

ZTE CORPORATION
NO. 55, Hi-tech Road South, ShenZhen, P.R.China
Postcode: 518057
Tel: (86) 755 26771900
Fax: (86) 755 26770801
URL: <http://ensupport.zte.com.cn>
E-mail: support@zte.com.cn



ZTE中兴

ZXHN H368C

User's Manual

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ZTE warrants that, for one year from the date of delivery by ZTE to purchaser's designated carrier, the Equipment will remain free from defects in design, material and workmanship under normal use and service and will conform in all material respects to the applicable specifications set forth in purchase order or agreement; ZTE does not warrant that operation of the Equipment will be error-free or uninterrupted.

In accordance with ZTE's standard, warranty terms, ZTE shall, at its option, repair or replace any defective or nonconforming item, provided that (a) purchaser/End User gives ZTE written notice of the defect or nonconformity within the warranty period specified above promptly after Reseller is notified by the End User of the same; and (b) End User returns the defective item at its expense to ZTE's nominated Customer Service Department in accordance with ZTE's standard parts exchange procedures.

This warranty does not apply to defects or errors in the Equipment caused by:(a) reasonable abrasion of equipments; (b)End User's failure to follow ZTE's installation, operation or maintenance instructions or procedures; (c) End User's mishandling, misuse, negligence, or improper installation, deinstallation, storage, servicing or operation of the Equipment; (d) modifications or repairs not made by ZTE or a ZTE-certified individual;(e) power failures, surges, fire, flood, accident, actions of third parties or other events outside ZTE's reasonable control. (f) usage of products of third Parties, or usage conjunction with third parties provided that such defects is due to the conjunction;(g) any other cause beyond the range of normal usage for equipments. End User shall assure that Equipment is installed and maintained by ZTE or

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Confidentiality

End User agrees that End User will receive confidential or proprietary information (“Confidential Information”) in connection with the purchase and deployment of ZTE Equipment. End User will not disclose ZTE’s Confidential Information, will use it only for purposes for which it was disclosed, and must treat it with the same degree of care as it does its own similar information, but with no less than reasonable care. End User agrees that the terms herein, the Equipment and all ZTE documentation is ZTE Confidential Information.

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Chapter 1 Safety Guidance

1.1 Safety Check

Before installing the VDSL2 equipment, check all the below listed items:

1 Electric safety

- Ensure no inflammable, conductive or moist objects and no ageing-cables around the equipment. Place all electrical appliances safely.

2 Equipment position

- Install the equipment in a ventilated environment avoid of any electric devices nearby.
- Place the equipment on a stable and flat surface.
- The equipment must be protected from sunshine. It must be kept away from electro-magnet interference.
- The equipment must be protected from heat and water sources.
- Ensure the power supply is available. The fluctuation range of input voltage should be in the range of $\pm 10\%$. Do not share the power socket with other electrical devices.

1.2 Safety Cautions

Please pay attention to the following cautions:

- Read the user's manual carefully before using the equipment.
- Note all Cautions in the user's manual and product guide.
- Do not use any accessory or components that are not belonging to the equipment.

- Use the power adapter, which is provided in the package.
- Connect the phone with the VDSL2 line directly, and lead the line out from the phone interface of the splitter.
- Do not place any object on the equipment.
- The equipment must be kept dry and clean. Ensure the equipment environment has ventilation and rainproof capability.
- To protect the equipment against lightning and thunderstorm, please remove the power plug and all connection cables.
- Use a soft and dry cloth to clean the equipment. Ensure the equipment is power OFF before cleaning.
- Power OFF the idle equipment.
- Keep the ventilation-hole clean and unblocked. Otherwise, it may cause short circuit, fire or damage the equipment. Do not spray liquid on the equipment surface.
- Do not open the equipment especially in power ON state.
- Confirm the power is OFF before plugging/unplugging the power.
- Keep all components and accessories of the equipment away from the children.

