
ZXDSL 931WIIB User Manual

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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 manual carefully before using the equipment.
- Note all Cautions in the user 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.

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- 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 guidance carefully before using equipment. The users must avoid any accidents caused due to incompliance with the above instructions.

Chapter 2 Overview

The ZXDSL 931WIIB is a VDSL2 access device, which supports multiple line transmission mode. It provides four 10/100Base-T Ethernet interfaces and wireless user access function according to the IEEE802.11b/g/n standard. In addition, ZXDSL 931WIIB provides the broadband Internet service or enterprise network access service through the high-speed DSL or Gigabit Ethernet uplink access mode.

2.1 Features

The ZXDSL 931WIIB is a VDSL2 MODEM. It provides the pure bridge function and supports the following features:

- ITU-T G.993.2 VDSL2 standard and ITU-T G.992.5 ADSL2+ standard.
- It supports LAN protocol.
- 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
- It supports DSL Gigabit Ethernet uplink access mode.

2.2 Product Specifications and Requirements

- Environmental requirements
Environmental temperature: 0°C - 40°C (32°F - 104°F)
Humidity: 20% - 90% (non-condensation)
- Power specification
Power adapter: Input: AC 100 V – 240 V, 50Hz/60Hz
Output: DC 12 V, 2 A
- Consumption: < 18 W
- Certification
FCC
UL
WiFi

2.3 Package Check

- ZXDSL 931WIIB VDSL2 MODEM 1
- Splitter 1
- Power Adapter 1
- RJ-11 Telephone Cable 2
- RJ-45 Ethernet Cable 1
- User Manual 1
- Quality Warranty Card 1

- Quality Certificate

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Note: This information is only for reference. Please refer to the actual product package.



Note:

Please use the power adapter that is provided in the ZXDSL 931WIIB package.

Chapter 3 Installation Preparation

3.1 Hardware Description

Front panel



Figure 3.1-1 ZDSL 931WIIB Front Panel

Table 3.1-1 Front Panel LEDs

Function	Color	Status	Definition
Power	Blue/Red	OFF	Power OFF
		Red	Power ON, HW Testing
		Blue	Power ON, HW Test ok
DSL/WAN	Green	OFF	DSL connection is in the non-communication state
		Flash	DSL connection is in training state
		ON	DSL connection is in the communication state
	Orange	OFF	GE uplink connection is in the non-communication state
ON		GE uplink connection 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
Running	Green	Flash	Device running is ok
		ON	Device running is failure
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
		Flash	WPS function is in negotiation status
		ON	WPS function is ON
USB	Green	OFF	Power is off or the modem is not connected to any USB device.
		ON	The modem is connected to a USB device.
		Flash	Data is transmitted on the USB port.

Rear panel

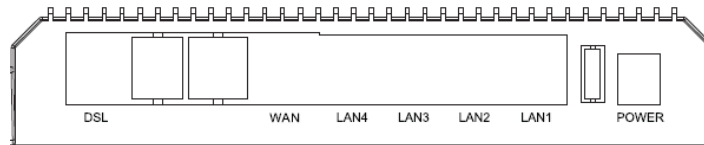


Figure 3.1-2 ZXDSL 931WIIB Rear Panel

Table 3.1-2 Interfaces on the Rear Panel

Interface	Function
DSL	RJ-11port: Using the telephone line to connect the modem with the VDSL2 cable or splitter
WAN	RJ-45 port: It is used to connect the modem to ONU or other uplink devices
LAN1-LAN4	RJ-45 port : It is used to connect the modem to computer or other network devices
Power	Power supply port: It is connected to the power adapter

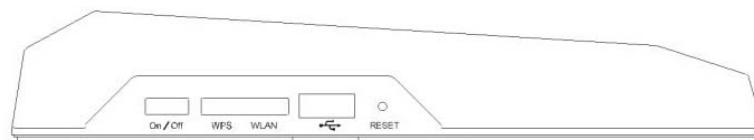
Side panel

Figure 3.1-3 ZXDSL 931WIIB Slide Panel

Table 3.1-3 Slide Panel LEDs

Interface	Function
ON/OFF	Power switch, to power on or power off the device.
WPS	WLAN Protected Setup
Reset	When the power is on, press the button for more than five seconds to restore the factory default settings, and then the system restarts automatically.
WLAN	WLAN switch, to enable or disable the WLAN function.
USB	USB interface, connects to a USB device.

3.2 Hardware Connection**Connection 1**

The following connection method is recommended.

Figure 3.2-1 shows the connection of ZXDSL 931WIIB, computer, splitter and telephones.

