ZXHN H108N
User's Manual

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Chapter 1 Safety Guidance

1.1 Safety Check

Before installing the ZXHN H108N ADSL equipment, you must check the following items.

  1 Electric safety

● Ensure that there are no inflammable, conductive or moist objects around. Check whether the cables are aged and whether other electrical appliances are placed stably.

  2 Equipment position

● Because the running electric devices easily generate heat, please ensure that these devices are positioned in a well ventilated environment.

● The devices should be placed on a stable and flat plane.

● Never expose the equipment to direct sunshine, and never place it on a PC case.

● Keep the equipment away from heat and water.

● Check whether power supply is available. The input voltage fluctuation range must be less than 10%. The power plug should not share one socket with a hair drier, iron or refrigerator.

1.2 Safety Cautions

● Read the user manual carefully before using the equipment.

● Note all Cautions in the user manual and product guide.

● Never use an accessory unbelonging to the equipment without prior consent of the manufacture, because it may cause fire or product damage.

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- Use the power adapter accompanied in the package.
- Rather than directly connecting phones to the ADSL line, led them out from the phone interface of the splitter.
- Never place any objects on the equipment.
- Keep the equipment dry, ventilated and rainproof, and clean.
- Unplug the power and all connection cables in case of thunderstorms, to protect the equipment against lightning.
- Clean the equipment using a soft and dry cloth rather than liquid or atomizers. Power off the equipment before cleansing it.
- Power off the idle equipment.
- Keep the ventilation hole clean and prevent any objects from dropping into the equipment through it. Otherwise, it may cause short circuit and further cause equipment damage and fire. Do not spray liquid on the surface of the equipment.
- Do not open the case of the equipment, especially during equipment power-on.
- Before plugging/unplugging the power, make sure that the power is off, thus avoiding surge.
- Be careful when unplugging the power, because the transformer may be very hot.
- Keep the equipment and all its parts and accessories out of children's reach.

⚠ **Note:**

Please read the above safety guidance carefully before equipment use. Users should assume responsibilities for any accidents due to incompliance with the above instructions.

Chapter 2 Overview

The ZXHN H108N is an ADSL access device that allows multiple line transmission modes. At the user end, it not only provides four 10/100Base-T Ethernet interfaces, but also adds the wireless user access in compliance with the IEEE802.11b/g/n standard. Through the high-speed ADSL access service, the ZXHN H108N can provide the broadband Internet service or enterprise network access service for users.

2.1 Features

The ZXHN H108N, as a routing-capable ADSL MODEM, is of the following characteristics:

- Support G.992.1(G.DMT),G.992.3(ADSL2),G.992.5(ADSL2+)

- Support data transportation among ADSL, Ethernet and WLAN

- Support 802.11b, 802.11g, 802.11n mode

- Web-based configuration and monitoring.

- Support up to 8 PVCs.

- Support Bridge or Routing mode.

- Support NAT

- Support DHCP Client/DHCP Server.

2.2 Product Specifications

- Environmental requirements

Environmental temperature: -5 ℃-45 ℃ (23 ℉-113 ℉)

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Humidity: 5% - 95% (non-condensing)

● Power specification

Power adapter: Input: AC 100-240V, 50/60 Hz

                Output: DC 12V, 1000mA

● Certification

CE

2.3 Package Check

● ZXHN H108N	×1
● Splitter	×1
● Power Adapter	×1
● RJ-11 telephone cable	×2
● RJ-45 Ethernet cable	×1
● User's Manual & Quality Warranty Card	×1
● Certificate of Quality	×1
● CD (Optional)	

Note: for your information only, please refer to the actual product.

⚠ **Note:**

Please use a power adapter that matches the ZXHN H108N package.

2.4 System Requirement

Before installing the ZXHN H108N, please check the following items.

1 ADSL Services Subscription

If you have subscribed for the ADSL service, your ADSL operator must provide at least one valid IP address for you (static allocation or dialup dynamic allocation).