**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 H368C is a VDSL gateway, which provides high-speed VDSL Internet access. It is designed with triple WAN function: VDSL, ADSL, and Gigabyte WAN. The ZXHN H368C also features a built-in 802.11n WLAN and an embedded MoCA for multimedia over coaxial cable. In addition, the ZXHN H368C has a USB interface for file sharing and printer server.

2.1 Features

The ZXHN H368C is a VDSL2 MODEM. It supports the following features:

- ITU-T G.993.2 VDSL2 standard and ITU-T G.992.5 DSL2+ standard.
- It supports WLAN with high-speed data transfer rates up to 300 Mbps, compatible with IEEE 802.11b/g/n, 2.4 GHz compliant equipment.
- It supports IEEE802.3 and IEEE802.3u.
- It supports speed auto-negotiation.
- It supports Half duplex/Full duplex.
- It supports user-friendly GUI for web configuration.
- It supports IPsec for virtual private network (VPN).
- It supports parental control function to restrict children usage.
- It supports self-learning bridge (IEEE 802.1D Transparent Bridging).
- It supports virtual server, IP filter, and demilitarized military zone (DMZ) host.
- It supports USB 2.0 host.

2.2 Product Specifications

- Environmental requirements

Environmental temperature: -5°C-45°C (23 °F-113°F)

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

- Power specification

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

Output: DC 12V, 1.5A

- Certification

FCC

UL

WiFi

2.3 Package Check

- ZXHN H368C ×1
- Micro Filter ×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

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

Caution: to reduce the risk of fire, use only NO.26AWG or larger (e.g., 24AWG) UL Listed or CSA Certified Telecommunication Line Cord.



Note:

Please use a power adapter that matches the ZXHN H368C package.

2.4 System Requirement

Before installing the ZXHN H368C, please check the following items.

1 VDSL Services Subscription

If you have subscribed for the VDSL service, your VDSL 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 VDSL 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

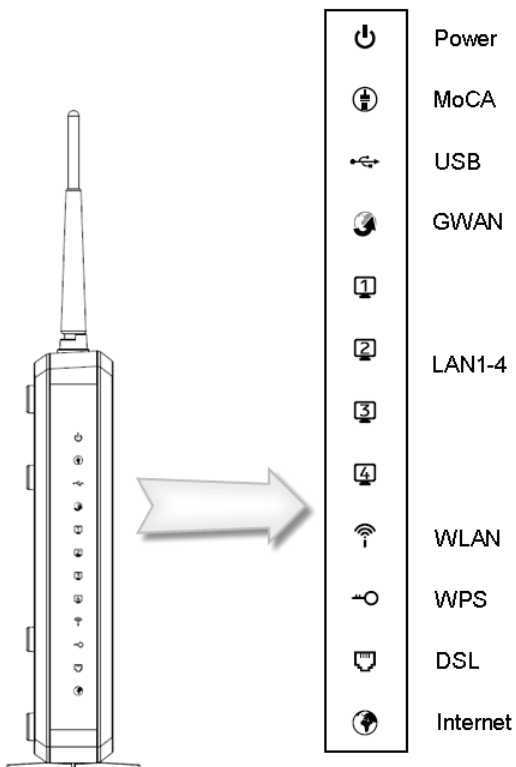


Figure 3.1-1 Front Panel of the ZXHN H368C

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

Function	Color	Status	Definition
Power	Green/Red	OFF	Power OFF.
		Red	Power ON, HW Test failure or device malfunction.
		Green	Power ON, HW Test ok.
MoCA	Green	OFF	Power OFF, no MoCA network connection to the MODEM.
		Flash	The MODEM has LAN activity.
		ON	The MODEM has proper MoCA network link.
USB	Green	OFF	Power is off or the modem is not connected to any USB device.
		Green Flash	Data is transmitted on the USB port.
		Green	The modem is connected to a USB device.
GWAN	Green	OFF	The Gigabyte Ethernet WAN link is not connected.
		Flash	The Gigabyte Ethernet WAN interface is receiving or sending data.
		ON	The Gigabyte Ethernet WAN link up.
LAN1-LAN4	Green	OFF	The Ethernet port is in the non-communication state.
		ON	The Ethernet port is in the communication state.
		Flash	Ethernet interface is receiving or sending data.
WLAN	Green	OFF	No detected radio signal.
		Flash	WLAN port is receiving or sending data.
		ON	WLAN interface is ready to work.
WPS	Green	OFF	WPS function is OFF.