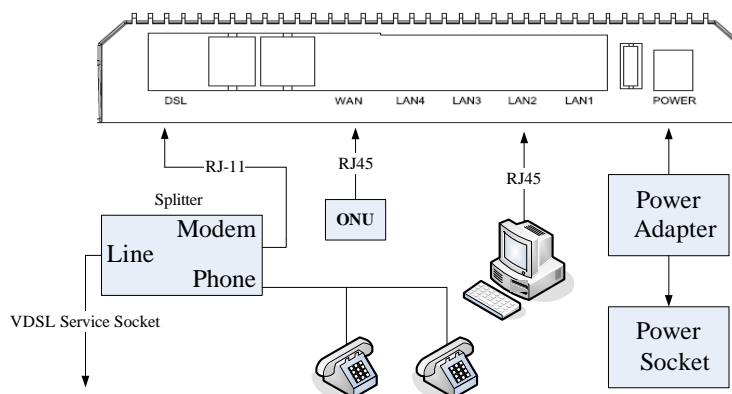


Figure 3.2-1 ZXDSL 931WIIB Connection Schematic Diagram (No Phone sets are Installed Before the Splitter)

Connection 2

Figure 3.2-2 shows the connection of the installed splitter with the ZXDSL 931WIIB.

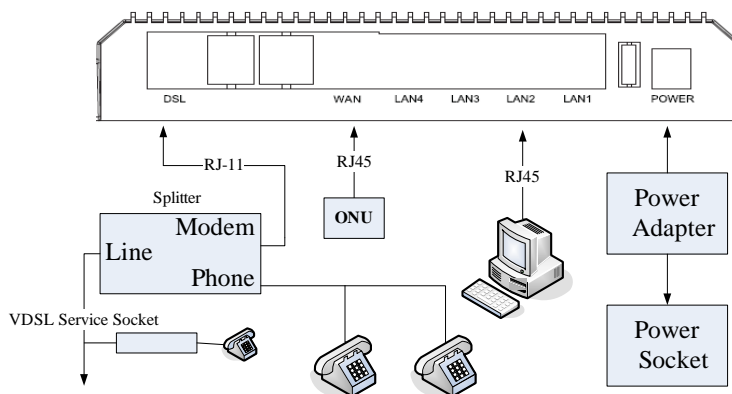


Figure 3.2-2 ZXDSL 931WIIB Connection Schematic Diagram (Phone sets are Installed before the Splitter)



Note:

If the first connection is not applicable, please adopt the second connection method. In the second method, install a MicroFilter on the telephone cable (as illustrated in Figure 3.3-2, do not use a splitter to replace the MicroFilter).

Install the telephone directly before the splitter installation. Or it will lead to the ZXDSL 931WIIB and the central office connection failure, causing Internet access failure, or results in slow connection speed. If a telephone set is needed to be added before the splitter, please add a MicroFilter before the telephone set. Do not connect several telephones before the splitter and do not connect several telephones with MicroFilter.

If the MicroFilter is not a standard-configuration device, please separately purchase it from the operator.

Connection Procedure

- 1 Power OFF the equipment before all other devices are connected.
- 2 Connect the network cables: connect the RJ-45 Ethernet cable connector with the Ethernet interface of the ZXDSL 931WIIB. Connect other terminals to the Ethernet adapter of the user computers or ports of other network devices.
- 3 Connect the splitter.

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

- LINE: It is connected with the user telephone cable (RJ-11 interface).
- MODEM (or VDSL): It is connected with the Line interface of the ZXDSL 931WIIB.
- PHONE (or TEL): It is connected to the phone sets.

- The installation process is as follows: Connect the Line interface of the ZXDSL 931WIIB to the splitter MODEM interface by using the RJ-11 telephone cable. Connect the phone set lines to the splitter PHONE interface. Connect the user telephone cable port to the splitter LINE interface.

4 Connect the power

Connect one power adapter terminal to the power interface of the ZXDSL 931WIIB, and the other terminal to the socket on the wall. Then switch ON the ZXDSL 931WIIB equipment power.

Checking All Connection Cables

Check all connection cables according to the following steps:

1 Check the DSL or WAN cable connection

If the Link LED is ON normally, it indicates that the DSL/WAN line is correctly connected (Generally it takes one to two minutes to perform the VDSL2 or GE uplink connection)

2 Check the computer connection

If both the computer Link LEDs are ON and the ZXDSL 931WIIB LAN LED is green, it indicates that the computer and the ZXDSL 931WIIB equipment are correctly connected.

3 Check the telephone cable connection

If the received telephone signals are normal and free of noise, it indicates the telephone cable is correctly connected. Power ON/OFF status of the ZXDSL 931WIIB will not affect the telephone.

Appendix A FAQs

No.	Problem and Troubleshooting
1	All indicators are OFF when the ZXDSL 931WIIB equipment is powered ON.
	First make sure that you have inserted the power adapter of the ZXDSL 931WIIB into a working power socket and that the ZXDSL 931WIIB has been powered ON (the switch button is pressed down). 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.
2	Will VDSL2 affect the telephone conversation quality? Will making phone calls cause a slow online rate?
	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.
3	How to properly install telephone extensions or other devices on the VDSL2 line?

No.	Problem and Troubleshooting
	<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 ZXDSL 931WIIB 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>
	<p>First check whether the ZXDSL 931WIIB 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 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	<p>What are reasons for VDSL2 synchronization failure (also referred as link down or link establishment failure)?</p>

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 20 cm 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: ZTEDL03BDSL931WB. 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 [0.3B]
- c) The USOC jack required [RJ11C], and
- d) The FCC Registration Number US: ZTEDL03BDSL931WB

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: 614-505-6135

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			



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