



HG532d 300Mbps Wireless ADSL2+ Router

User Guide

HUAWEI TECHNOLOGIES CO., LTD.



| | |
|-------------------------------------------------------------------------|-----------|
| Product Overview | 1 |
| Supported Features | 1 |
| Ports and Buttons | 2 |
| Indicators | 3 |
| Hardware Installation | 5 |
| Selecting an Installation Location | 5 |
| Connecting Cables | 5 |
| Powering On | 6 |
| Setting Network Parameters | 7 |
| Setting the Computer IP Address | 7 |
| Logging In to the Web Management Page | 10 |
| Configuring the Internet Connection | 11 |
| Setting Dial-Up Connection Parameters | 14 |
| Wireless Connection Setup | 22 |
| Setting Up a Wireless Connection Using the WPS Button | 22 |
| Manually Setting Up a Wireless Connection | 22 |
| Network Security | 26 |
| Improving WLAN Security | 26 |
| Controlling Computer Internet Access | 29 |
| Filtering Out Inappropriate Websites | 31 |
| Controlling Computer Bandwidth | 32 |
| Configuring the Firewall | 34 |
| WLAN Configuration | 36 |
| Enabling and Disabling the WLAN on the HG532d | 36 |
| Expanding WLAN Coverage | 36 |
| Maintenance Guide | 40 |
| Changing the IP Address Used to Log In to the Web Management Page | 40 |
| Changing the Web Management Page User Name and Password | 40 |
| Restoring Default Settings | 41 |
| Reference Operations | 43 |
| Enabling Wireless Configuration on Windows | 43 |

| | |
|--------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| Checking the Computer MAC Address | 43 |
| FAQs | 47 |
| What Can I Do If I Cannot Open the Web Management Page? | 47 |
| What Can I Do If the HG532d Cannot Access the Internet through a Wireless Network Adapter Sometimes or If the WLAN Connection Is Unsteady? | 47 |
| What Can I Do If I Cannot Access the Internet? | 47 |
| I Often Need to Restart the HG532d to Display Web Pages. What Can I Do? ... | 50 |
| What Is the Difference Between Wireless MAC Address Filtering and MAC Address Filtering? | 50 |
| Appendix | 51 |
| Technical Specifications | 51 |
| Default Settings | 52 |
| For More Help | 53 |
| Legal Notice | 54 |

1 Product Overview

Supported Features

The HG532d 300Mbps Wireless ADSL2+ Router (HG532d for short) is a high-speed wireless router designed for home and small office use. This chapter describes the features supported by the HG532d.

High-Bandwidth DSL Connectivity

The HG532d incorporates a high-performance ADSL2+ processor and provides high-speed Internet access and abundant services to be delivered through the digital subscriber line (DSL).

Routing

The HG532d supports routing. It can obtain an IP address through PPP dial-up or Dynamic Host Configuration Protocol (DHCP), which provides simultaneous access for multiple devices.

WLAN

The HG532d supports multiple WLAN protocols, including 802.11b/g/n (2.4 GHz). Adopting 802.11n multiple-input multiple-output antennas (MIMO) technology, the HG532d delivers a wireless transmission rate of up to 300Mbps with its dual antennas. In addition, the HG532d supports multiple wireless encryption modes to provide a secure, reliable, and high-speed WLAN.

Bandwidth Control

The HG532d supports IP bandwidth control and allocates bandwidth to different computers within your home based on Internet access requirements. Your family can then access the Internet, play online games, and watch videos without interfering with each other.

Wi-Fi Protected Setup

You can set up wireless connections between the HG532d and Wi-Fi enabled devices by pressing the Wi-Fi Protected Setup (WPS) button.

WDS Wireless Bridging and Repeating

The wireless distribution system (WDS) function in wireless bridging or wireless repeating mode enables you to set up wireless connections between wireless routers to implement large-scale WLAN coverage.

PVC Automatic Tuning

The HG532d offers a permanent virtual circuit (PVC) for automatic tuning. It can automatically detect the virtual path identifier (VPI) and virtual channel identifier (VCI) for your area, eliminating all configuration needs.

Firewall

The powerful built-in firewall effectively protects against viruses and malicious attacks.

ARP Attack Protection

You can bundle an IP address and MAC address bi-directionally, which effectively protects your LAN from Address Resolution Protocol (ARP) attacks.

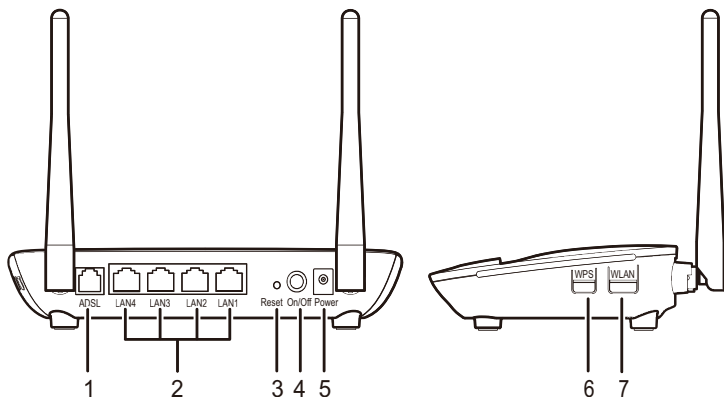
Parental Controls


Parents can control their children's computer usage by placing time limits on usage duration or forbidding access to certain websites.

Easy Configuration and Management

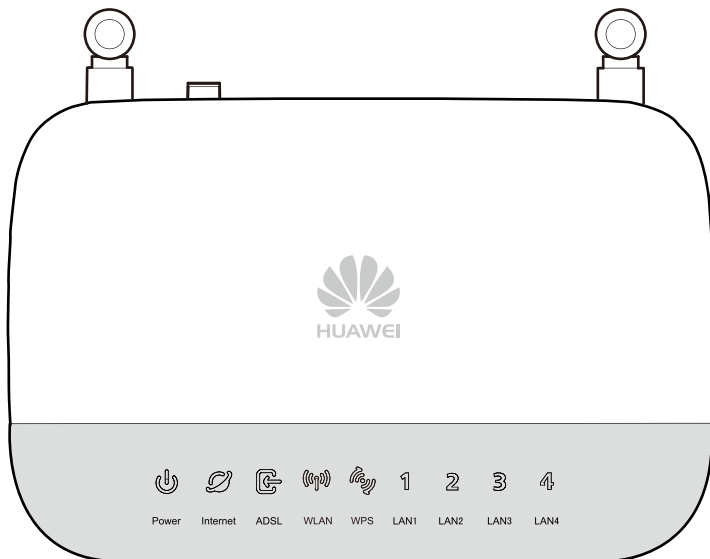
The HG532d provides password-protected web-based management pages to protect your personal data.

Ports and Buttons



| No. | Item | Description |
|-----|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | ADSL | Connects to a DSL filter or phone socket. |
| 2 | LAN1 ~ LAN4 | Connects to Ethernet devices, such as computers, set-top boxes (STBs), and switches. |
| 3 | Reset | Restores the HG532d to its default settings after you press and hold this button for 6 seconds or more while the HG532d is powered on.  A reset will result in all custom data and settings being lost. Use with caution. |
| 4 | On/Off | Powers the HG532d on or off. |
| 5 | Power | Connects to a power adapter. |
| 6 | WPS | Starts Wi-Fi protected setup (WPS) negotiation. |
| 7 | WLAN | Enables or disables the WLAN function. |

Indicators



| Indicator | Status | Description |
|-----------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Power | Steady green | The HG532d is powered on. |
| | Off | The HG532d is powered off. |
| Internet | Steady green | The HG532d is connected to the Internet in router mode, but no data is being transmitted. |
| | Blinking green | The HG532d is connected to the Internet in router mode, and data is being transmitted. |
| | Off | <ul style="list-style-type: none"> > The HG532d is in router mode, but not connected to the Internet. > The HG532d is in bridge mode. |
| ADSL | Steady green | A digital subscriber line (DSL) connection has been set up and activated. |
| | Blinking green | A DSL connection is being activated. |
| | Off | No DSL connection has been set up, or the DSL connection is faulty. |

| Indicator | Status | Description |
|-------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WLAN | Steady green | The HG532d has WLAN enabled, but is not transmitting data. |
| | Blinking green | The HG532d has WLAN enabled, and data is being transmitted. |
| | Off | WLAN is disabled. |
| WPS | Steady green | The HG532d is connected to a wireless client, such as a computer with a wireless network adapter, over the WLAN using the Wi-Fi Protected Setup (WPS) function. |
| | Blinking green | The HG532d is attempting to connect to a wireless client over the WLAN using the WPS function. |
| | Off | WPS is disabled. |
| LAN1 ~ LAN4 | Steady green | The LAN port is connected to an Ethernet device (such as a computer) with a network cable, but no data is being transmitted. |
| | Blinking green | The LAN port is connected to an Ethernet device with a network cable, and data is being transmitted. |
| | Off | The LAN port is not connected to any Ethernet device. |

2 Hardware Installation

Selecting an Installation Location

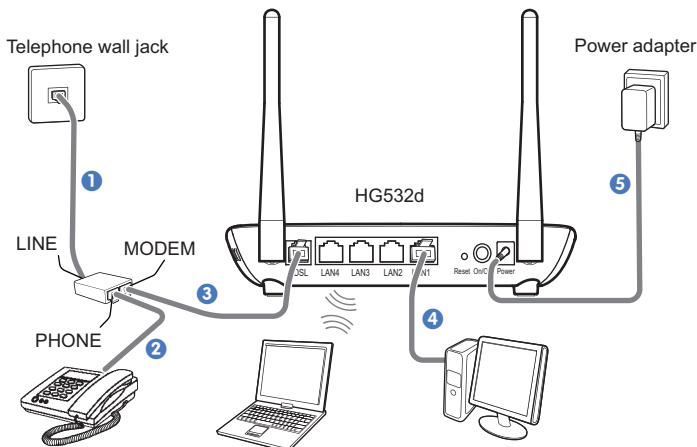
Place the HG532d on a well-ventilated even surface without exposure to direct sunlight. For the best possible performance, take note of the following:

- > Make sure there are no obstacles, such as concrete or wooden walls, between the computer and HG532d.
- > Ensure that the computer and HG532d are far from electric appliances that generate strong magnetic or electric fields, such as microwave ovens.

Connecting Cables

If you have subscribed to digital subscriber line (DSL) broadband, you can connect the HG532d to a telephone port for Internet access.