Function	Color	Status	Definition
		Flash	WPS function is in negotiation status.
		ON	WPS function is ON.
DSL	Green	OFF	The MODEM is in the non-communication state.
		Flash	The MODEM is in training state.
		ON	The MODEM is in the communication state.
Internet	Green	OFF	No detected data.
		Flash	WAN port is receiving or sending data.
		ON	WAN port is in communication status.

Rear panel

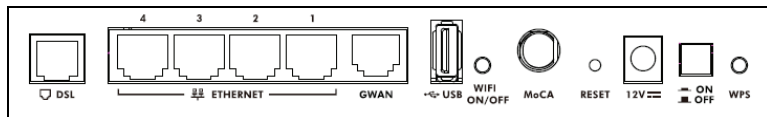


Figure 3.1-2 Rear Panel of the ZXHN H368C

Table 3.1-2 Description of Interfaces on the Rear Panel

Interface	Function
DSL	RJ-11port: Using the telephone line to connect the modem with the VDSL2 cable or splitter.
LAN1-LAN4	RJ-45 port: It is used to connect the modem to other network devices.
GWAN	RJ-45 port: It is used to connect the modem to computer or other network devices.
USB	USB interface: connects to a USB device.
WIFI ON/OFF	WIFI button: to enable or disable the WLAN function.

3.2 Hardware Connection

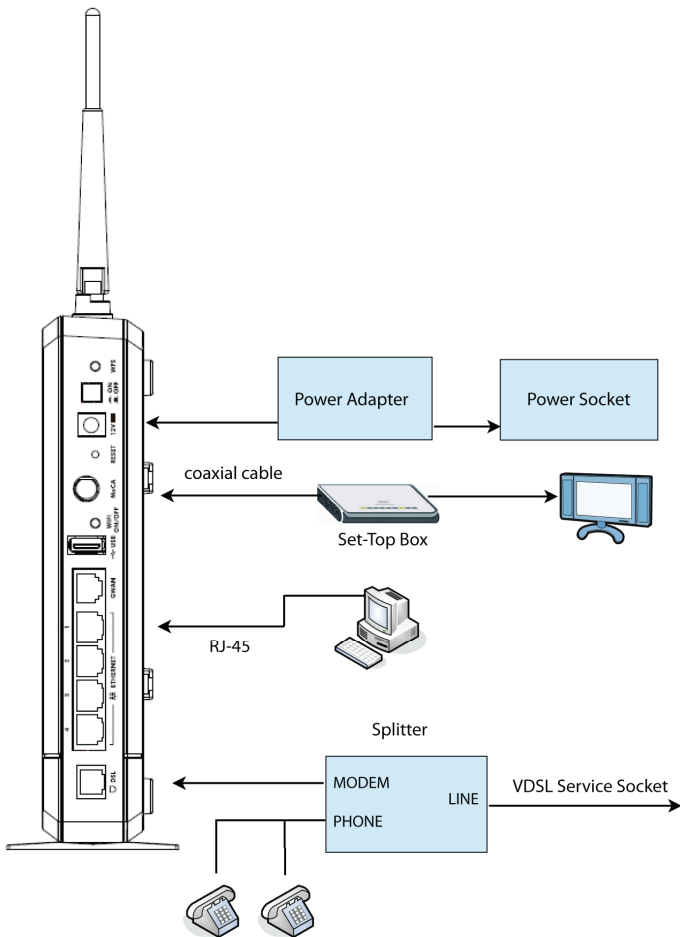


Figure 3.2-1 ZXHN H368C Connection Schematic Diagram

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 H368C, 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 DSL): Connect the DSL interface of the ZXHN H368C.
- PHONE (or TEL): Connect the phone sets.

