ZXHN H389A

Home Gateway

User Manual

ZXHN H389A
Home Gateway
User Manual

$C\,\epsilon$

Manual No: SJ-20151124142949-005
Edition Time: 2017-06-15(R1.1)

1 Safety Precautions

Usage Cautions

- Read all the safety cautions carefully before using the device.
- Only use the accessories included in the package, such as power supply adapter and battery.
- Do not extend the power cord, otherwise the device will not work.
- The power supply voltage must meet the requirements of the device input voltage (The voltage fluctuation range is less than 10%).
- Keep the power plug clean and dry to prevent any risk of electric shock or other dangers.
- Disconnect all the cables during a lightning storm to prevent the device from damage.
- Power off and unplug the power plug when the device is not in use for a long time.
- Do not attempt to open the covers of the device. It is dangerous to do so when the device is powered ON.
- Power off and stop using the device under the conditions such as, abnormal sound, smoke, and strange smell. Contact the service provider for maintenance if the device is faulty.

Environment Requirements

- Ensure proper ventilation to the device. Place the device away from direct sunlight.
- Keep the device ventilated and dry. Never spill any liquid on the device.
- Do not place any object on the device to prevent any deformation or damage to the device.
- Do not place the device near any source of heat or water.
- Keep the device away from any household appliances with strong magnetic or electric fields, such as microwave oven and refrigerator.

Cleaning Requirements

- Before cleaning, power off the device, and unplug all the cables connected to the device, such as power cable, optical fiber, and Ethernet cable.

- Do not use any liquid or spray to clean the device. Use a soft dry cloth.

Environment Protection

- Do not dispose the device or battery improperly.
- Observe the local regulations about the equipment disposal or treatment.

Environmental Information

The equipment you purchased has required the extraction and use of natural resources for its production. It may contain substances that are hazardous to people's health and to the environment. To avoid putting such substances into our environment and to reduce pressure on our natural resources, we ask that you reuse or recycle your end-of-life equipment by using an accredited electronics take-back system.

The symbols below indicate that this product should be reused or recycled and not simply discarded. Please locate and use an appropriate reuse and recycling site.

If you need more information on collection, reuse and recycling systems, contact your local or regional waste administration. You may also contact your equipment provider for more information on the environmental performances of these products.

2 Overview

ZXHN H389A is an advanced home gateway with VoIP that supports 1.75Gbps Dual-band concurrent 11ac&11n Wi-Fi, USB3.0. It provides High Speed Internet, IPTV and Voice over IP services through the ADSL/VDSL/G.fast uplink or Gigabit Ethernet WAN connection. Those services are delivered by the gateway on your home network to the PCs, STBs, phones, gaming devices and so on through the integrated interfaces: Ethernet, Wi-Fi, phone ports.

2.1 Features

It supports the following features:

- It provides Internet access through ADSL/VDSL/G.fast uplink or GE uplink. So it is possible for ZXHN H389A to provide multiple Internet access choices to suit various broadband access network.

- It provides 4-port autosensing 10/100/1000Base-T LAN interfaces.
- It supports Dual-Band concurrent Wi-Fi up to 450 Mbps (compatible with IEEE 802.11n, 2.4 GHz compliant equipment) and 1.3 Gbps (compatible with IEEE 802.11ac, 5 GHz compliant equipment).
- It provides multiple lines via the FXS phone ports.
- It supports USB LTE/3G dongle backup in case of primary Internet connection failure.
- It supports IPv4 / IPv6 dual stack mechanism for IPv6 network migration.
- It supports TR-069, including TR-098 data model and TR-104 voice provisioning.

2.2 Product Specifications

Item	Specification
Dimensions	260 mm × 45 mm × 210 mm (in vertical placement)
Operation temperature	0 °C ~ 40 °C (32 °F~104 °F)
Storage temperature	-40 ℃ ~ 70 ℃ (-40 °F~158 °F)
Operation humidity/ Storage humidity	5% ~ 95% (non-condensing)
Weight	700g (Single device)
Power adapter	Input: AC 100 V~240 V, 50 Hz/60 Hz
	Output: DC 12 V, 2 A

2.3 Package Check

After unpacking the ZXHN H389A product, check that the following items are complete.

Name	Quantity
ZXHN H389A	1
Power adapter	1
RJ-45 Ethernet cable	1
Splitter	1
RJ-11 telephone cable	2
User manual	1

NOTE *Note:*

If any item is found to be wrong, missing, or damaged, contact your service provider. Keep the package and all the items in good condition if you want to replace the product.