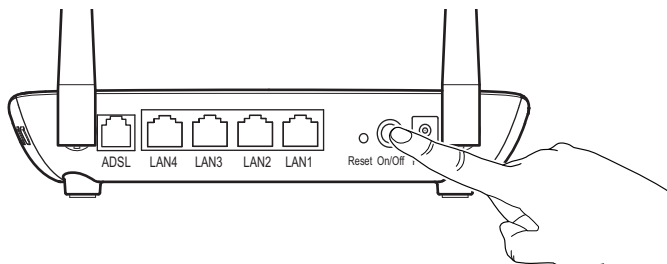
Connect your devices in the sequence indicated in the following figure.



When configuring the HG532d for the first time, use an Ethernet cable to connect the HG532d to a computer.

Powering On

To power on the HG532d, press its power button.



After the HG532d is powered on, the HG532d indicator turns on. The following table lists how the indicators behave when the HG532d is operating correctly. If the indicators do not behave as expected, ensure that everything is plugged in correctly.

| Indicator | Expected State |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Power | Steady on |
| ADSL | Steady on or blinking The blinking may last from 40 seconds to 3 minutes. When the indicator stops blinking and remains on, the HG532d is working correctly. |
| LAN | Steady on or blinking (indicator of the connected LAN port) |

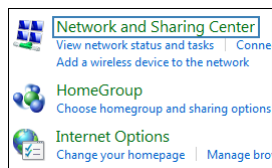
3 Setting Network Parameters

Setting the Computer IP Address

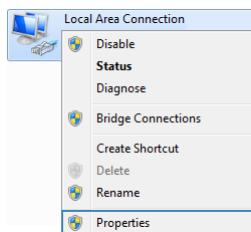
Before logging in to the HG532d web management page, set the IP address of the computer that will be used for the login.

On Windows 7

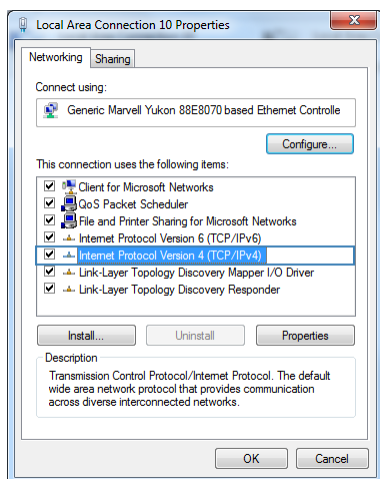
1. Choose **Start > Control Panel > Network and Internet > Network and Sharing Center**.



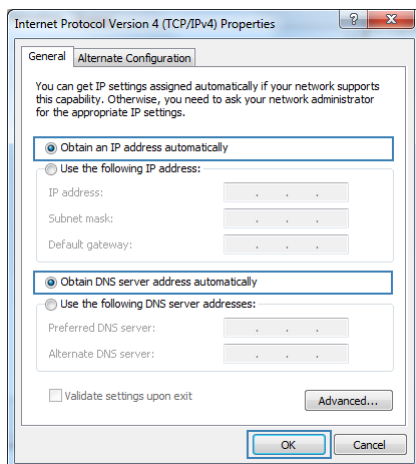
2. Choose **Change adapter settings**. Right-click **Local Area Connection** and choose **Properties**.



3. Double-click **Internet Protocol Version 4 (TCP/IPv4)**.

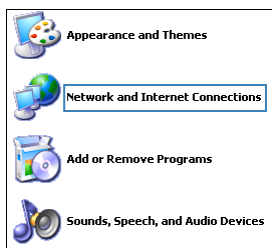


4. Select **Obtain an IP address automatically** and **Obtain DNS server address automatically**. Click **OK**.

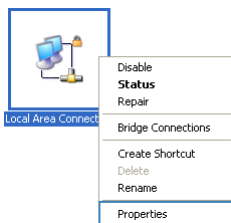


On Windows XP

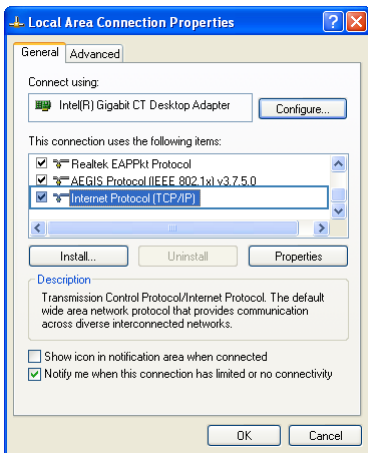
1. Choose **Start > Control Panel > Network and Internet Connections**.



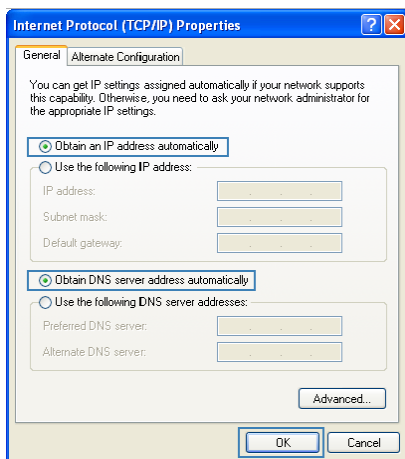
2. Click **Network Connections**. Right-click **Local Area Connection** and choose **Properties** from the shortcut menu.



3. Double-click **Internet Protocol (TCP/IP)**.



4. Select **Obtain an IP address automatically** and **Obtain DNS server address automatically**. Click **OK**.



Logging In to the Web Management Page

The HG532d provides an intuitive web management page where you can view or set the HG532d parameters.

Before you log in to the HG532d web management page, ensure that the computer used for the login is connected to the HG532d and has been configured to automatically obtain an IP address or assigned with a static IP address.

1. Open a browser. In the address box, enter 192.168.1.1. Press **Enter**.

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



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

Configuring the Internet Connection

When you install the HG532d for the first time, you need to configure the HG532d. The HG532d supports quick configuration page. You can quickly configure the network connection parameters through the quick configuration page.

1. Log in to the Web management page.
2. Select a network connection type and set the network connection parameters.

- > If you selected **PPPoE** or **Static**, enter the parameters provided by your Internet Service Provider (ISP) and click **Next**.

Quick Configure Internet

Connection type

- PPPoE**
The internet service provider has provided you the internet access account and password, the gateway dials and gets IP address. Connect the device(such as PC) to the gateway and then surf internet directly.
- Bridge**
The internet service provider has provided you the internet access account and password. Connect the device(such as PC) to the gateway and dial. After getting IP address, the device can surf internet.
- DHCP**
The internet service provider has not provided you the internet access account and password, the gateway sends DHCP request and gets IP address. Connect the device (such as PC) to the gateway and then surf internet directly.
- Static**
The internet service provider has provided you VPI/VCI, IP address DNS server address, you need config them to gateway successfully. Connect the device(such as PC) to the gateway and then surf internet directly.

Please enter the PPPoE username and password provided by the ISP (Internet service provider).

Username

Password

Quick Configure Internet

Connection type

- PPPoE**
The internet service provider has provided you the internet access account and password, the gateway dials and gets IP address. Connect the device(such as PC) to the gateway and then surf internet directly.
- Bridge**
The internet service provider has provided you the internet access account and password. Connect the device(such as PC) to the gateway and dial. After getting IP address, the device can surf internet.
- DHCP**
The internet service provider has not provided you the internet access account and password, the gateway sends DHCP request and gets IP address. Connect the device (such as PC) to the gateway and then surf internet directly.
- Static**
The internet service provider has provided you VPI/VCI, IP address DNS server address, you need config them to gateway successfully. Connect the device(such as PC) to the gateway and then surf internet directly.

VPI (0-255)

VCI (32-65535)

IP address

Subnet mask

Default gateway

Primary DNS

Secondary DNS

- > If you selected **Bridge** or **DHCP**, click **Next**.

Quick Configure Internet

Connection type

- PPPoE
The internet service provider has provided you the internet access account and password, the gateway dials and gets IP address. Connect the device(such as PC) to the gateway and then surf internet directly.
- Bridge
The internet service provider has provided you the internet access account and password. Connect the device(such as PC) to the gateway and dial. After getting IP address, the device can surf internet.
- DHCP
The internet service provider has not provided you the internet access account and password, the gateway sends DHCP request and gets IP address. Connect the device (such as PC) to the gateway and then surf internet directly.
- Static
The internet service provider has provided you VPI/VCI, IP address DNS server address, you need config them to gateway successfully. Connect the device(such as PC) to the gateway and then surf internet directly.

Connect

Quick Configure Internet

Connection type

- PPPoE
The internet service provider has provided you the internet access account and password, the gateway dials and gets IP address. Connect the device(such as PC) to the gateway and then surf internet directly.
- Bridge
The internet service provider has provided you the internet access account and password. Connect the device(such as PC) to the gateway and dial. After getting IP address, the device can surf internet.
- DHCP
The internet service provider has not provided you the internet access account and password, the gateway sends DHCP request and gets IP address. Connect the device (such as PC) to the gateway and then surf internet directly.
- Static
The internet service provider has provided you VPI/VCI, IP address DNS server address, you need config them to gateway successfully. Connect the device(such as PC) to the gateway and then surf internet directly.

Connect



If you selected **PPPoE**, **Static**, or **DHCP**, the computer automatically connects to the Internet as long as the HG532d is working correctly. If you selected **Bridge**, use the dial-up software on the computer to set up a dial-up connection each time you want to access the Internet.

If **Did not get an available network connection** is displayed, set the VPI and VCI to the values obtained from your ISP and click **Connect**.

Quick Configure Internet

Did not get an available network connection, it is recommended that you click the "Reconnect" button to try again if still fails after several attempts. please contact your Internet Service Provider (ISP) to obtain the following parameters (VPI/VCI) and manually configure them.

Reconnect

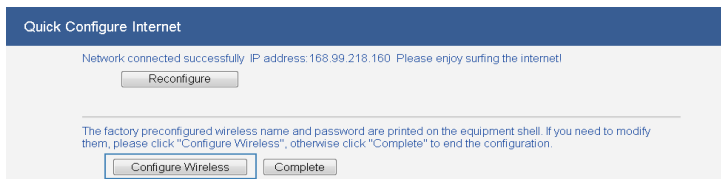
Please enter the VPI and VCI parameter values provided by your ISP, and then click the "Connect" button.

