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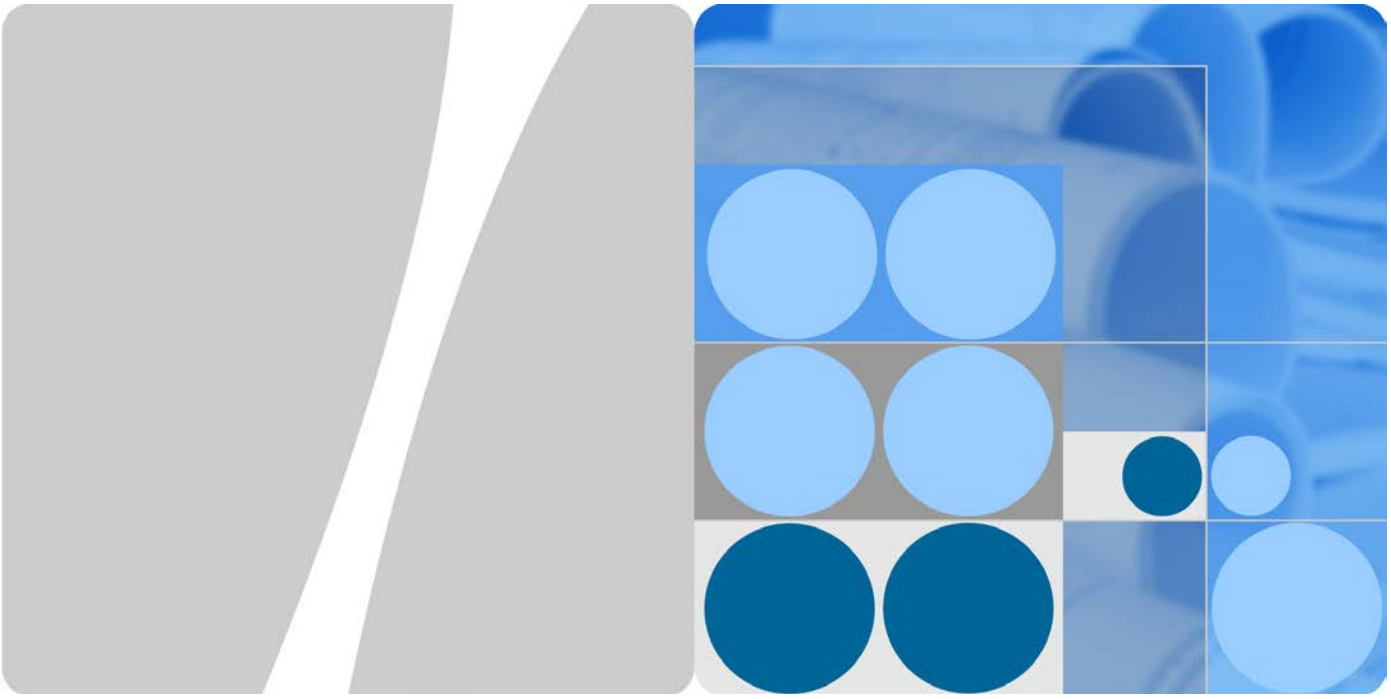

HG253s V2 Home Gateway Product Description

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HUAWEI TECHNOLOGIES CO., LTD.

HUAWEI

Huawei Technologies Co., Ltd.

Address: Huawei Industrial Base
Bantian, Longgang
Shenzhen 518129
People's Republic of China

Website: http://www.huawei.com

Email: mobile@huawei.com

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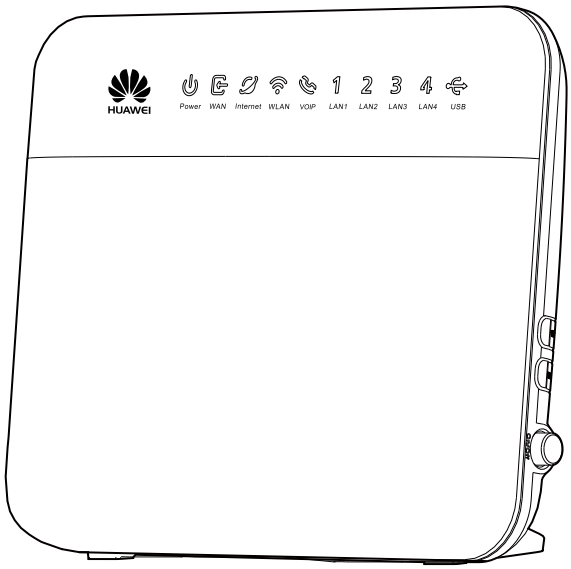
Figure 1-1 Appearance of the HG253s V2



HG253s V2 Home Gateway (hereinafter referred to as the HG253s V2) provides a user-friendly GUI, complemented by a fresh and unique appearance.

