCP mode

| Name                    | Configuration          |
|-------------------------|------------------------|
| PVC mode                | DHCP                   |
| PVC operation mode      | Enable                 |
| Default route           | Enable                 |
| VPI/VCI                 | Provided by the ISP    |
| Encapsulation           | Provided by the ISP    |
| DHCP mode of the HG520s | Enable the DHCP server |

## 3.6.2 Steps

### 1. Configuring the HG520s

Follow the steps described below:

- (1) Log in to the Web configuration page. For the procedure, refer to 2.3 "Establishing Configuration Environment".
- (2) Select **Basic** > **WAN Settings** in the navigation tree to display the WAN configuration page.
- (3) In the WAN configuration page, select the PVC that needs to be configured. Click the editing icon of the PVC to display the configuration page.
- (4) Select **Bridged+DHCP** in the PVC configuration page. Set the operation mode to **Enable**. Configure the relevant parameters in Figure 3-4 according to the values in the Table 3-4.

|                                       |                                                                       |
|---------------------------------------|-----------------------------------------------------------------------|
| PVC                                   | PVC-0                                                                 |
| Operation Mode                        | <input checked="" type="radio"/> Enable <input type="radio"/> Disable |
| VPI/VCI                               | 0 / 35                                                                |
| Mode                                  | Bridged+DHCP ▼                                                        |
| Encapsulation                         | <input checked="" type="radio"/> LLC <input type="radio"/> VC-Mux     |
| Default Route                         | <input checked="" type="radio"/> Enable <input type="radio"/> Disable |
| IGMP                                  | <input checked="" type="radio"/> Enable <input type="radio"/> Disable |
| Traffic Index                         | 0 ▼                                                                   |
| Configured MTU                        | 9164                                                                  |
| Actual MTU                            | 9164                                                                  |
| <input type="button" value="Submit"/> |                                                                       |

Figure 3-4 Configuring the DHCP mode

- (5) Click **Submit**.
- (6) Select **Basic** > **DHCP** in the navigation tree to display the DHCP configuration page.

- (7) Select **DHCP Server** in the DHCP configuration page. Click **Submit**.
- (8) Select **Tools > Save & Reboot** in the navigation tree.
- (9) Select **Save** in the Save/Reboot page. Click **Submit** to save the configuration.
- (10) Select **Reboot** in the Save/Reboot page. Click **Submit** to reboot the HG520s.

## 2. Configuring Your Computer

Configure your computer NIC, to enable the computer to automatically obtain information such as the IP address, gateway and DNS.

## 3.7 Configuring the Static IP Mode

This section mainly describes the process to configure the HG520s in the static IP mode and the process to configure your computer to access the network through the HG520s.

### 3.7.1 Preparation

Table 3-5 shows the configuration preparation.

Table 3-5 Configuration for the static IP mode

| Name                   | Configuration                                                                            |
|------------------------|------------------------------------------------------------------------------------------|
| PVC mode               | Static IP                                                                                |
| PVC operation mode     | Enable                                                                                   |
| Default route          | Enable                                                                                   |
| VPI/VCI                | Provided by the ISP                                                                      |
| Encapsulation          | Provided by the ISP                                                                      |
| IP address/subnet mask | IP address and subnet mask for the HG520s to access the network are provided by the ISP. |

| Name                      | Configuration                                                                          |
|---------------------------|----------------------------------------------------------------------------------------|
| IP address of the gateway | IP address of the gateway for the HG520s to access the network is provided by the ISP. |
| DHCP mode of the HG520s   | Enable the DHCP server.                                                                |

## 3.7.2 Steps

### 1. Configuring the HG520s

Follow the steps described below:

- (1) Log in to the Web configuration page. For the procedure, refer to 2.3 "Establishing Configuration Environment".
- (2) Select **Basic** > **WAN Settings** in the navigation tree to display the WAN configuration page.
- (3) In the WAN configuration page, select the PVC that needs to be configured. Click the editing icon of the PVC to display the configuration page.
- (4) Select **Bridged+Static IP** in the PVC configuration page. Set the operation mode to **Enable**. Configure relevant parameters in Figure 3-5 according to the values in the Table 3-5.

|                                       |                                                                       |
|---------------------------------------|-----------------------------------------------------------------------|
| PVC                                   | PVC-0                                                                 |
| Operation Mode                        | <input checked="" type="radio"/> Enable <input type="radio"/> Disable |
| VPI/VCI                               | 0 / 35                                                                |
| Mode                                  | Bridged+Static IP ▼                                                   |
| Encapsulation                         | <input checked="" type="radio"/> LLC <input type="radio"/> VC-Mux     |
| IGMP                                  | <input checked="" type="radio"/> Enable <input type="radio"/> Disable |
| Traffic Index                         | 0 ▼                                                                   |
| IP Address                            | 0 0 0 0                                                               |
| Submask                               | 0 0 0 0                                                               |
| Default Route                         | <input checked="" type="radio"/> Enable <input type="radio"/> Disable |
| Gateway IP Address                    | 0 0 0 0                                                               |
| Configured MTU                        | 9164                                                                  |
| Actual MTU                            | 9164                                                                  |
| <input type="button" value="Submit"/> |                                                                       |



Figure 3-5 Configuring the static IP

- (5) Click **Submit**.
- (6) Select **Basic > DHCP** in the navigation tree to display the DHCP configuration page.
- (7) Select **DHCP Server** in the DHCP configuration page. Click **Submit**.
- (8) Select **Tools > Save & Reboot** in the navigation tree.
- (9) Select **Save** in the Save/Reboot page. Click **Submit** to save the configuration.
- (10) Select **Reboot** in the Save/Reboot page. Click **Submit** to reboot the HG520s.