VPI (0-255)
VCI (32-65535)

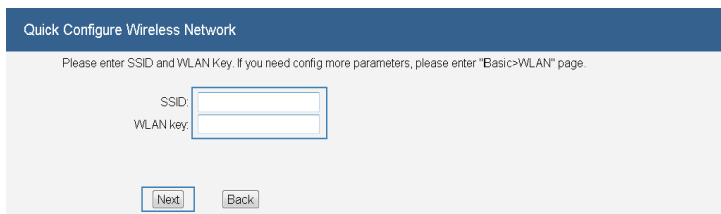
Connect


Back

3. If **Network connected successfully** is displayed, the HG532d is connected to the Internet. You can click **Configure Wireless** to modify the wireless settings.



4. Enter the SSID (WLAN name) and key and click **Next**.



-  To obtain the default SSID and key, check the label on the rear panel. To better secure your WLAN, promptly change the SSID and key.
5. In the displayed **Wireless config successful** page, click **Completed** to complete the configuration.

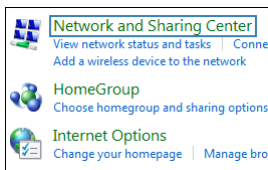
Setting Dial-Up Connection Parameters

When the HG532d works in **Bridge** mode you need to perform this operation. The other three connection types **PPPoE**, **DHCP** and **Static** do not need to perform this operation.

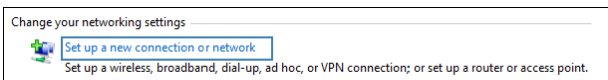
Before setting dial-up connection parameters, verify that the HG532d is correctly connected to your computer and you have the dial-up connection account name and password provided by your Internet service provider (ISP). This section demonstrates how to set up a Point-to-Point Protocol over Ethernet (PPPoE) connection on Windows.

On Windows 7

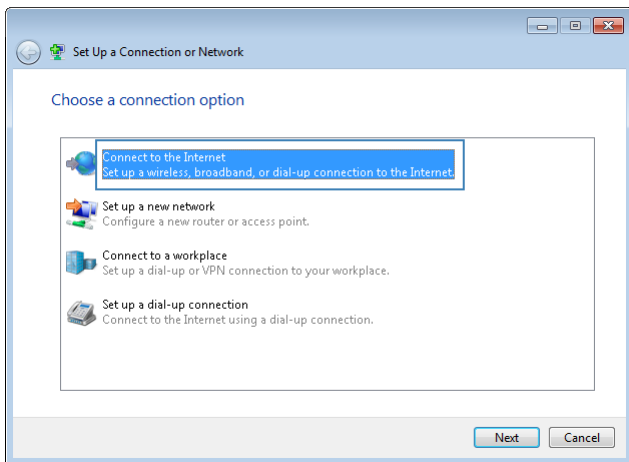
1. Choose **Start > Control Panel > Network and Internet > Network and Sharing Center**.



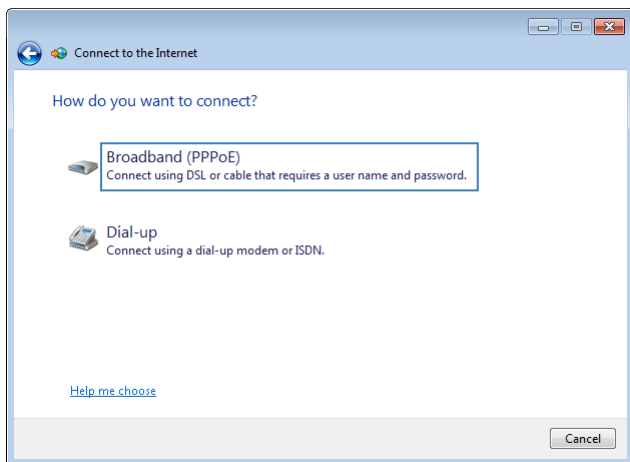
2. Under **Change your networking settings**, click **Set up a new connection or network**.



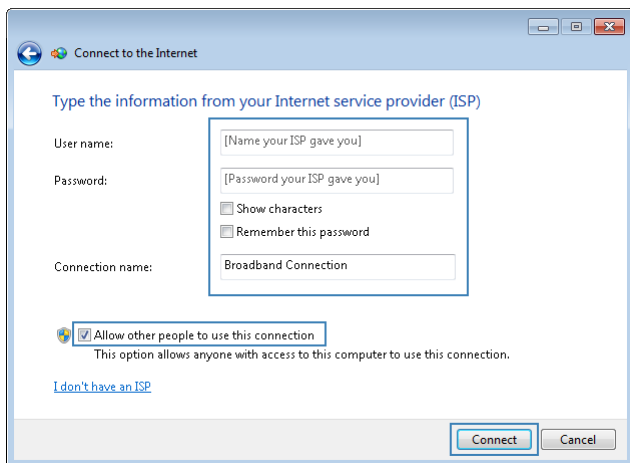
3. In the **Set Up a Connection a Network** window, select **Connect to the Internet** and click **Next**.



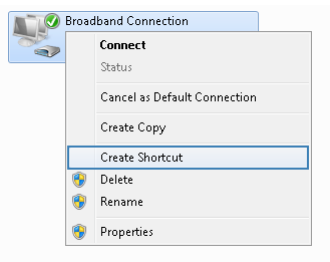
4. Click **Broadband (PPPoE)**.



5. In **User name** and **Password**, enter the dial-up connection account name and password provided by your ISP. In **Connection name**, name the dial-up connection. Select or deselect **Allow other people to use this connection**. Then click **Connect**.

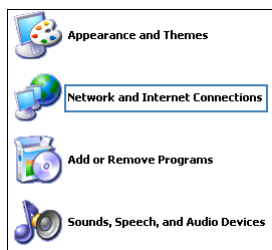


- Return to the **Network and Sharing Center** page. Click **Change adapter settings**. Right-click the icon for the dial-up connection you just set up and choose **Create Shortcut** from the shortcut menu. In the displayed dialog box, click **Yes**.

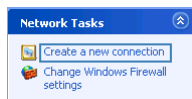


On Windows XP

- Choose **Start > Control Panel > Network and Internet Connections > Network Connections**.



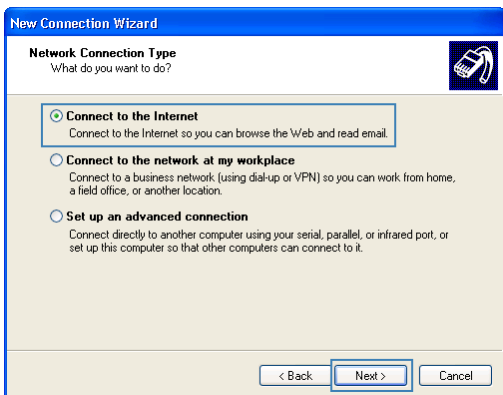
- Under **Network Tasks**, click **Create a New Connection**.



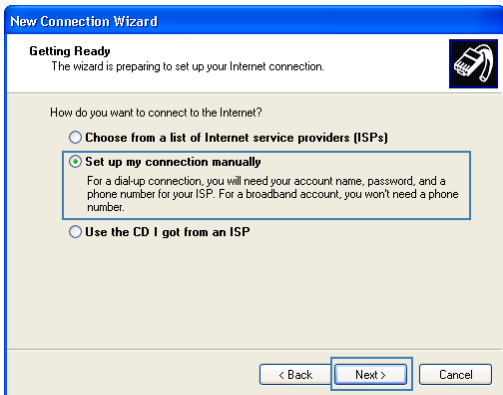
3. In the **Network Connection Wizard** dialog box, click **Next**.



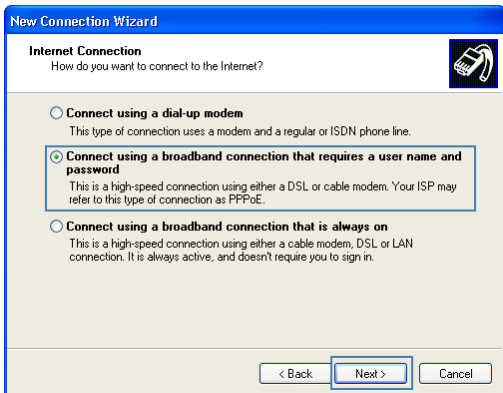
4. Select **Connect to the Internet** and click **Next**.



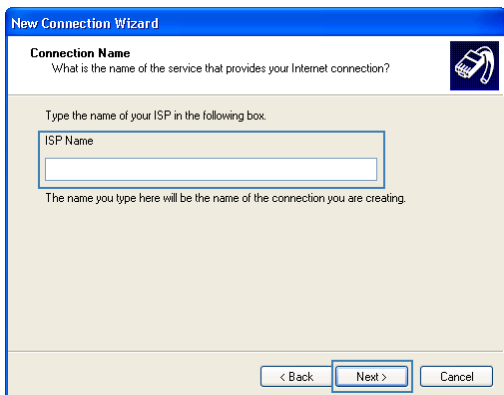
5. Select **Set up my connection manually** and click **Next**.



6. Select **Connect using a broadband connection that requires a user name and password** and click **Next**.

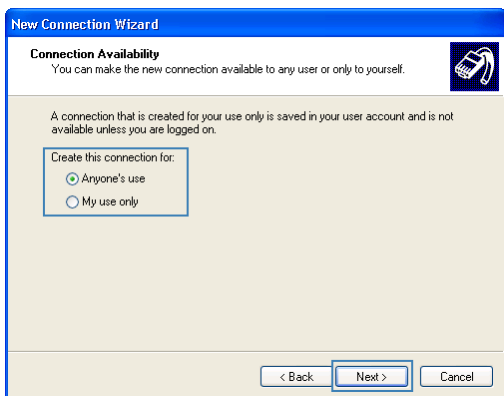


7. In **ISP Name**, name the dial-up connection. Click **Next**.



The screenshot shows the 'New Connection Wizard' dialog box with the title bar in blue. The main area has a light beige background. At the top, the title 'New Connection Wizard' is in white on a blue background. Below the title bar, the section is titled 'Connection Name' in bold. Underneath, it asks 'What is the name of the service that provides your Internet connection?' and includes a small icon of a telephone handset. The instruction 'Type the name of your ISP in the following box.' is followed by a text input field labeled 'ISP Name'. Below the field, it says 'The name you type here will be the name of the connection you are creating.' At the bottom, there are three buttons: '< Back', 'Next >', and 'Cancel'. The 'Next >' button is highlighted with a blue border.