On the network side, the HG253s V2 provides a high-speed Gigabit Ethernet interface for wide area network (WAN) access. For users, it provides two FXS interfaces, a USB interface and four high-speed Gigabit Ethernet interfaces. After connecting to a PC, an STB, a video phone, or another terminal, users can enjoy data, voice, and a series of other services.

The HG253s V2 boasts powerful routing and bridging functions and supports NAT/firewall technology, with flexible network configuration and QoS policies. Moreover, the HG253s V2 provides quality guarantees for latency-sensitive voice services and for video services susceptible to packet loss. The HG253s V2 provides high-bandwidth and premium quality broadband services for home users.

As a broadband network terminal, the HG253s V2 is an extension of an operator's broadband network. The HG253s V2 provides powerful remote maintenance and administration functions. It supports the latest TR-069 terminal management standards and remote upgrades, thus facilitating large-scale deployment and maintenance.

1.2 Hardware Features

1.2.1 Interfaces and Buttons

Figure 1-2 Interfaces and buttons on the HG253s V2

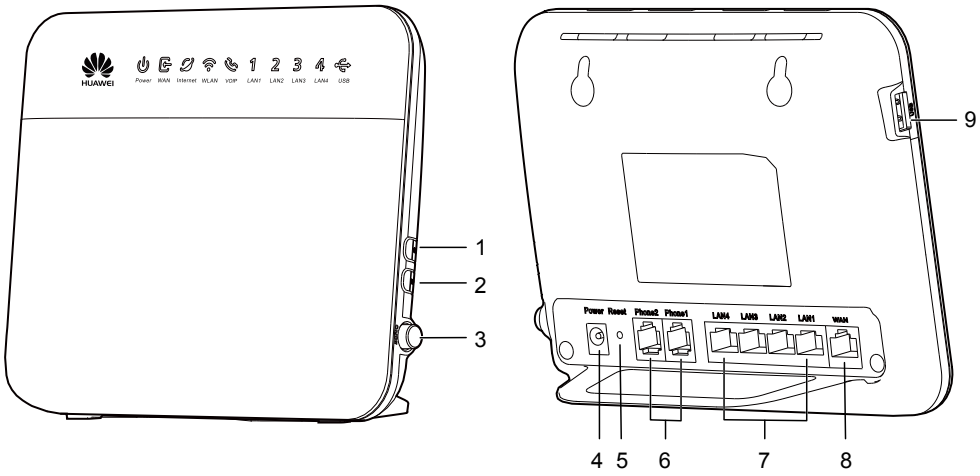


Table 1-1 Interfaces and buttons on the HG253s V2

No.	Interfaces and buttons	Description
1	WPS	WPS button, which is used to start the WPS negotiation.
2	WLAN	WLAN button, which is used to enable or disable wireless network function quickly.
3	On/Off	On/Off button, which is used to power on or off the HG253s V2.
4	Power	Power interface, which is used to connect the HG253s V2 to the power adapter.
5	Reset	Reset button, which is used to restore the factory settings of the HG253s V2.
6	Phone2, Phone1	Phone interface, which is used to connect the HG253s V2 to the telephone.
7	LAN4 ~ LAN1	LAN interfaces, which are used to connect the HG253s V2 to the Ethernet interface on the computer or STB.
8	WAN	WAN interface, which is used to connect the HG253s V2 to the network jack on the wall.
9	USB	USB interface, which is used to connect a USB device, such as a USB flash drive.