2 Computer configuration

Please make sure that the system has been equipped with the 10M/100M Ethernet adapter and supports the TCP/IP protocol.

Because ADSL can be used for broadband access and involves a wide range of multimedia services, you are recommended use a computer with such configurations as: above Pentium III, 64M memory, 10G hard disk, graphic accelerating adapter with above 2M display memory, audio adapter and sound box.

3 Operating system

Operating systems can be Windows 98SE, Windows Me, Windows 2000, Windows XP, Windows Vista or Windows 7. For system configuration in the WEB interface, the browser of Internet Explorer V 6.0 or later.

Chapter 3 Installation Preparation
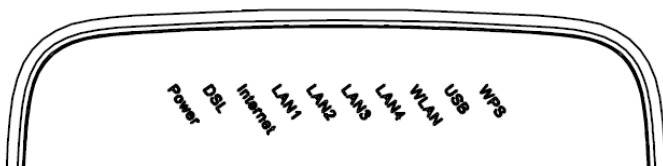
3.1 Hardware Description

Front panel

Figure 3.1-1 Front Panel of the ZXHN H108N

Table 3.1-1 Descriptions of the LEDs on the Front Panel

Identification	Color	Status	Description
Power	Green/Red	Off	Power off
		Red Flash	Software upgrade
		Green On	Power on
DSL	Green	Off	No signals are detected
		Flash	The MODEM is trying to be in the activation status
		On	The MODEM has been activated.
Internet	Green/Red	Off	The system is under the Bridge mode or the ADSL has not been connected
		Flash	There are some data packets passing the MODEM
		On	The system is under the Route mode and the ADSL has been connected. The MODEM IP data packet can be normally transceiver (For example, the built-in PPPOE has been established and the dynamic IP address has been obtained).
		Red	Device attempted to become IP connected and failed (no DHCP response, no PPPoE response, PPPoE authentication failed, no IP address from IPCP, etc.)
LAN1~LAN4	Green	Steady on	The LAN connection is established but no is data transferring.
		Flashing	Data is transmitting. The flashing frequency indicates the LAN traffic.

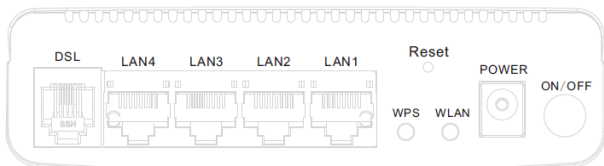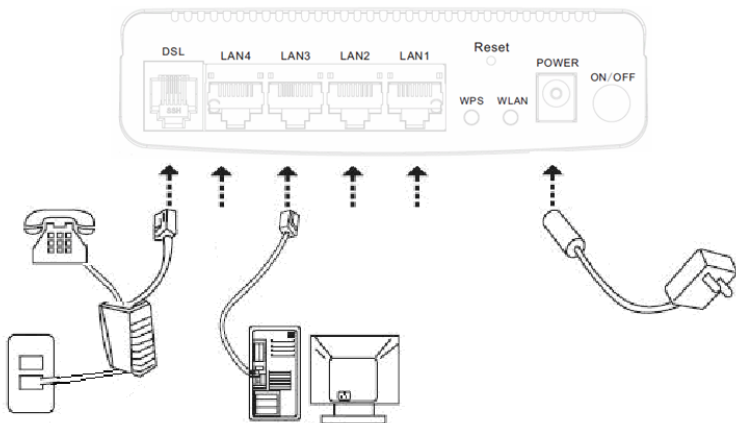| Identification	Color	Status	Description
		Off	The device is not powered on or the LAN connection has not been established
WLAN	Green	Steady on	The wireless port is enabled.
		Flashing	Data is transmitting. The flashing frequency indicates the WLAN traffic.
		Off	The device is not powered on or the wireless port is disabled.
USB	Green	Steady on	A USB device, such as hard disk is connected.
		Flashing	Data is transmitting.
		Off	The device is not powered on or the USB device connection has not been established.
WPS	Green	On	The wireless terminal device is connected through WPS successfully. The indicator turns off five minutes later.
		Slowly flashing	The wireless terminal device is connecting with H108N through WPS.
		Quickly flashing	There is error when the wireless terminal is connecting to H108N through WPS.
		Off	There is no wireless terminal device connected to H108N through WPS or the wireless terminal device has been connected to H108N through WPS for more than five minutes.