The installation process is as follows: Connect the LINE interface of the ZXHN H368C to the MODEM(or DSL) 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 MoCA port to a Set-Top box with a coaxial cable for multimedia.
- 5 Connect the power

Connect one terminal of the power adapter to the POWER interface of the ZXHN H368C, and the other terminal to the socket on the wall, and then switch on the power of the ZXHN H368C equipment.

Checking all connection cables

Check all connection cables following the below procedure.

- 1 Check the DSL cable connection

If the DSL LED is on upon power-on of the ZXHN H368C, it indicates that the DSL line is correctly connected (Generally it takes one to two minutes to perform the DSL connection).

- 2 Check the computer connection

If both the LINK LED on the computer adapter and the Ethernet LED of the ZXHN H368C turn green, it indicates that the computer and the ZXHN H368C equipment are correctly connected.

- 3 Check the telephone cable connection

Appendix A FAQs

No.	Problem and Troubleshooting
1	<p>All indicators are OFF when the ZXHN H368C equipment is powered ON.</p> <p>First make sure that you have inserted the power adapter of the ZXHN H368C into a working power socket and that the ZXHN H368C has been powered ON (the power button is pressed in). If the indicators are still OFF after confirmation of the above items, may be the hardware is damaged. You may contact local operators for maintenance. Never dismantle the equipment by yourself.</p>
2	<p>Will VDSL2 affect the telephone conversation quality? Will making phone calls cause a slow online rate?</p> <p>VDSL2 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 online simultaneously.</p>
3	<p>How to properly install telephone extensions or other devices on the VDSL2 line?</p> <p>It is recommended to connect the VDSL2 splitter to the telephone cable first and then connect the phone sets to the splitter interfaces. Installing a telephone directly before the splitter will lead to connection failure between the ZXHN H368C and the device at central office side, or an Internet access failure, or a slow connection speed. Connecting other electronic devices between the user end and splitter may affect the VDSL2 communications (since VDSL2 has a higher requirement for the line quality) and furthermore affect the normal operation of VDSL2. If the phone sets are required to be connected before the splitter, you should serially connect the MicroFilter before the phone sets (Generally, to minimize interference, only one MicroFilter can be connected before the splitter).</p>
4	<p>Sometimes, the VDSL2 users cannot access to the Internet normally</p>

No.	Problem and Troubleshooting
	<p>First check whether the ZXHN H368C is in the normal state (Check the indicators according to this user's manual). If yes, the computer or application network may be faulty. This is unrelated with VDSL2. If the VDSL2 MODEM is abnormal, check the status of indicators one by one to remove the fault.</p> <p>It is suggested to check the following items before seeking help from operators:</p> <ol style="list-style-type: none">1. The VDSL2 telephone cable connectors are proper.2. The VDSL2 is away from the power cable and large-power electronic devices.3. No telephone extensions and fax machines are connected between the VDSL2 incoming line and splitter.4. The splitter has been installed correctly.5. The VDSL2 MODEM has good heat dissipation ratio.
5	What are reasons for VDSL2 synchronization failure (also referred as link down or link establishment failure)?