1.2.2 Indicators

Figure 1-3 Indicators on the HG253s V2

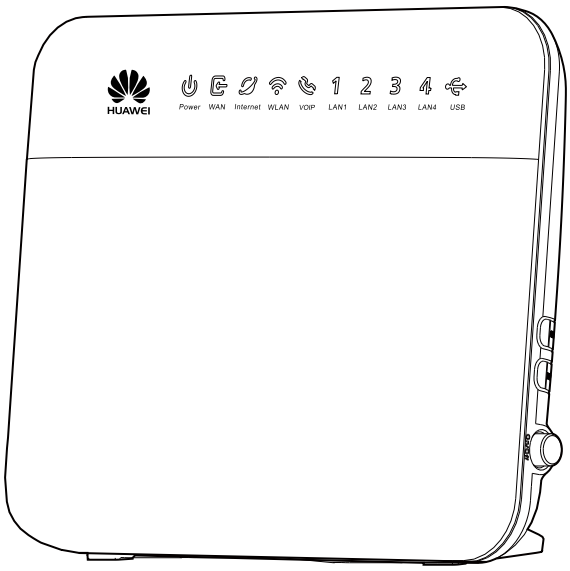


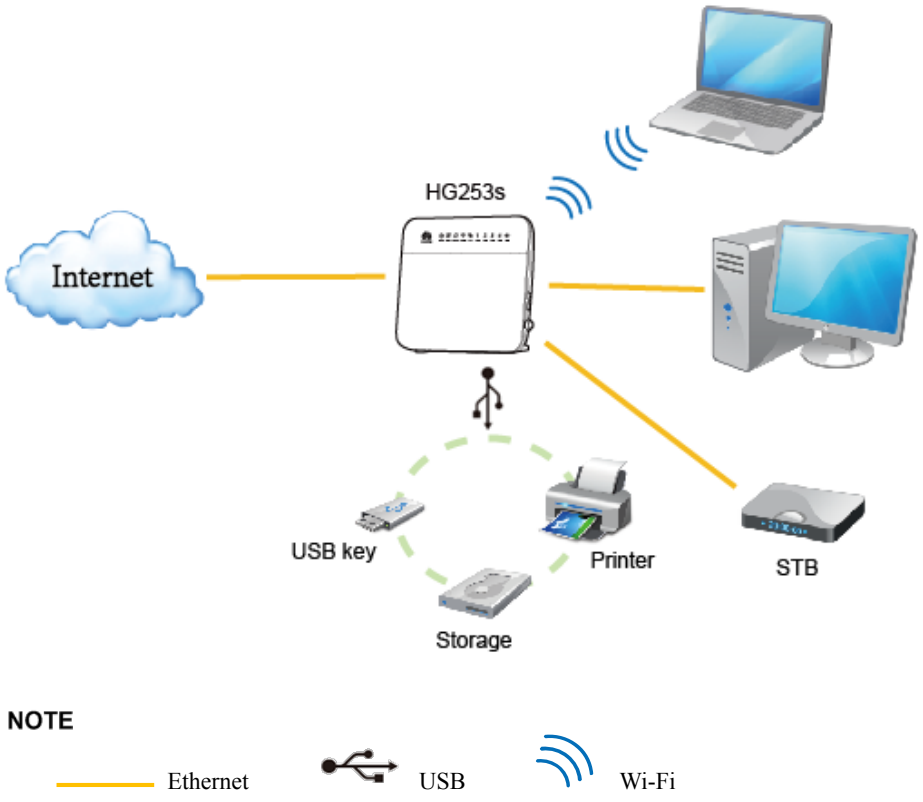
Table 1-2 Indicators on the HG253s V2

Indicator	Status	Indicates
Power	Steady on	The HG253s V2 is powered on.
	Off	The HG253s V2 is powered off.
WAN	Steady on	A WAN connection has been set up.
	Blinking	Data is being transmitted between the HG253s V2 and Ethernet.
	Off	The WAN port is not connected.
Internet	Steady on	The HG253s V2 is working in routing mode, but no data is being transmitted.
	Blinking	The HG253s V2 is working in routing mode. And data is being transmitted.
	Off	The HG253s V2 is in router mode, but not connected to the Internet. The HG253s V2 is in bridge mode.
WLAN	Steady on	The WLAN connection is set up, but no data is being transmitted.
	Blinking	The WLAN connection is set up, and data is being transmitted.
	Off	WLAN is disabled.
VOIP	Steady on	The HG253s V2 is registered with a SIP server, but no data is being transmitted.
	Blinking	The HG253s V2 is registered with a SIP server, and data is being transmitted.

Indicator	Status	Indicates
	Off	The HG253s V2 is not registered with a SIP server.
LAN1~LAN4	Steady on	The LAN port is connected to an Ethernet device (such as a computer) with a network cable, but no data is being transmitted.
	Blinking	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.
USB	Steady on	The USB port is connected to an USB device, but no data is being transmitted.
	Blinking	The USB port is connected to an USB device, and data is being transmitted.
	Off	The HG253s V2 is not connected to any USB device.

1.3 Network Architecture

Figure 1-1 Networking diagram of the HG253s V2



2 Functional Features

2.1 High-Speed Uplink Gigabit Ethernet Access

The HG253s V2 supports the uplink Gigabit Ethernet access, which provides high-speed network services and abundant service experiences for users.

2.2 High-Speed HSPA Upstream Link

The HG253s V2 supports the HSPA uplink through the Huawei HSPA datacard, which can bring abundant service experiences to users.

2.3 Network Function

The HG253s V2 supports the functions of a Dynamic Host Configuration Protocol (DHCP) server and simultaneous access of multiple users and devices.

2.4 LAN Function

The HG253s V2 has four high-speed Gigabit Ethernet interfaces. It provides high-speed, secure, and convenient wireless network access, and supports 802.11n, 802.11g, and 802.11b. It can implement the network access at a high speed by using two powerful built-in antennas.