8. Select **Anyone's use** or **My use only** and click **Next**.



The screenshot shows the 'New Connection Wizard' dialog box with the title bar in blue. The main area has a light beige background. At the top, the title 'New Connection Wizard' is in white on a blue background. Below the title bar, the section is titled 'Connection Availability' in bold. Underneath, it says 'You can make the new connection available to any user or only to yourself.' and includes a small icon of a telephone handset. The instruction 'A connection that is created for your use only is saved in your user account and is not available unless you are logged on.' is followed by a section titled 'Create this connection for:' which contains two radio button options: 'Anyone's use' (which is selected) and 'My use only'. At the bottom, there are three buttons: '< Back', 'Next >', and 'Cancel'. The 'Next >' button is highlighted with a blue border.

9. Enter the dial-up connection account name and password provided by your ISP and click **Next**.

The screenshot shows the 'New Connection Wizard' dialog box with the title bar 'New Connection Wizard'. The main heading is 'Internet Account Information' with a sub-heading 'You will need an account name and password to sign in to your Internet account.' and a telephone icon. Below this, there is a paragraph: 'Type an ISP account name and password, then write down this information and store it in a safe place. (If you have forgotten an existing account name or password, contact your ISP.)' There are three text input fields labeled 'User name:', 'Password:', and 'Confirm password:'. Below the fields are two checked checkboxes: 'Use this account name and password when anyone connects to the Internet from this computer' and 'Make this the default Internet connection'. At the bottom right are three buttons: '< Back', 'Next >', and 'Cancel'.

10. Select **Add a shortcut to this connection to my desktop** and click **Finish**.

The screenshot shows the 'New Connection Wizard' dialog box with the title bar 'New Connection Wizard'. The main heading is 'Completing the New Connection Wizard' with a telephone icon. Below this, there is a paragraph: 'You have successfully completed the steps needed to create the following connection:' followed by a section titled 'Broadband' with a bulleted list: 'Make this the default connection', 'Share with all users of this computer', and 'Use the same user name & password for everyone'. Below the list, there is a paragraph: 'The connection will be saved in the Network Connections folder.' and a checked checkbox: 'Add a shortcut to this connection to my desktop'. At the bottom, there is a paragraph: 'To create the connection and close this wizard, click Finish.' and three buttons: '< Back', 'Finish', and 'Cancel'.

After you successfully set up a PPPoE connection, a dial-up connection icon is displayed on your computer desktop.

To connect to the Internet, double-click the dial-up connection icon. In the displayed dialog box, click **Connect**.

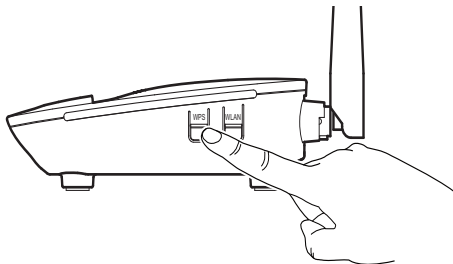
4 Wireless Connection Setup

Setting Up a Wireless Connection Using the WPS Button

Push the WPS button once to quickly set up a wireless connection between the HG532d and any WPS-capable device.

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

- > The wireless network security mode of the HG532d is WPA2-PSK or WPA-PSK/WPA2-PSK.
 - > The wireless device (laptop, tablet, or mobile phone) to connect to the HG532d is WPS-capable.
1. Press the WPS button on the wireless device to start WPS negotiation. For details, see the user guide for the wireless device.
 2. Within 2 minutes, press and hold the WPS button on the HG532d for 1 second or more. The WPS indicator blinks.



When the WPS indicator on the HG532d is steady on, a connection between the HG532d and wireless device is set up. The WPS indicator is on for 300 seconds.

Manually Setting Up a Wireless Connection

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

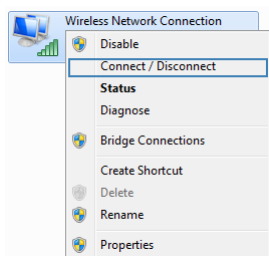


You can also use the tool built into the network adapter to set up a wireless connection. For details, see the network adapter's user guide.

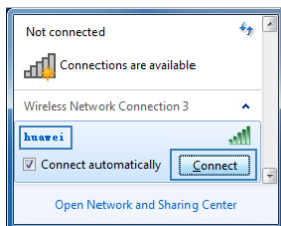
Before setting up a wireless connection, record the WLAN name and password of the HG532d. The default WLAN name and password are printed on the HG532d cover label.

On Windows 7

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



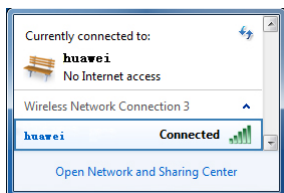
2. From the wireless network list, select the WLAN provided by the HG532d. Click **Connect**.



3. In the displayed dialog box, enter the WLAN password and click **OK**.

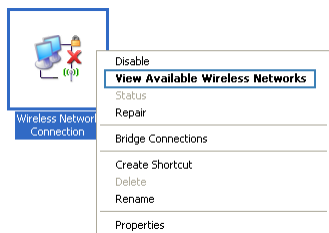


4. In the wireless network list, check the WLAN connection status. If the status is **Connected**, the computer is wirelessly connected to the HG532d.

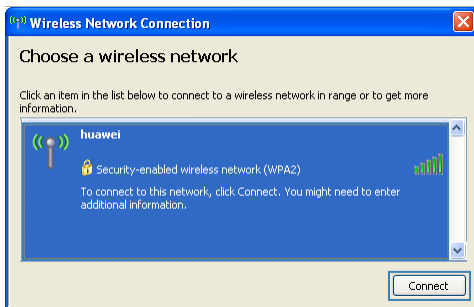


On Windows XP

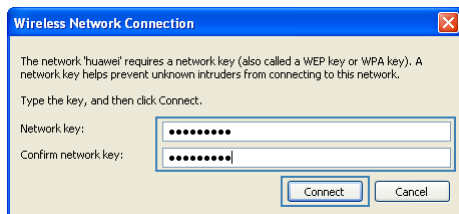
1. Choose **Start > Control Panel > Network and Internet Connections > Network Connections**. Right-click **Wireless Network Connection** and choose **View Available Wireless Networks** from the shortcut menu.



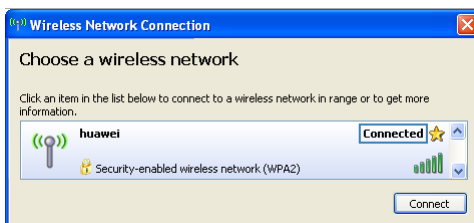
2. From the wireless network list, select the WLAN provided by the HG532d. Click **Connect**.



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



4. In the wireless network list, check the WLAN connection status. If the status is **Connected**, the computer is wirelessly connected to the HG532d.



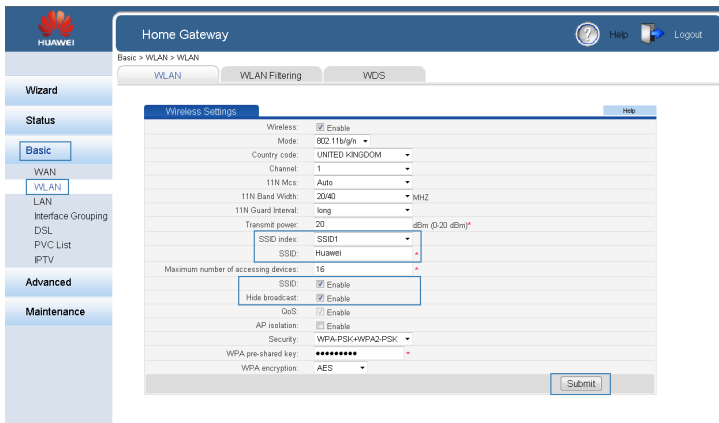
5 Network Security

Improving WLAN Security

Hiding the WLAN Name

After you hide the WLAN name, anyone who wishes to connect to the WLAN must enter the correct WLAN name. This measure helps improve WLAN security.

1. Log in to the web management page.
2. In the navigation tree, choose **Basic > WLAN**.
3. In **SSID index**, select the SSID index you want to hide.
4. Set **SSID** to **Enable**.
5. Set **Hide broadcast** to **Enable**.
6. Click **Submit**.



Changing Your WLAN Name and Password

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

1. Log in to the web management page.
2. In the navigation tree, choose **Basic > WLAN**.
3. In **SSID**, enter a new WLAN name.
4. In **WPA pre-shared key**, enter a new WLAN password.

5. Click Submit.

The screenshot shows the Huawei Home Gateway web management interface. The page title is "Home Gateway". The navigation menu on the left includes "Wizard", "Status", "Basic", "WAN", "LAN", "Interface Grouping", "DSL", "PVC List", "IPTV", "Advanced", and "Maintenance". The "Basic" menu is expanded, showing "WLAN" selected. The main content area is titled "WLAN" and contains "WLAN Filtering" and "WIDS" tabs. The "WLAN Filtering" tab is active, showing "Wireless Settings". The settings are as follows:

| | |
|--------------------------------------|--------------------------------------------|
| Wireless: | <input checked="" type="checkbox"/> Enable |
| Mode: | 802.11n/g/n |
| Country code: | UNITED KINGDOM |
| Channel: | 1 |
| 11N Mcs: | Auto |
| 11N Band Width: | 20/40 MHz |
| 11N Guard Interval: | long |
| Transmit power: | 20 dBm (0-20 dBm) |
| SSID index: | SSID1 |
| SSID: | Huawei |
| Maximum number of accessing devices: | 16 |
| SSID: | <input checked="" type="checkbox"/> Enable |
| Hide broadcast: | <input type="checkbox"/> Enable |
| QoS: | <input type="checkbox"/> Enable |
| AP isolation: | <input type="checkbox"/> Enable |
| Security: | WPA-PSK+WPA2-PSK |
| WPA pre-shared key: | ***** |
| WPA encryption: | AES |
| WPS: | <input checked="" type="checkbox"/> Enable |
| WPS mode: | PBC |

A "Submit" button is located at the bottom right of the settings area.

Using High Security Encryption Modes

Adopting high security encryption modes protects against unauthorized access as well as data interception on networks.

To improve WLAN security without sacrificing working efficiency, use **WPA-PSK/WPA2-PSK** and **AES**. This step also prevents WLAN unavailability caused by network adapters' incompatibility with the selected security mode.