---

3 Installation Preparation

3.1 Hardware Description

Front panel

Figure 3-1 shows the indicators on the front panel of the ZXHN H389A

Figure 3-1 The Front Panel
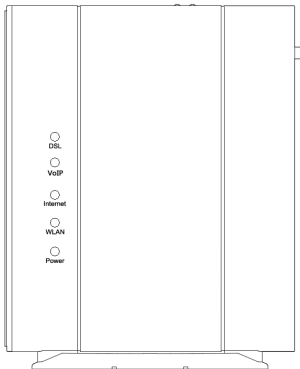
Table 3-1 describes the indicators on the front panel of the ZXHN H389A unit.

Table 3-1 Descriptions of Indicators

LED Indicator	Status	Description
DSL	OFF	Link has not been established.
	Slow Flashing green	Physical link exists, however carrier wave has not been detected.
	Fast Flashing green	Now in the handshaking process to establish the link connection.
	Solid green	DSL synchronization is normal and the link connection is normal.

LED Indicator	Status	Description
VoIP	OFF	No SIP account is registered.
	Solid green	At least one SIP account is registered. IP connected (the device has a WAN IP address from IPCP, DHCP or statically configured).
	Flashing green	At least one SIP account is registered, and the SIP/RTP packets is transmitting.
Internet	Off	The Internet is not connected.
	Solid green	The Internet is connected properly.
	Solid red	The link negotiation is completed, but the Internet is not connected.
WLAN	Off	Wi-Fi is disabled.
	Flashing red	The frequency is 4 Hz, non-encryption mode is enabled, and data is being transmitted.
	Solid red	Non-encryption mode is enabled and no data is being transmitted.
	Flashing green	The frequency is 4 Hz, WPA/WPA2 mode is enabled, and data is being transmitted.
	Solid green	WPA/WPA2 mode is enabled and no data is being transmitted.

LED Indicator	Status	Description
WLAN(In WPS Mode)	Slow Flashing green	The WPS access is in negotiation.
	Fast Flashing red	The negotiation of WPS is fault.
	Intermittently Fast Flashing red	Session overlap detected.
Power	Off	The system is not powered on.
	Solid green	The system is powered on properly.
	Solid red	The system cannot be started because of a system-level fault such as a memory error.
	Solid orange	The version software is being upgraded.

Top panel

Figure 3-2 shows the buttons on the top panel of the ZXHN H389A.
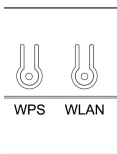
Figure 3-2 The Top Panel

Table 3-2 describes the buttons on the top panel of the ZXHN H389A.

Table 3-2 The Top Panel

Interface/Button	Function
WPS	After pushing the button for longer than 0.5 s, the WPS function will be enabled.
WLAN	After pushing the button for longer than 0.5 s, the WLAN function will be enabled or disabled.

Figure 3-3 shows the interfaces and buttons on the back panel of the ZXHN H389A.

Figure 3-3 The Back Panel
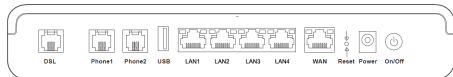
Table 3-3 describes the interfaces and buttons on the back panel of the ZXHN H389A.

Table 3-3 The Back Panel

Interface/Button	Function
DSL	RJ-11 port. It is used to connect to the ADSL/VDSL/G.fast uplink access network.
Phone1–Phone2	RJ-11 port. It is used to connect to the phone through the telephone line.
USB	USB 3.0 host port. It is used to 3G/4G dongle connection.
LAN1–LAN4	RJ-45 port. It is used to connect the modem to computer, STBs or other network devices.

| Interface/Button	Function
WAN	RJ-45 port. It is used to connect to the uplink ethernet access network.
Reset	During power on period, hold on this button for more than 5 s to reset the current settings to the factory default setting, and then the system automatically restarts.
Power	Power supply port. It is connected to the power adapter.
On/Off	Power switch. Power on or power off the device.

3.2 Hardware Connection

Figure 3-4 shows the devices that are connected to interfaces of the ZXHN H389A

Figure 3-4 Cable Connection
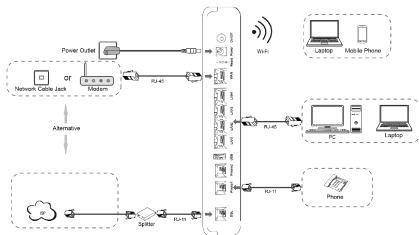
After the devices are connected to the ZXHN H389A device, press the power button. When the corresponding indicators on the front panel are On, you can enjoy various services provided by the service provider.

NOTE *Note:*

The wireless network scope is affected by the number of walls, wall thickness, wall locations, wall materials, ceilings, and other objects. Meanwhile, the material types and background RF noise also affect the wireless network.

To maximize the wireless network scope, comply with the following methods:

1. *Reduce the number of walls and ceilings between the ZXHN H389A and other network devices.*

   Each wall or ceiling reduces the wireless network scope by 1 to 30 meters. Properly place the ZXHN H389A to reduce the number of walls and ceilings.