2.5 WPS Function

The HG253s V2 provides the WPS function. A wireless connection can be set up between the computer and the HG253s V2 conveniently and securely.

2.6 VoIP Function

Provides the Voice over IP (VoIP) and Fax (T.38) services and supports value-added services.

2.7 Flexible QoS Policies

The HG253s V2 supports multiple methods of traffic classification, thus ensuring that user services at different levels of network applications are smoothly implemented and that end users can enjoy quality video and audio services.

2.8 Standardized TR-069 Management

The HG253s V2 is compatible with the TR-069 standard. Providing complete remote management and diagnostic functions, it can implement the zero configuration solution. In addition, the HG253s V2 can carry out customized service provisioning conveniently through automatic upgrade based on the service provisioning process. Hence operation and maintenance cost can be greatly reduced.

2.9 Convenient and Secure Management and Maintenance

The HG253s V2 supports the TR-069 remote management, provides a Web-based configuration utility, and ensures secure use of the Web-based configuration utility through password verification.

3 Technical Specifications

3.1 Interface Features

3.1.1 Ethernet Interface

- Provision of four high-speed Gigabit Ethernet interfaces
- Support for the IEEE 802.3u and IEEE 802.3 standards
- Support for the 10/100/1000 Mbit/s adaptation
- Support for the MDI/MDIX auto-sensing

3.1.2 USB Interface

- Provides USB 2.0 host Interface
- Supports USB mass storage device
- Supports the HSPA uplink through the Huawei HSPA datacard

3.2 Security Features

- Support for the firewall
- Support for MAC address filtering
- Support for secure use of the Web-based configuration utility through password verification

3.3 Routing Features

- Support for Routing Information Protocol (RIP) v1 and RIP v2
- Support for the Network Address and Port Translation (NAPT)
- Support for the Dynamic Host Configuration Protocol (DHCP) server and client
- Support for the Domain Name System (DNS) server and client

3.4 WLAN features

- Support for two built-in 802.11n 2T × 2R antenna
- Support for 802.11b, 802.11g, and 802.11n (2.4G)
- Support for WPS and Wi-Fi Multimedia (WMM)

3.5 QoS Features

- Support for multiple methods of traffic classification based on:
  - LAN interface
  - Differentiated Services Code Point (DSCP)
  - Ports (source ports and destination ports) at the fourth layer
  - IP addresses (source IP addresses and destination IP addresses)
- Support for queuing methods based on priorities:
  - First In, First Out (FIFO) queuing: supporting one queue
  - Priority queuing: supporting four queues

3.6 VoIP Features

- Support SIP (RFC 3261)
- Support SDP (RFC 2327)
- Support the value-added services, such as call transfer, call waiting, call hold, and three-way calling
- Support echo cancellation, silence suppression, and comfort noise generation

3.7 Power Supply Specifications

- Product power supply: 12 V DC, 1 A
- Product power consumption: < 18 W

3.8 Physical Specifications

- Dimensions (L × W × H):
  - Including the base plate: About 175 mm ×73 mm ×145 mm
  - Excluding the base plate: About 175 mm ×33 mm ×145 mm
- Whole weight: less than 400g

3.9 Environmental Specifications

- Ambient temperature for operation: 0°C to 40°C (32°F to 104°F)
- Relative humidity for operation: 5% to 95%, non-condensing

4 Acronyms and Abbreviations

ACS	Auto-Configuration Server
AES	Advanced Encryption Standard
BRAS	Broadband Remote Access Server
DHCP	Dynamic Host Configuration Protocol
DNS	Domain Name System
DoS	Denial of Service
DSCP	Differentiated Services Code Point
DSL	Digital Subscriber Line
DSLAM	Digital Subscriber Line Access Multiplexer
HSPA	High-Speed Packet Access
FIFO	First In, First Out
FXS	Foreign Exchange Station
HTTP	Hyper Text Transport Protocol
IP	Internet Protocol
IPTV	Internet Protocol Television
LAN	Local Area Network
MAC	Media Access Control
NAPT	Network Address and Port Translation
NAT	Network Address Translation
NGN	Next Generation Network
NRT-VBR	Non-real-time Variable Bit Rate
OSS	Operations Support System
PC	Personal Computer

PSK	Pre-shared Key
QoS	Quality of Service
RIP	Routing Information Protocol
RT-VBR	Real-time Variable Bit Rate
STB	Set-top box
TKIP	Temporal Key Integrity Protocol
ToS	Type of Service
UBR	Unspecified Bit Rate
VoIP	Voice over IP
WAN	Wide Area Network
WLAN	Wireless Local Area Network
WPS	WiFi Protected Setup