1. Log in to the web management page.
2. In the navigation tree, choose **Basic > WLAN**.
3. In **Security**, choose **WPA-PSK+WPA2-PSK**.
4. In **WPA pre-shared key**, enter the WLAN password you specified.
5. In **WPA encryption**, select **AES**.

6. Click **Submit**.

The screenshot shows the Huawei Home Gateway web management interface. The top navigation bar includes the Huawei logo, the title 'Home Gateway', and links for Help and Logout. The main navigation menu on the left includes Wizard, Status, Basic (selected), WAN, WLAN (selected), LAN, Interface Grouping, DSL, PVC List, IPTV, Advanced, and Maintenance. The main content area is titled 'Basic > WLAN > WLAN' and contains three tabs: WLAN, WLAN Filtering (selected), and WDS. The 'WLAN Filtering' tab is active, showing the 'Wireless Settings' configuration page. The 'Wireless Settings' page has a 'Wireless' section with the following options: 'Wireless' (checked), 'Mode' (802.11n/g/n), 'Country code' (UNITED KINGDOM), 'Channel' (1), '11N Mcs' (Auto), '11N Band Width' (2040 MHz), '11N Guard Interval' (long), and 'Transmit power' (20 dBm (0.20 dBm)). The 'Maximum number of accessing devices' is set to 16. The 'Security' section includes: 'SSID' (checked), 'Hide broadcast' (unchecked), 'QoS' (checked), 'AP isolation' (checked), 'Security' (WPA-PSK+WPA2-PSK), 'WPA pre-shared key' (*****), 'WPA encryption' (AES), 'WPS' (checked), and 'WPS mode' (PBC). A 'Submit' button is located at the bottom right of the configuration area.

Allowing Only Specified Computers to Access Your WLAN

To prevent unauthorized access to your WLAN, you can specify which devices are allowed to access your WLAN.

1. View and record the MAC address of the laptop.
2. For details, see chapter **Checking the Computer MAC Address**.
3. Log in to the web management page.
4. In the navigation tree, choose **Basic > WLAN** and click **WLAN Filtering**.
5. Select **Enable**.
6. In **Filtering mode**, select **Whitelist**.
7. Click **New**.
8. In **Select SSID**, select the WLAN name.
9. In **Source MAC address** enter the MAC address of the laptop.

The format of the MAC address entered in **Source MAC address** is different from that of the MAC address displayed in the command line window of a Windows operating system. The colons (:) replace the hyphens (-).

9. Click Submit.

The screenshot shows the Huawei Home Gateway web management interface. The top navigation bar includes the Huawei logo, the title 'Home Gateway', and links for Help and Logout. The breadcrumb trail is 'Basic > WLAN > WLAN Filtering'. The left sidebar contains a navigation tree with categories: Wizard, Status, Basic (selected), WAN, WLAN, LAN, Interface Grouping, DSL, PVC List, IPTV, Advanced, and Maintenance. The main content area is titled 'WLAN Filtering' and has tabs for 'WLAN', 'WLAN Filtering', and 'WIDS'. The 'WLAN Filtering' tab is active. It features an 'Enable' checkbox which is checked. Below this, the 'Filtering mode' is set to 'Whitelist', with a note: 'Note: If Whitelist is chosen, WPS function will be unavailable. If you want to use WPS function, please uncheck Whitelist.' There are buttons for 'New', 'Remove', and 'Help'. A table with the header 'MAC Address' and 'Remove' is present but empty. Below the table is a 'Settings' section with a 'Select SSID' dropdown menu set to 'Huawei'. The 'Source MAC address' field contains the value '(AA-BB-CC-DD-EE-FF?)'. A 'Submit' button is located at the bottom right of the settings area.



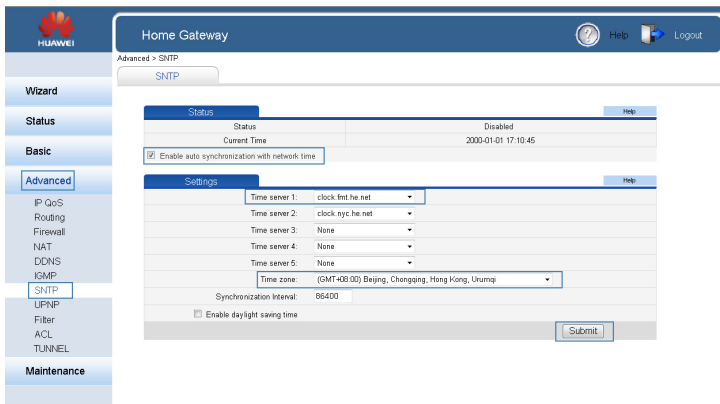
If **Whitelist** is chosen, WPS function will be unavailable. If you want to use WPS function, please uncheck **Whitelist**.

Controlling Computer Internet Access

Your HG532d provides MAC address filtering. With this function, you can confine Internet access to specific computers or deprive specific computers of Internet access. While using this function, you can also set limits on the duration of Internet usage.

1. Log in to the web management page.
2. In the navigation tree, choose **Advanced > SNTP**.
3. Select **Enable auto synchronization with network time**.
4. Select a time service address for **Time server 1**.
5. In **Time zone**, select your time zone.

6. Click **Submit**.



7. In the navigation tree, choose **Advanced > Filter**. The **Mac Filter** page is displayed.

8. Click **New**.

9. Create the filtering rules.

> In **Rule name**, enter a filtering rule name you specified.

> In **Source MAC address**, enter the **MAC address of the computer you want to control**.



For details, see chapter **Checking the Computer MAC Address**.

> In **Priority**, enter any integer from **0 to 254**.



A larger value indicates higher priority. When a MAC address matches two MAC filtering rules, the rule with higher priority takes effect.

> In **Status**, select **Reject**.

10. Set **Time control** to **Enable**, and set the effective time of the rule.



If you do not want to set the specific period during which the PCs are not allowed to access the Internet, you can clear **Enable** for **Time control**.

11. Click **Submit**.

The screenshot shows the Home Gateway web management interface. The top navigation bar includes the Huawei logo, the title "Home Gateway", and links for Help and Logout. The main content area is titled "Advanced > Filter > Mac Filter". Below this, there are tabs for "Mac Filter", "Ip Filter", "Application Filter", and "URL Filter". The "Mac Filter" tab is active, showing a table with columns: Rule Name, Source MAC Address, Bridge destination MAC Address, Time Control, Monday to Sunday, Time, Priority, Status, and Remove. Below the table is a "Settings" form for a new rule. The form includes fields for Rule name, Source MAC address (with a placeholder (AA:BB:CC:DD:EE:FF)), and Bridge destination MAC address (with a placeholder (AA:BB:CC:DD:EE:FF)). There are checkboxes for "Time control" (checked), "Effective day" (Monday, Thursday, Friday, Wednesday, Saturday), and "Status" (set to "Reject"). A "Submit" button is at the bottom right of the form.

Filtering Out Inappropriate Websites

Use URL filtering to prevent certain websites from being accessed.

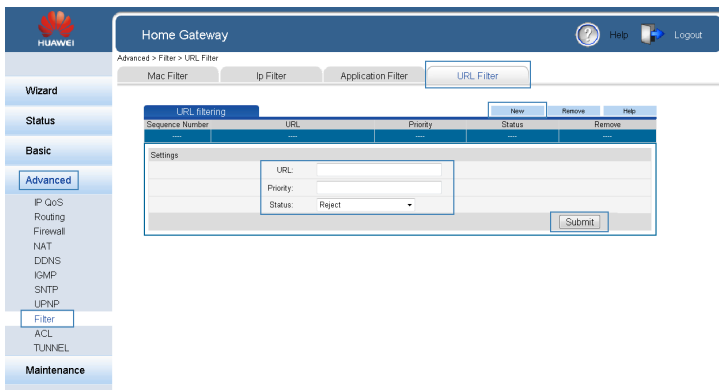
1. Log in to the web management page.
2. In the navigation tree, choose **Advanced > Filter** and click **URL Filter**.
3. Click **New**.
4. In **URL**, enter the Web site address you specify.
5. In **Priority** enter any integer from 0 to 254.



A larger value indicates higher priority. When a URL matches two URL filtering rules, the rule with higher priority takes effect.

6. In **Status**, select **Reject**.

7. Click **Submit**.



Controlling Computer Bandwidth

By configuring bandwidth control policies, you can control the bandwidth of computers connected to the HG532d in the following ways:

- > Determine the minimum bandwidth allocated to specific computers to help ensure the Internet access speed for those computers.
- > Determine the maximum bandwidth certain computers can occupy so that bandwidth remains available to other computers.

You can configure different bandwidth control policies for different computers.

HG532d supports three types of traffic management.

- > **IP Address:** Manage traffic according to the IP address of the LAN side device.
- > **MAC Address:** Manage traffic according to the MAC address of the LAN side device.
- > **LAN Interface:** Manage traffic according to the LAN interface of HG532d connected to the LAN side device.

The configuration procedure is as follows:

1. Log in to the web management page.
2. In the navigation tree, choose **Advanced > IP QoS**.
3. Select **Enable Traffic Management**.
4. In **Traffic Management Type**, select the traffic management type you specified.
5. In **Bandwidth Classifications**, click **New**.
6. In **Configuration**, select **Enable**. In **Rate Mode**, select the rate mode you specified. In **Download**, enter the bandwidth you specified.
7. In **Configuration**, specify the computers you want to control.

- > When the **Traffic Management Type** is **IP Address**, enter the IP address of the computers you want to control in **IP Address**.

The screenshot shows the 'Home Gateway' configuration page for IP QoS. The 'Traffic Management Type' is set to 'IP Address'. Under the 'LAN Host' section, there are four host entries. The first entry is for 'NF-HP' with IP Address '192.168.1.2'. Below this, the 'Bandwidth Classifications' section is visible, showing a configuration table with columns for ID, Mode, Download, IP Address, Port, State, and Delete. A configuration box is highlighted, showing 'Enable' checked, 'Rate Mode' set to 'Assure Minimum Bandwidth', 'Download' set to 'kbps', and 'IP Address' field.

- > When the **Traffic Management Type** is **MAC Address**, select the MAC address of the computer you want to control in **MAC Address**.

The screenshot shows the 'Home Gateway' configuration page for IP QoS, but with the 'Traffic Management Type' set to 'MAC Address'. The 'Bandwidth Classifications' section is visible, showing a configuration table with columns for ID, Mode, Download, MAC Address, State, and Delete. A configuration box is highlighted, showing 'Enable' checked, 'Rate Mode' set to 'Assure Minimum Bandwidth', 'Download' set to 'kbps', and 'MAC Address' set to '00:1B:21:CC:0E:63'.