2. *Comply with the straight line principle between network devices.*

   At 45 degree angle, a wall with the thickness being half a meter is as thick as one meter. To receive more signals, devices need to be placed to enable the signals to be transmitted directly through walls or ceilings.

3. *The wireless network scope is also affected by building materials.*

   The scope is affected by solid metal doors or aluminum studs. Try to place accessing points, wireless routers, and computers, and then signals can be transmitted through dry walls or open channels, for example, FRP products, metal products, insulated walls, filing cabinet, bricks, and concrete weaken the wireless signals.

4. *Make sure that the ZXHN H389A with the WiFi function keeps far away from the following devices:*

   Keep at least two meters far away from electrical devices or components that generate RF noise. Signals are greatly weakened or even completely disappeared by a 2.4 GHz wireless mobile or X-10, for example, a microwave oven, home security system, blue tooth device, or icebox.

4 Troubleshooting

■ **All indicators are Off when the ZXHN H389A equipment is powered On.**

First make sure that you have inserted the power adapter of the ZXHN H389A into a working power socket. If the indicators are still Off after confirmation of the above items, may be the hardware is damaged. You may contact local operator for maintenance. Never dismantle the equipment by yourself.

■ **Sometimes, the DSL users cannot access to the Internet normally**

First check whether the ZXHN H389A is in the normal state (Check the indicators according to this user manual). If yes, the computer or application network may be faulty. This is unrelated with DSL. If the ZXHN H389A is abnormal, check the status of indicators one by one to remove the fault.

It is suggested to check the following items before seeking help from operators:

i. The DSL telephone cable connectors are proper.

ii. The DSL is away from the power cable and large-power electronic devices.

iii. No telephone extensions and fax machines are connected between the DSL incoming line and splitter.

iv. The splitter has been installed correctly.

v. The ZXHN H389A has good heat dissipation ratio.

■ **What are reasons for DSL synchronization failure (also referred as link down or link establishment failure)?**

If the DSL suddenly fails to be synchronized (link down) during application, usually the Link indicator on the ZXHN H389A will not be On. It is suggested to check the following steps one by one:

i. First check the quality of incoming cables and incoming cable connectors.

ii. Install the ZXHN H389A correctly based on the user guidance. Minimize the number of taps.

iii. Check whether the telephone cables and DSL are in good connection or whether the telephone cables are normal.

iv. Try to disconnect the splitter and directly connect the ZXHN H389A to the incoming user cable end. Ensure the problem is not due to improper installation or incoming user line quality. If the DSL can be synchronized again, it means that installation of the incoming user side is improper. Please reinstall it according to the user guide.

v. If the DSL still fails to be synchronized when the ZXHN H389A is connected to the incoming user cable end, contact the operators to check whether it is due to external line failure or ZXHN H389A failure.

vi. If the splitter problem is determined, call the operator for maintenance or replacement.

vii. If the problem is due to the end office equipment failure, call the operator to confirm it.

viii. Too long connection cable between the splitter and ZXHN H389A may cause poor anti-interference performance and synchronization difficulty. Therefore, the connection cable should not be too long.

■ **The green LAN indicator on the front panel is off after the device is powered on.**

▶ The corresponding LAN link is not established.

▶ The Ethernet cable is not correctly connected to the LAN interface.

▶ The network device connected to the LAN interface is not powered on.

5 FCC Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio

frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

FCC Radiation Exposure Statement

This device complies with FCC radiation exposure limits set forth for an uncontrolled environment and it also complies with Part 15 of the FCC RF Rules. This equipment must be installed and operated in accordance with provided instructions and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. End-users and installers must be provide with antenna installation instructions and consider removing the no-collocation statement.

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.
2. This device must accept any interference received, including interference that may cause undesired operation.

NOTE *Note:*

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

Operation in the band 5150-5250 MHz is only for indoor use.

FCC - PART 68

This equipment complies with Part 68 of the FCC rules and the requirements adopted by the ACTA. On the bottom of this equipment is a label that contains, among other information, a product identifier in the format US:

ZTEDL01AHNH389A. If requested, this number must be provided to the telephone company.

This equipment uses the following USOC jacks: RJ-11, RJ-45, USB Jack, Power Jack.

REN (Ringer Equivalent Numbers) Statement

Notice: The Ringer Equivalence Number (REN:0.1A) assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Numbers of all the devices does not exceed 5.

Attachment Limitations Statement

Notice: This equipment meets telecommunications network protective, operational and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirements document(s). This is confirmed by marking the equipment with the Industry Canada certification number. The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be coordinated by a representative designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together.

This precaution may be particularly important in rural areas. Caution: Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

ZTE

Tomorrow never waits

CERTIFICATION
CHECKER
DATE
ZTE