Rear panel

Figure 3.1-2 Rear Panel of the ZXHN H108N

Table 3.1-2 Description of Interfaces on the Rear Panel

Item	Introduction
DSL	RJ-11 connection interface: The equipment is connected to the ADSL line or splitter via the telephone line.
LAN1-LAN4	RJ-45 connection interface: Connect it to the PC computer or other network devices using the network cable.
WPS	WPS switch

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Item	Introduction
Reset	This button is on the bottom of modem. In the power-on state, you can restore the system to the default configuration by using a thin needle to press this slot for three seconds or for three executive times.
WLAN	Wi-Fi switch
POWER	Power interface. Connect it to the power adapter.
ON/OFF	Power switch

3.2 Hardware Connection

Introduction:

1. Use one RJ11 cable（match the ZXHN H108N package）to connect the LINE port of the splitter with the RJ-11 port (the phone jack) on the wall.

2. Use another RJ11 cable（match the ZXHN H108N package）to connect the MODEM (or ADSL) port of the splitter with the LINE port of the Gateway.

3. Use the third RJ11 cable（additional, if customers also want to use telephone at the same time）to connect the telephone set with the PHONE (or TEL) port of the splitter.

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4. Connect Ethernet port of the Gateway with 10/100BASE-T port of the computer using the network cable that comes with the modem.

5. Plug in the power cord, and turn on the power.

If you don't want Internet services and telephone voice services simultaneously, please just connect the LINE port of the Gateway with the RJ-11 port (the phone jack) on the wall using a telephone cord. In this case, the splitter is not necessary.

Connection procedures

1 Power off the equipment before all the other devices are connected.

2 Connect the network cables: Insert the RJ-45 Ethernet cable connector into the Ethernet interface of the ZXHN H108N, and connect its other terminal to the Ethernet adapter of the customer computers or ports of other network devices.

3 Connect the splitter

 The splitter has three interfaces, which are described as follows:

● LINE: Connect the user telephone cable (RJ11 interface).

● MODEM (or ADSL): Connect the DSL interface of the ZXHN H108N.

● PHONE (or TEL): Connect the phone sets.

The installation process is as follows: Connect the LINE interface of the ZXHN H108N to the MODEM(or ADSL) interface of the splitter using the RJ-11 telephone cable, connect the phone set lines to the PHONE(or TEL) interface of the splitter, and then connect the user telephone cable port to the LINE interface of the splitter.

4 Connect the power

Connect one terminal of the power adapter to the POWER interface of the ZXHN H108N, and the other terminal to the socket on the wall, and then switch on the power of the ZXHN H108N equipment.

Checking all connection cables

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Check all connection cables following the below procedure.

1   Check the ADSL cable connection

If the DSL LED is on upon power-on of the ZXHN H108N, it indicates that the ADSL line is correctly connected (Generally it takes one to two minutes to perform the ADSL connection).

2   Check the computer connection

If both the LINK LED on the computer adapter and the Ethernet LED of the ZXHN H108N turn green, it indicates that the computer and the ZXHN H108N equipment are correctly connected.

3   Check the telephone cable connection

The telephone cable is correctly connected if the received telephone signals are normal and free of noise. And the telephone will not be affected no matter whether the ZXHN H108N is powered on or off.