- > When the **Traffic Management Type** is **LAN Interface**, select the interface of the HG532d connected to the computer you want to control in **LAN Interface**.

The screenshot shows the Huawei Home Gateway web management interface. The top navigation bar includes the Huawei logo, the text 'Home Gateway', and links for 'Help' and 'Logout'. The left sidebar contains a navigation tree with categories: Wizard, Status, Basic, Advanced, and Maintenance. Under 'Advanced', 'IP QoS' is selected. The main content area is titled 'Advanced > IP QoS' and contains the following elements:

- A checkbox for 'Enable Traffic Management' which is checked.
- A text field for 'Please Input The Bandwidth Download: 0 kbps (1Mbps=1024kpbs)'.
- A dropdown menu for 'Traffic Management Type' set to 'LAN Interface'.
- An 'Apply' button.
- A table titled 'Bandwidth Classifications' with columns: ID, Mode, Download, LAN Interface, State, and Delete.
- A 'Configuration' section with the following settings:
 - Enable:
 - Rate Mode: Assure Minimum Bandwidth
 - Download: 0 kbps
 - LAN Interface: LAN1
- An 'Apply' button at the bottom right of the configuration section.

8. Click **Apply**.

Configuring the Firewall

The HG532d provides a firewall to help secure its WLAN and any devices connected to it. Set the firewall level based on site requirements to quickly configure the firewall.

1. Log in to the web management page.
2. In the navigation tree, choose **Advanced > Firewall**.
3. In **Firewall level**, select the firewall level you specified.

4. Click Submit.

The screenshot shows the Huawei Home Gateway web interface. The top navigation bar includes the Huawei logo, the text "Home Gateway", and links for "Help" and "Logout". Below this, a breadcrumb trail reads "Advanced > Firewall > Firewall". Two tabs are visible: "Firewall" (active) and "DoS attack".

The left sidebar contains a menu with the following items: "Wizard", "Status", "Basic", "Advanced" (highlighted), "IP QoS", "Routing", "Firewall" (highlighted), "NAT", "DDNS", "IGMP", "SNTP", "L2MP", "Filter", "ACL", "TUNNEL", and "Maintenance".

The main content area is titled "Firewall Level" and includes a "Help" link. It displays the "Current firewall level: Low" and a dropdown menu for "Firewall level" currently set to "High". A warning icon and message state: "When level 'High' is set, Only the FTP/DNS/HTTP packets are allowed". A "Submit" button is located at the bottom right of the configuration area.

6 WLAN Configuration

Enabling and Disabling the WLAN on the HG532d

The following two methods are available to enable and disable the WLAN on the HG532d.

Using the WLAN Button

Press the WLAN button in the HG532d to enable or disable the WLAN. To ascertain whether the WLAN is enabled, view the WLAN indicator.

Using the Web Management Page

1. Log in to the web management page.
2. In the navigation tree, choose **Basic** > **WLAN**.
3. Configure **Wireless**.
 - > Select **Enable** to enable the WLAN.
 - > Clear **Enable** to disable the WLAN.

The screenshot displays the 'Home Gateway' web management interface. The navigation tree on the left includes sections for Wizard, Status, Basic, WAN, WLAN, LAN, Interface Grouping, DSL, PVC List, IPTV, Advanced, and Maintenance. The 'WLAN' section is selected, showing 'WLAN Settings' with tabs for WLAN, WLAN Filtering, and WDS. The 'Wireless Settings' form is visible, with the 'Wireless' checkbox checked and labeled 'Enable'. Other settings include Mode (802.11b/g/n), Country code (UNITED KINGDOM), Channel (1), 11N Mcs (Auto), 11N Band Width (20MHz), 11N Guard Interval (long), Transmit power (20 dBm), SSID index (SSID1), SSID (Huawei), Maximum number of accessing devices (16), SSID checkbox checked, Hide broadcast checkbox unchecked, QoS checkbox checked, AP isolation checkbox checked, Security (WPA-PSK+WPA2-PSK), WPA pre-shared key (masked), WPA encryption (AES), WPS checkbox checked, and WPS mode (PBC). A 'Submit' button is located at the bottom right of the form.

Expanding WLAN Coverage

To expand WLAN coverage, use the wireless distribution system (WDS) to set up a wireless connection between two HG532d devices.

For example, if your house is too large to be fully covered by the WLAN provided by one HG532d device, add another HG532d device and set up a wireless connection between these two devices using the WDS. The WLAN coverage is then expanded.

While setting up the wireless connection between the two HG532d devices, configure the devices to use the same radio channel, WLAN name, encryption method, and encryption key.

1. Find and record the wireless MAC addresses of the two HG532d.
 - a. Log in to the web management page.
 - b. In the navigation tree, choose **Status** > **LAN**. Click **WLAN**.
 - c. Under **Security Settings**, find a character string that is similar to **12:3A:4B:5C:66:90**. This value is the wireless MAC address of the HG532d.

The screenshot shows the 'Home Gateway' web interface. The navigation tree on the left includes 'Wizard', 'Status', 'Device', 'WAN', 'LAN', 'Basic', 'Advanced', and 'Maintenance'. The 'Status' section is expanded to show 'LAN', and the 'WLAN' tab is selected. The 'WLAN Status' section shows 'Status: Enabled' and 'Channel: 1'. The 'Security Settings' section shows a table with the following data:

| SSID Index | SSID | MAC Address | Authentication Mode | Encryption Mode |
|------------|--------|-------------------|---------------------|-----------------|
| SSD1 | Huawei | 12:3A:4B:5C:66:90 | WPA/WPA2-PSK | AES |

The 'Wireless Packet' section shows a table with columns for 'Interface', 'Send', and 'Receive', each with sub-columns for 'Byte', 'Packet', 'Error', and 'Discard'. The 'SSD1' interface shows 0 for all these values.

2. Configure the WDS function of the first HG532d.
 - a. Log in to the web management page.
 - b. In the navigation tree, choose **Basic** > **WLAN**. Click **WDS**.
 - c. Select **Enable**.
 - d. In **Channel**, select a channel for HG532d.
 - e. In **Mode selection**, select **Central Base Station**.
 - f. In **Repeater MAC Address 1**, enter the wireless MAC address of the other HG532d.
 - g. Click **Submit**.

The screenshot shows the 'Home Gateway' web interface. The navigation tree on the left includes 'Wizard', 'Status', 'Basic', 'WAN', 'WLAN', 'LAN', 'Interface Grouping', 'DSL', 'PVC List', 'IPTV', 'Advanced', and 'Maintenance'. The 'Basic' section is expanded to show 'WLAN', and the 'WDS' tab is selected. The 'WDS' configuration page shows the following settings:

- Enable
- WDS Security: Disabled
- Allow WiFi client access: Enable (If it is unchecked, WiFi client cannot connect to the router.)
- Channel: 1
- MAC address: 6C:7D:5E:52:7F:30
- Mode selection: Central Base Station (In "Central Base Station" mode, the DHCP server will be opened automatically.)
- Repeater MAC Address 1: 6C:7D:5E:52:7F:30 (AA:BB:CC:DD:EE:FF)
- Repeater MAC Address 2: (AA:BB:CC:DD:EE:FF)
- Repeater MAC Address 3: (AA:BB:CC:DD:EE:FF)
- Repeater MAC Address 4: (AA:BB:CC:DD:EE:FF)

A 'Submit' button is located at the bottom right of the configuration area.



You can click **Scan** under **WIFI AP list**, and select the SSID of the other HG532d to obtain the wireless MAC address automatically.

3. Set the WLAN parameters of the other HG532d.
 - a. Log in to the web management page.
 - b. In the navigation tree, choose **Basic > WLAN**.
 - c. Set **Channel**, **SSID**, **WPA pre-shared key** and **WPA encryption** to the same value as the first HG532d.
 - d. Click **Submit**.

The screenshot shows the 'WLAN Settings' page in the Home Gateway web management interface. The page is titled 'Home Gateway' and has a navigation menu on the left. The main content area is 'WLAN Settings' with various configuration options. A red box highlights the 'WPA pre-shared key' field, which contains a series of asterisks. Other highlighted fields include 'Channel', 'SSID', and 'WPA encryption'.

| Parameter | Value |
|-------------------------------------|--------------------------------------------|
| Wireless | <input checked="" type="checkbox"/> Enable |
| Mode | 802.11b/g/n |
| Country code | UNITED KINGDOM |
| Channel | 1 |
| 11N Mcs | Auto |
| 11N Guard Width | 20MHz |
| 11N Guard Interval | long |
| Transmit power | 20 dBm (0-20 dBm) |
| SSID index | SSID1 |
| SSID | Huawei |
| Maximum number of accessing devices | 16 |
| SSID | <input checked="" type="checkbox"/> Enable |
| Hide broadcast | <input type="checkbox"/> Enable |
| QoS | <input type="checkbox"/> Enable |
| AP isolation | <input type="checkbox"/> Enable |
| Security | WPA-PSK+WPA2-PSK |
| WPA pre-shared key | ***** |
| WPA encryption | AES |
| WPS | <input checked="" type="checkbox"/> Enable |
| WPS mode | PBC |

4. Configure the WDS function of the other HG532d.
 - a. In the navigation tree, choose **Basic > WLAN**. Click **WDS**.
 - b. Select **Enable**.
 - c. Set **Channel** to the same value as the first HG532d.
 - d. In **Mode selection**, select **Repeater**.
 - e. In **Base Station MAC Address**, enter the wireless MAC address of the first HG532d.
 - f. In **Repeater's IP address**, enter the IP address which is in the same network segment as the first HG532d's IP address.
 - g. Click **Submit**.

Home Gateway

Basic > WLAN > WDS

WLAN WLAN Filtering WDS

Enable

WDS Help

Settings

WDS Security: Disabled

Allow WFI client access: Enable (If it is unchecked, WFI client cannot connect to the router.)

Channel: 1

MAC address: 5C:7D:5E:52:7F:20

Mode selection: Central Base Station Repeater (In "Repeater" mode, the DHCP server will be closed automatically.)