## 2. Configuring Your Computer

Configure your computer NIC, to enable the computer to automatically obtain information such as the IP address, gateway and DNS.

## 3.8 Configuring the IPoA Mode

Configuring the IPoA mode is similar to configuring the static IP mode. The only difference is that you have to select **IPoA** in the PVC configuration mode to configure IPoA and select **Static IP** to configure static IP. For details, refer to 3.7 "Configuring the Static IP Mode".

## Chapter 4 Other Settings

### 4.1 Changing the IP Address of the LAN of the HG520s

You can access the Web configuration page of the HG520s through the IP address of the LAN of the HG520s. The IP address of the LAN of the HG520s is configured by default, you can change it as follows:

- (1) Log in to the Web configuration page of the HG520s. For the procedure, refer to 2.3 "Establishing Configuration Environment".
- (2) Select **Basic > LAN Settings** in the navigation tree to display the WAN configuration page.
- (3) Enter the IP address and the subnet mask in the LAN page. Click **Submit**.
- (4) Confirm the changing operation according to the prompt in the page.

---

 **Note:**

- You need to log in again to use the Web configuration page after configuring the IP address of the HG520s.
  - Ensure that the IP address of the computer and the IP address of the HG520s are in the same segment to access the Web configuration page.
-

## 4.2 Changing the Administrator Password of the HG520s

The Web manager of the HG520s provides the password protection function to prevent illegal users from changing the configuration of the HG520s. The username and the password of the HG520s are configured by default. To change the administrator password, follow the steps described below:

- (1) Log in to the Web configuration page of the HG520s. For the procedure, refer to 2.3 "Establishing Configuration Environment".
- (2) Select **Tools > System Management** in the navigation tree to display the system management configuration page.
- (3) Find the username in the configuration page of system management. Click the corresponding editing icon to display the password configuration page.
- (4) Enter the new password in the password configuration page. Click **Submit**.

## 4.3 Restoring the Default Factory Settings



Caution:

When you restore the default factory settings, the customized data may be lost.

---

There are two options to restore default factory settings:

## 1. Using the **Reset** button

Do as follows:

- (1) Find the **Reset** button in the rear panel of the HG520s
- (2) Use a pin to press the **Reset** button and then release it after 3 seconds.

## 2. Using the Web Manager

Do as follows:

- (1) Select **Tools > Save & Reboot** in the navigation tree to display the Save/Reboot page.
- (2) Select **Factory Setting Reboot** in the factory setting reboot page.
- (3) Click **Submit**.

# Chapter 5 Troubleshooting

## 5.1 Quick Failure Location

| Problem                           | Solution                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The Power indicator is not on     | <ul style="list-style-type: none"><li>• Ensure that the power adapter matches the HG520s.</li><li>• Ensure that the HG520s is connected to the power supply properly.</li><li>• Ensure that the <b>Power</b> button is pressed.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| The ADSL LINK indicator is not on | <ul style="list-style-type: none"><li>• Ensure that the ADSL line is connected properly.</li><li>• Ensure that the telephone line works normally. Run the check by using a telephone.</li><li>• Ensure that there is no capacitor or diode in the connection box.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| The LAN indicator is not on       | <ul style="list-style-type: none"><li>• Ensure that only the network cable provided with the HG520s is used.</li><li>• Ensure that the cables are connected properly.</li><li>• Ensure that the network adapter indicator of your computer is on.</li><li>• Ensure that the network adapter works normally. Check by the following procedure:<br/>Right-click <b>My Computer</b> to select <b>Properties</b>;<br/>Select <b>Hardware &gt; Device Manager</b>;<br/>Check whether there are devices with the mark of ? or ! under <b>Network Adapters</b>.<br/>If such devices are found, delete and then re-install them, or change a slot for the network adapter. If the problem persists, change the network adapter.</li></ul> |

| Problem                         | Solution                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The Internet cannot be accessed | <ul style="list-style-type: none"> <li>• Ensure that all the previous problems are addressed.</li> <li>• Ensure that the PVC parameters provided by the ISP are not changed. Otherwise, restore the default settings.</li> <li>• Ensure that the dial-up software is correctly installed and set properly on your computer.</li> <li>• Ensure that you have entered the right username and password.</li> <li>• If you still cannot access the Internet after the dial-up operation, check whether the proxy server on your IE is correctly configured. The proxy server must be disabled.</li> <li>• Try different Web sites, in case some Web site fails.</li> <li>• Stop the connection dialing process and retry 5 minutes later.</li> </ul> |

## 5.2 FAQs

### 1. Why does the ADSL connection break so often?

Many possible factors may cause this problem, such as faults in your ISP's access server, line disconnection and line disturbance. You can check as follows:

- (1) Make sure that the ADSL line is connected properly.
- (2) Keep the HG520s away from appliances with strong electric fields or magnetic fields, such as a microwave oven or a refrigerator.
- (3) Make sure that no telephone or fax machine is connected directly to the ADSL line.
- (4) Replace the old ISA network adapter with a new 10/100 M PCI network adapter and install the latest driver.
- (5) Find help on <http://www.huawei.com>.