No.	Problem and Troubleshooting
	<p>If the VDSL2 suddenly fails to be synchronized (link down) during application, usually the Link indicator on the MODEM will not be ON. It is suggested to check the following steps one by one:</p> <ol style="list-style-type: none"> 1. First check the quality of incoming cables and incoming cable connectors. 2. Install the VDSL2 MODEM correctly based on the user guidance. Minimize the number of taps. 3. Check whether the telephone cables and VDSL2 are in good connection or whether the telephone cables are normal. 4. Try to disconnect the splitter and directly connect the VDSL2 MODEM to the incoming user cable end. Ensure the problem is not due to improper installation or incoming user line quality. If the VDSL2 can be synchronized again, it means that installation of the incoming user side is improper. Please reinstall it according to the user guide. 5. If the VDSL2 still fails to be synchronized when the VDSL2 MODEM is connected to the incoming user 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 operator for maintenance or replacement. 7. If the problem is due to the end office equipment failure, call the operator to confirm it. 8. Too long connection cable between the splitter and VDSL2 MODEM may cause poor anti-interference performance and synchronization difficulty. Therefore, the connection cable should not be too long.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment complies with FCC radiation exposure limits set forth for uncontrolled environment .This equipment should be installed and operated with minimum distance 20cm between the radiator& your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

Customer Information

1. This equipment complies with Part 68 of the FCC rules and the requirements adopted by the ACTA. On bottom of this equipment is a label that contains, among other information, a product identifier of US: ZTEDL01BHNH368CV1. If requested, this number must be provided to the telephone company.
2. If this equipment VDSL CPE causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. But if advance notice isn't practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.
3. The telephone company may make changes in this facilities, equipment, operations or procedures that could affect the operation of the equipment. If this happens the telephone company will provide advance notice in order for you to make necessary modification to maintain uninterrupted service.
4. If you experience trouble with this equipment, you disconnect it from the network until the problem has been corrected or until you are sure that the equipment is not malfunctioning.
5. Please follow instructions for repairing if any (e.g. battery replacement section); otherwise do not alternate or repair any parts of device except specified.

6. Connection to party line service is subject to state tariffs. Contact the state public utility commission public service commission or corporation commission for information.

7. If the telephone company requests information on what equipment is connected to their lines, inform them of:

- a) The telephone number that this unit is connected to,
- b) The ringer equivalence number [0.1B]
- c) The USOC jack required [RJ11C], and
- d) The FCC Registration Number US: ZTEDL01BHNH368CV1

Items (b) and (d) are indicated on the label. The ringer equivalence number (REN) is used to determine how many devices can be connected to your telephone line. In most areas, the sum of the RENs of all devices on any one line should not exceed five (5.0). If too many devices are attached, they may not ring properly.

Service Requirements

In the event of equipment malfunction, all repairs should be performed by our Company or an authorized agent. It is the responsibility of users requiring service to report the need for service to our Company or to one of our authorized agents. Service can be facilitated through our office at:

Acadia Solutions, Inc. 130 E. Wilson Bridge Road Suite 320 Worthington, OH 43085. Phone: 614-505-613

ZTE Corporation Warranty Card

Dear customer,

Thank you for choosing the ZTE communication product. To obtain our best service, please read the information in this warranty card carefully and keep this card properly. ZTE Corporation warrants that the product will be free of manufacturing defects for a period of one year from the date of purchase. Should there be a manufacturing defect in the product during the limited warranty period, ZTE Corporation shall provide free service and maintenance for the defective product.

Notice for Customers

ZTE Corporation will charge for parts, components, or services under either of the following circumstances:

- After the warranty of the parts and/or the components has expired.
- Damage caused by purchaser in transportation or shipping.
- Damage caused by disassembly, repair or modification of the product by anyone other than warrantor authorized dealers and service providers.
- Damage caused by operation outside the instructions and notices stated in the operation manual (such as damage caused by hot plug of the product).
- Damage caused by irresistible natural disasters.
- Purchaser fails to present the warrant card, or the warranty card does not conform to the product, or the records in the warranty card are incorrect.

Customer Information

Customer Name		Purchase Date	
Contact Person		Customer Phone	
Address			
Dealer		Dealer Phone	
Model Number		Serial Number	



Service and Maintenance Record

Date	Maintenance/service Item	Signature of Maintenance Engineer	Signature of Customer

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