Base Station MAC Address: AA:BB:CC:DD:EE:FF (Recommend you to change the IP address to avoid conflict with the IP address of "Central Base Station")

Repeater's IP address:

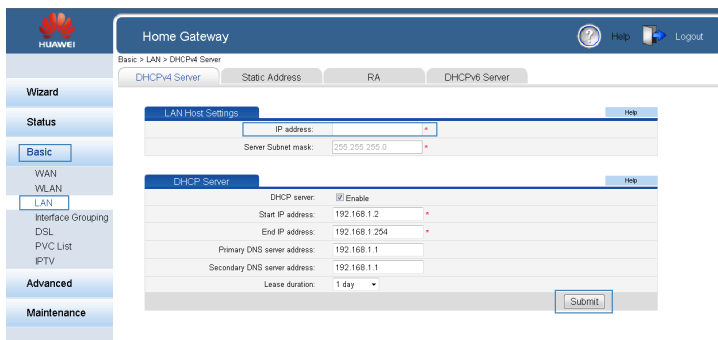
WiFi AP list

7 Maintenance Guide

Changing the IP Address Used to Log In to the Web Management Page

The IP address used to log in to the HG532d web management page is the HG532d IP address. For security or other purposes (for instance, if the default HG532d IP address conflicts with that of another device on the same network), you can change the HG532d IP address.

1. Log in to the web management page.
2. In the navigation tree, choose **Basic** > **LAN**.
3. Under **LAN Host Settings**, enter a new IP address in **IP address**.
4. Click **Submit**.



After changing the HG532d's IP address, you need to reconnect your PC for new IP address.

Use the new IP address to log in to the web management page.

Changing the Web Management Page User Name and Password

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

1. Log in to the web management page.
2. In the navigation tree, choose **Maintenance** > **Account**.
3. In **New user name**, enter a new user name.
4. In **Current password**, enter the currently used password.
5. In **New password**, enter a new password. In **Confirm password** enter the new password again.

6. Click **Submit**.

The screenshot shows the Huawei Home Gateway web management interface. The top navigation bar includes the Huawei logo, the text 'Home Gateway', and links for 'Help' and 'Logout'. Below the navigation bar, the breadcrumb path is 'Maintenance > Account'. The main content area is titled 'Account' and contains a form with the following fields:

| Account | | Help |
|---------------------------------------|--------------------------|-------------------------------|
| New user name: | <input type="text"/> | |
| Current password: | <input type="password"/> | Max length of Password is 32* |
| New password: | <input type="password"/> | Max length of Password is 32* |
| Confirm password: | <input type="password"/> | Max length of Password is 32* |
| <input type="button" value="Submit"/> | | |

On the left side of the interface, there is a navigation menu with the following items: Wizard, Status, Basic, Advanced, Maintenance (highlighted), Account (highlighted), Device, Diagnose, and Log.

After the user name and password are changed, the login page is displayed. Enter your new user name and password to log in.



If you forget the password, you can restore the default settings by pressing and holding the **Reset** button on the rear panel of the HG532d for over 6 seconds. The user name and password used for logging in to the web management page are then restored to their default values. After the HG532d is restored to its default settings, all user customized data will be lost. Perform this operation with caution.

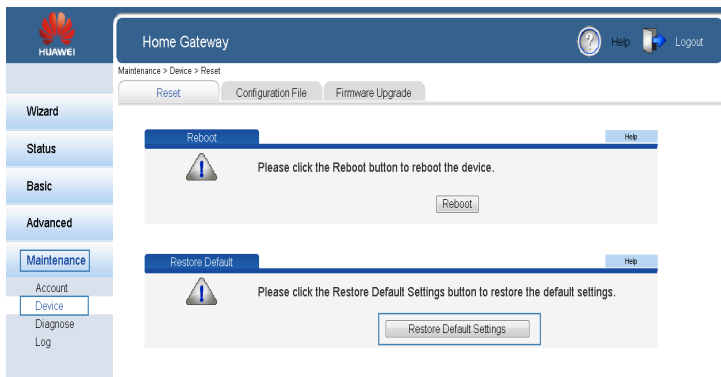
Restoring Default Settings

Using the Configuration Tool

If the HG532d parameter settings were configured incorrectly, log in to the web management page to reload the default configuration file and restore the HG532d to its default settings. Perform this operation with caution. After the HG532d is restored to its default settings, all custom data and settings will be lost, and the password will be restored to admin.

1. Log in to the web management page.
2. In the navigation tree, choose **Maintenance > Device**.

3. Under **Restore Default**, click **Restore Default Settings**.




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

Using the Reset Button

If you forget the login password to the web management page or could not access the web management page, use the reset button on the HG532d rear panel to restore the HG532d to its default settings. Perform this operation with caution. After the HG532d is restored to its default settings, all custom data and settings will be lost, and the password will be restored to admin.

1. Press the HG532d power button to power the HG532d on.
2. Press and hold the reset button for 6 seconds or more.
The HG532d will restart, which will cause temporary network interruptions.

 After the HG532d is restored to its default settings, change the computer IP address so that it is in the same network segment as the 192.168.1.1 default IP address.

8 Reference Operations

Enabling Wireless Configuration on Windows

On Windows XP

1. Right-click **My Computer** and choose **Manage** from the shortcut menu.
2. In the left pane of the **Computer Management** window, choose **Computer Management (Local) > Services and Applications > Services**.
3. In the right pane of the **Computer Management** window, right-click **Wireless Zero Configuration** and choose **Properties** from the shortcut menu.
4. In the displayed dialog box, check that **Service status** is **Started**.
5. Click **OK** to close the dialog box. Then close the **Computer Management** window.

On Windows 7 or Windows Vista

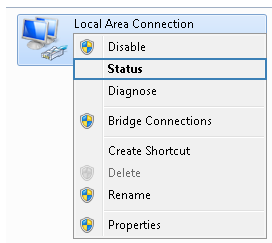
1. Right-click **Computer** and choose **Manage** from the shortcut menu.
2. In the left pane of the **Computer Management** window, choose **Computer Management (Local) > Services and Applications > Services**.
3. In the right pane of the **Computer Management** window, right-click **WLAN AutoConfig** and choose **Properties** from the shortcut menu.
4. In the displayed dialog box, check that **Service status** is **Started**.
5. Click **OK** to close the dialog box. Then close the **Computer Management** window.

Checking the Computer MAC Address

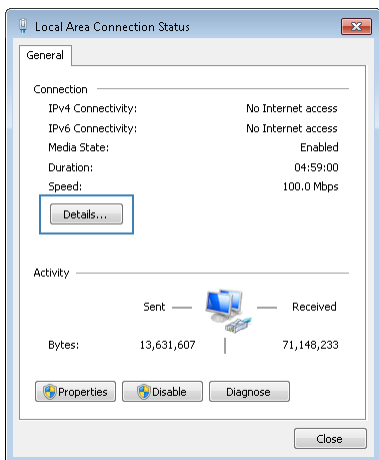
The MAC address, also known as the physical address, is a unique identifier assigned to a network adapter. A MAC address contains six groups of two hexadecimal digits, such as 2C-41-38-8D-75-8D. This section demonstrates how to check your computer's MAC address.

On Windows 7

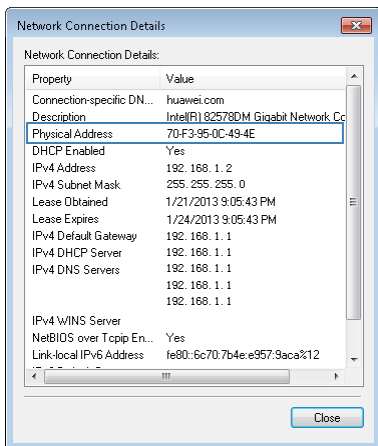
1. Choose **Start > Control Panel > Network and Internet > Network and Sharing Center > Change adapter settings**. Right-click **Local Area Connection** and choose **Status** from the shortcut menu.



2. Click **Details**.

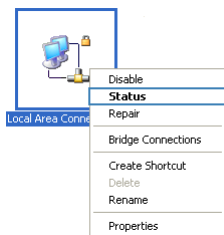


3. In **Network Connection Details**, find the line similar to **Physical Address 70-F3-95-0C-49-4E**. The **70-F3-95-0C-49-4E** string is your computer's MAC address.

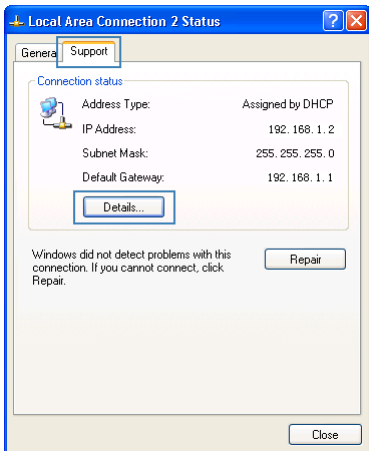


On Windows XP

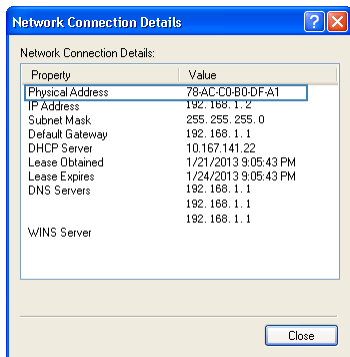
1. Choose **Start > Control Panel > Network and Internet Connections > Network Connections**. Right-click **Local Area Connection** and choose **Status** from the shortcut menu.



2. Click the **Support** tab. Under **Connection status**, click **Details**.



3. In **Network Connection Details**, find the line similar to **Physical Address 78-AC-C0-B0-DF-A1**. The **78-AC-C0-B0-DF-A1** string is your computer's MAC address.



What Can I Do If I Cannot Open the Web Management Page?

1. Open Internet Explorer. Choose **Tools > Internet Options > Connections > LAN settings**, and ensure that all check boxes are deselected.
2. Check that the computer IP address is 192.168.1.*. (* is any integer from 2 to 254.)
3. Check that the cables are securely connected to the HG532d and that the LAN port's indicator is on.
4. Ensure that the user name and password are correct.

If the problem persists, restore the HG532d to its default settings.

What Can I Do If the HG532d Cannot Access the Internet through a Wireless Network Adapter Sometimes or If the WLAN Connection Is Unsteady?

This is probably because the HG532d has its cables connected loosely, is placed too close to electronic appliances with intensive interference, or is too far from the computer. Verify that:

1. The power and telephone cables are correctly connected to the HG532d.
2. Your computer and the HG532d are far from electric appliances that generate strong magnetic or electric fields, such as microwave ovens, refrigerators, and cordless telephones.
3. The HG532d is in an open area, and there are no obstacles, such as concrete or wooden walls, between the HG532d and computer.
4. The HG532d is close to the computer.
5. The angle between the HG532d and computer is appropriate.