## 2. What to do if the username and the password of the Web configuration page are forgotten?

If the username and the password of the Web configuration page are forgotten, configure the HG520s to the default factory settings. Use the default username and password to access the Web manager.

For restoring the default factory settings, refer to 4.3 "Restoring the Default Factory Settings". For the username and the password of the HG520s, refer to 7.1 "Default Factory Settings".

## Chapter 6 Technical Specifications

| Main Technical Specifications                  |                                                                                                              |                                                                                                                                              |
|------------------------------------------------|--------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| Standard                                       | ADSL standard                                                                                                | ITU G.992.1 (G.dmt) Annex A<br>ITU G.992.2 (G.lite) Annex A<br>ITU G.994.1 (G.hs)<br>ANSI T1.413 Issue 2                                     |
|                                                | ADSL2 standard                                                                                               | ITU G.992.3 (G.dmt.bis) Annex A<br>ITU G.992.4 (G.lite.bis) Annex A                                                                          |
|                                                | ADSL2+ standard                                                                                              | ITU G.992.5 Annex A                                                                                                                          |
| Data transfer rate                             | G.dmt<br>T1.413                                                                                              | <ul style="list-style-type: none"> <li>The maximum downstream rate is 8 Mbit/s</li> <li>The maximum upstream rate is 896 kbit/s</li> </ul>   |
|                                                | G.lite                                                                                                       | <ul style="list-style-type: none"> <li>The maximum downstream rate is 1.5 Mbit/s</li> <li>The maximum upstream rate is 512 kbit/s</li> </ul> |
|                                                | G.992.5 (ADSL2+)                                                                                             | <ul style="list-style-type: none"> <li>The maximum downstream rate is 24 Mbit/s</li> <li>The maximum upstream rate is 1.2 Mbit/s</li> </ul>  |
| Physical Features and Environment Requirements |                                                                                                              |                                                                                                                                              |
| Power consumption                              | < 4 W                                                                                                        |                                                                                                                                              |
| Power adapter                                  | <ul style="list-style-type: none"> <li>Input: 220 V AC 50 Hz</li> <li>Output: 12 V AC 0.8 A</li> </ul>       |                                                                                                                                              |
| Temperature of the working environment         | 0°C – 40°C  – 104°F [a10] |                                                                                                                                              |
| Humidity of the working environment            | 5% – 95% (non-condensing)                                                                                    |                                                                                                                                              |
| Dimensions (L % W % H)                         | 135 mm % 110 mm % 28 mm                                                                                      |                                                                                                                                              |

|        |       |
|--------|-------|
| Weight | 180 g |
|--------|-------|

## Chapter 7 Appendix

### 7.1 Default Factory Settings

#### 7.1.1 Common Default Parameters

| Item                      | Default Value |
|---------------------------|---------------|
| Username of administrator | Admin         |
| Password of administrator | Admin         |
| IP address                | 192.168.1.1   |
| Subnet mask               | 255.255.255.0 |
| DHCP mode                 | None          |
| NAT                       | Enable        |

#### 7.1.2 Default PVC Parameters[a11]

| Sequence No. | Mode   | VPI | VCI |
|--------------|--------|-----|-----|
| 0            | Bridge | 0   | 35  |
| 1            | Bridge | 0   | 34  |
| 2            | Bridge | 0   | 35  |
| 3            | Bridge | 0   | 36  |
| 4            | Bridge | 0   | 37  |
| 5            | Bridge | 0   | 38  |
| 6            | Bridge | 0   | 39  |
| 7            | Bridge | 0   | 40  |

## 7.2 Abbreviations

|       |                                          |
|-------|------------------------------------------|
| ADSL  | Asymmetric Digital Subscriber Line       |
| ATM   | Asynchronous Transfer Mode               |
| DHCP  | Dynamic Host Configuration Protocol      |
| DNS   | Domain Name Server                       |
| DSLAM | Digital Subscriber Line Access Multiplex |
| IP    | Internet Protocol                        |
| IPoA  | Internet Protocol over ATM               |
| ISP   | Internet Service Provider                |
| LAN   | Local Area Network                       |
| PC    | Personal Computer                        |
| NIC   | Network Interface Card                   |
| PPP   | Point-to-Point Protocol                  |
| PPPoA | PPP over ATM                             |
| PPPoE | PPP over Ethernet                        |
| PVC   | Permanent Virtual Channel                |
| VCI   | Virtual Channel Identifier               |
| VPI   | Virtual Path Identifier                  |
| WAN   | Wide Area Network                        |