Appendix A FAQs

1	**All indicators are off after the ZXHN H108N equipment is powered on.**
	First make sure that you have inserted the power adapter of the ZXHN H108N into a working power socket and that the ZXHN H108N has been powered on (the switch button is pressed down). If the indicators are still off after confirmation of the above items, the hardware is damaged probably. You may contact local operators for maintenance. Never dismantle the equipment by yourself.
2	**Will ADSL affect the telephone conversation quality? Will making phone calls cause a slow online rate?**
	ADSL separates voices from data through the frequency division multiplexing technology. Therefore, voices and data run in different paths without mutual interference. Neither the access rate nor conversation quality will fall even if you are in a call and on line simultaneously.
3	**Sometimes, the ADSL users cannot gain access to the Internet normally.**
	First check whether the ZXHN H108N is in the normal state (Check the indicators with this user manual). If yes, the computer or application network may be faulty, which is unrelated with ADSL. If the ADSL MODEM is abnormal, check the status of indicators one by one to remove the fault. You are suggested to first make sure the following items before seeking help from operators: 1. The ADSL telephone cable connectors are proper; 2. The ADSL is away from the power cable and large-power electronic devices; 3. No telephone extensions and fax machines are installed between the ADSL incoming line and splitter; 4. The splitter has been correctly installed; 5. The ADSL MODEM is of good heat dissipation.
4	**Password verification failure.**
	MODEM synchronization and connection are normal. However, sometimes the password fails to be verified. 1. Note that the account and password are case sensitive and some accounts contain a domain name. 2. Virtual dialup software. It is possible that sometimes the virtual dialup software is faulty, or conflict with other software in the operating system. At this time, you are suggested to reinstall the dialup software or replace it with other software. 3. Network adapter drive program problem. 4. In arrears of fees. Pay the fee timely in this case.

5	**What are reasons for ADSL synchronization failure (also referred to link down or link establishment failure)?**

	If the ADSL suddenly fails to be synchronized (link down) during application, usually the DSL indicator of the MODEM will not be solid on. You are suggested for checkup in the following sequence: 1. First check the quality of incoming cables and incoming cable connectors. 2. Install the ADSL Modem correctly based on the user guide, to minimize the number of taps. 3. Check whether the telephone cables and ADSL are in good contact or whether the telephone cables are normal. 4. Try to disconnect the splitter and directly connect the ADSL Modem to the incoming customer cable end to ensure that the problem is not due to improper installation or incoming customer line quality. If the ADSL can be synchronized again, it means that installation of the incoming customer part is improper. Please reinstall it according to the user guide. 5. If the ADSL still fails to be synchronized after the ADSL Modem has been connected to the incoming customer cable end, contact the operators to check whether it is due to external line failure or Modem failure. 6. If the splitter problem is determined, call the operators for maintenance or replacement. 7. The problem may be also due to the end office equipment fault of the operator. Call the operator to confirm it. 8. Too long connection cable between the splitter and ADSL Modem may cause poor anti-interference performance and synchronization difficulty. Therefore, the connection cable should not be too long.
6	**The authenticated user names and passwords cannot be re-authenticated?**
	This problem may be due to the following reasons: 1. Your account has expired or you are a defaulting subscriber (please pay the deficit sum). 2. You move into a new area. Because the account and the path PVC are bundled by some operators, your previous account and password cannot be authenticated after you changed your path. 3. One of your accounts has logged on successfully. Therefore, you will fail to be re-authenticated because the operator has recognized the uniqueness of this account 4. Maybe you failed to deregister your account timely in the Broadband Access Server (BAS) when you were off line abnormally, so the BAS or the billing system deemed that your account was still available. Therefore, your re-login may fail because of uniqueness of your account You are suggested to redial up later. If still failing, contact the operator for a solution.

Appendix B Standard Compliance

The equipment complies with the following ADSL standards:

Standard	Note
ITU G.992.1	Asymmetric digital subscriber line (ADSL) transceivers
ITU G.992.3	Asymmetric digital subscriber line transceivers 2 (ADSL2)
ITU G.992.5	Asymmetric Digital Subscriber Line (ADSL) transceivers-Extended bandwidth ADSL2 (ADSL2+)
ITU G.994.1	Handshake procedures for Digital Subscriber Line (DSL)Transceivers
ETSI TS 101 388	Transmission and Multiplexing (TM); Access transmission systems on metallic access cables; Asymmetric Digital Subscriber Line (ADSL) – European specific requirements