Do not use the HG532d during thunderstorms, as the signal strength may be unsteady and the HG532d itself may be damaged due to lightning strikes.

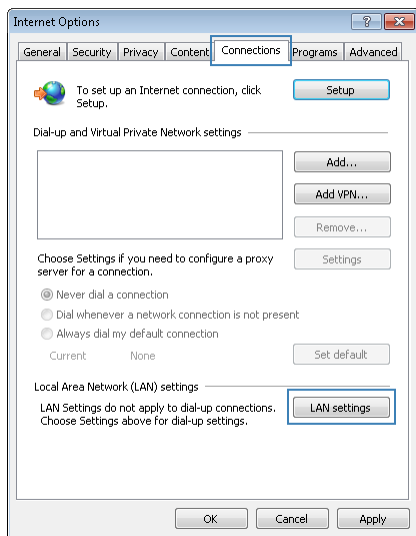
What Can I Do If I Cannot Access the Internet?

1. Check that the **Power** indicator on the HG532d is steady on. If the **Power** indicator is off, perform further checks as follows:
 - a) Check that the HG532d is turned on.
 - b) Check that electricity comes from the socket and that the power input from the socket meets the requirements described on the label of the HG532d's power adapter. If the voltage is unstable, for example, if the voltage is too high or too low, do not use the HG532d. Wait until the voltage recovers, and then use the HG532d.
 - c) Check that the HG532d is securely connected to the socket using its power adapter. If the **Power** indicator is still off, contact an authorized maintenance center.

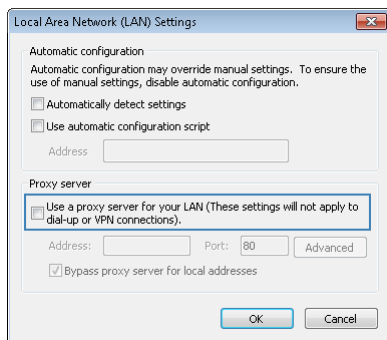
2. After powering on the HG532d, wait for about 3 minutes. Then check whether the **ADSL** indicator turns steady on.
 - a) Check that the telephone line is correctly and securely connected, especially the connection between the telephone line and the splitter.
 - b) Check that the HG532d and telephone line are located far from any electric appliances that generate strong magnetic or electric fields. Replace the telephone line when necessary.If the **ADSL** indicator is still off, contact your network service provider.
3. Check whether the **LAN** indicator is on. If the **LAN** indicator is off, perform further checks as follows:
 - a) Check that the network adapter on your computer is enabled.
 - b) Check that the network cable between the HG532d and the computer is securely connected. Remove and then insert the network cable or replace the network cable when necessary.If the **LAN** indicator is still off, contact an authorized maintenance center.
4. Check that the driver for the network adapter is correctly installed. The following example uses a computer running the Windows XP operating system to check whether the driver for the network adapter is installed:
 - a) Right-click **My Computer**, and choose **Manage** from the displayed shortcut menu.
 - b) In the **Computer Management window**, click **Device Manager**.
 - c) In the right pane of the **Computer Management window**, click **Network adapters**.

If no network adapter is found or if a question mark (?) or an exclamation mark (!) is displayed next to the network adapter icon, the driver for the network adapter is not correctly installed. Re-install the driver.
5. Check that PPP dial-up software is installed and parameters are set correctly. For details about parameter settings, see the user guide for the PPP dial-up software.
6. Check that you have entered the correct user name and password required by the PPP dial-up software. The user name and password are provided by your network service provider.
7. Check that you can use the PPP dial-up software to set up dial-up connection. If the dial-up connection fails, perform further checks as follows:
 - a) Close the PPP dial-up software, and power off the HG532d. After 5 minutes, power on the HG532d, and use the PPP dial-up software to dial again.
 - b) Restore the HG532d to its default settings.If the problem persists, contact your network service provider.
8. Check that the proxy server of the browser is correctly configured. The following example uses Internet Explorer on the Windows XP operating system to check whether the proxy server of the browser is correctly configured:
 - a) Launch Internet Explorer.
 - b) Choose **Tools > Internet Options**.
 - c) In the **Internet Options dialog box**, click the **Connections** tab.

- d) In the **Local Area Network (LAN) settings** area, click **LAN Settings**.



- e) In the **Proxy server area of the Local Area Network (LAN) Settings** dialog box, check that the **Use a proxy server for your LAN (These settings will not apply to dial-up or VPN connections)** checkbox is cleared.



9. Try to access more websites to check whether the HG532d can access these websites. If the problem persists, contact your network service provider.532d

I Often Need to Restart the HG532d to Display Web Pages. What Can I Do?

Verify the following:

1. The HG532d and other devices such as telephones or fax machines are connected to the plain old telephone service (POTS) line through a digital subscriber line (DSL) filter. For details about how to install a DSL filter, see the description in the DSL filter manual.
2. Cables are securely connected to HG532d ports. Otherwise, network stability may suffer.
3. Your computer and the HG532d are far from electric appliances that generate strong magnetic or electric fields, such as microwave ovens, refrigerators, and cordless telephones.

If the problem persists, contact your Internet Service Provider.

What Is the Difference Between Wireless MAC Address Filtering and MAC Address Filtering?

- > Wireless MAC address filtering: controls whether a computer can connect to the HG532d over the WLAN.
- > MAC address filtering: controls whether a computer connected to the HG532d can access the Internet.

10 Appendix

Technical Specifications

| Item | Specifications | |
|-------------------------------|----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| Power supply | 12 V DC, 0.5 A | |
| Power consumption | < 6 W | |
| Ambient operating temperature | 0°C to 40°C | |
| Ambient humidity | 5% to 95% RH (non-condensing) | |
| Dimensions (H x W x D) | 37 mm x 181 mm x 120 mm (1.46 in. x 7.13 in. x 4.72 in.), antenna excluded | |
| Weight | About 360 g | |
| DSL standard | ADSL standard | ITU G.992.1 (G.dmt) ITU G.994.1 (G.hs) ANSI T1.413 Issue 2 |
| | ADSL2 standard | ITU G.992.3 (G.dmt.bis) Annex A ITU G.992.3 (G.dmt.bis) Annex L ITU G.992.3 (G.dmt.bis) Annex M |
| | ADSL2+ standard | ITU G.992.5 (G.dmt.bitplus) Annex A ITU G.992.5 (G.dmt.bitplus) Annex M |
| | WLAN standard | 802.11b, 802.11g, and 802.11n (2.4 GHz) |
| DSL transmission rate | G.dmt T1.413 | Downlink: 8 Mbit/s Uplink: 896 kbit/s |
| | ADSL | Downlink: 12 Mbit/s Uplink: 1024 kbit/s |
| | ADSL2+ | Downlink: 24 Mbit/s Uplink: 1024 kbit/s |
| Wireless transmission rate | 802.11b | Up to 11 Mbit/s |
| | 802.11g | Up to 54 Mbit/s |
| | 802.11n (2T2R antenna technology) | Up to 300 Mbit/s |

Default Settings

| Parameter | Default Value |
|---------------------------------------------------|------------------------------|
| LAN port IP address | 192.168.1.1 |
| LAN port subnet mask | 255.255.255.0 |
| User name to log in to the web configuration page | admin |
| Password to log in to the web configuration page | admin |
| WLAN name | Labeled on the product cover |
| WLAN password | Labeled on the product cover |
| Dynamic Host Configuration Protocol (DHCP) server | Enabled |
| WLAN | Enabled |

11 For More Help

Please visit www.huaweidevice.com/worldwide/support/hotline for recently updated hotline and email address in your country or region.

12 Legal Notice

Copyright © Huawei Technologies Co., Ltd. 2013. All rights reserved.

No part of this manual may be reproduced or transmitted in any form or by any means without prior written consent of Huawei Technologies Co., Ltd. and its affiliates ("Huawei").

The product described in this manual may include copyrighted software of Huawei and possible licensors. Customers shall not in any manner reproduce, distribute, modify, decompile, disassemble, decrypt, extract, reverse engineer, lease, assign, or sublicense the said software, unless such restrictions are prohibited by applicable laws or such actions are approved by respective copyright holders.

Trademarks and Permissions



HUAWEI, HUAWEI, and



are trademarks or registered trademarks of Huawei Technologies Co., Ltd.

Other trademarks, product, service and company names mentioned may be the property of their respective owners.

Notice

Some features of the product and its accessories described herein rely on the software installed, capacities and settings of local network, and therefore may not be activated or may be limited by local network operators or network service providers.

Thus, the descriptions herein may not exactly match the product or its accessories which you purchase.

Huawei reserves the right to change or modify any information or specifications contained in this manual without prior notice and without any liability.

DISCLAIMER

ALL CONTENTS OF THIS MANUAL ARE PROVIDED "AS IS". EXCEPT AS REQUIRED BY APPLICABLE LAWS, NO WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE MADE IN RELATION TO THE ACCURACY, RELIABILITY OR CONTENTS OF THIS MANUAL.

TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, IN NO EVENT SHALL HUAWEI BE LIABLE FOR ANY SPECIAL, INCIDENTAL, INDIRECT, OR CONSEQUENTIAL DAMAGES, OR LOSS OF PROFITS, BUSINESS, REVENUE, DATA, GOODWILL SAVINGS OR ANTICIPATED SAVINGS REGARDLESS OF WHETHER SUCH LOSSES ARE FORSEEABLE OR NOT.

THE MAXIMUM LIABILITY (THIS LIMITATION SHALL NOT APPLY TO LIABILITY FOR PERSONAL INJURY TO THE EXTENT APPLICABLE LAW PROHIBITS SUCH A LIMITATION) OF HUAWEI ARISING FROM THE USE OF THE PRODUCT DESCRIBED IN THIS MANUAL SHALL BE LIMITED TO THE AMOUNT PAID BY CUSTOMERS FOR THE PURCHASE OF THIS PRODUCT.

Import and Export Regulations

Customers shall comply with all applicable export or import laws and regulations and be responsible to obtain all necessary governmental permits and licenses in order to export, re-export or import the product mentioned in this manual including the software and technical data therein.

Privacy Policy

Please refer to our privacy policy on our websites for the information about how we protect your personal information.

