

|   |  |    |  |     |  |   |  |        |  |             |  |        |  |      |  |
|---|--|----|--|-----|--|---|--|--------|--|-------------|--|--------|--|------|--|
| 1 |  | 2  |  | 3   |  | 4 |  | 5      |  | 6           |  |        |  |      |  |
|   |  |    |  |     |  |   |  | Remark |  | Description |  | Editor |  | Date |  |
|   |  |    |  |     |  |   |  |        |  |             |  |        |  |      |  |
| A |  | 正面 |  | 折线  |  |   |  |        |  |             |  |        |  | A    |  |
|   |  |    |  |     |  |   |  |        |  |             |  |        |  |      |  |
| B |  |    |  |     |  |   |  |        |  |             |  |        |  | B    |  |
|   |  |    |  |     |  |   |  |        |  |             |  |        |  |      |  |
| C |  | 反面 |  |     |  |   |  |        |  |             |  |        |  | C    |  |
|   |  |    |  |     |  |   |  |        |  |             |  |        |  |      |  |
| D |  |    |  | 效果图 |  |   |  |        |  |             |  |        |  | D    |  |
|   |  |    |  |     |  |   |  |        |  |             |  |        |  |      |  |
| 1 |  | 2  |  | 3   |  | 4 |  | 5      |  | 6           |  |        |  |      |  |

|                  |  |                                                                                                |
|------------------|--|------------------------------------------------------------------------------------------------|
| Interface/Button |  | Description                                                                                    |
| BBU(optional)    |  | Standby power supply interface, connected to a standby power supply through a dedicated cable. |
| Line             |  | PON interface.                                                                                 |

5 Product Features

Interface

- GPON interface: GPON standard, SC/APC, comply with ITU G.984.1-G.984.3 standards.
- Ethernet interface: auto-sensing RJ-45 interface in compliance with IEEE 802.3 and IEEE 802.3u.
- Phone interface: RJ-11.
- WLAN interface: complies with IEEE 802.11ac, IEEE 802.11b, IEEE 802.11g and IEEE 802.11n.
- USB interface: standard USB 2.0 interface.

Technical Features

- Broadband service access: Connected to Internet through the GPON access method.
- Ethernet service access: Provides Ethernet interfaces, connected to the Ethernet devices, such as the user PC. Provides the Internet access and IPTV services.
- Phone service access: Supports SIP, H.248 and MGCP protocol.
- WLAN: Users can connect to the ZXHN F670E through WLAN.
- Data sharing, backup, and restoration: provides the USB 2.0 interface connected to a USB storage device for file sharing, fast backup, and data restoration.
- Security: Provides multi-level authentication based on the device, user and service, and provides the data channel encryption for safety.
- QoS: Provides QoS services meeting the requirements of various services for the local devices and network.
- Network management: Provides multi-mode network management.

6 Product Specification

For the product specifications of the ZXHN F670E, refer to Table 6-1.

Table 6-1 Product Specifications

| Technical Specifications |                                                                      |
|--------------------------|----------------------------------------------------------------------|
| Dimension                | 220 mm × 160 mm × 28 mm (Height × Width × Depth, antenna undirected) |
| Certification            | CE Certification and Wi-Fi Certification                             |

|               |                                                                                                              |
|---------------|--------------------------------------------------------------------------------------------------------------|
| Power adapter | Adapter brands and models:<br>Ruite, RD1201500-C25-1Y0<br>Ruite, RD1201500-C25-1M0<br>Output: DC 12 V, 1.5 A |
|---------------|--------------------------------------------------------------------------------------------------------------|

Environment Requirements

|                       |                               |
|-----------------------|-------------------------------|
| Operation temperature | 0 °C ~ 40 °C (32 °F ~ 104 °F) |
| Operation humidity    | 5% ~ 95%(non-condensing)      |

Software Versions

|                  |         |
|------------------|---------|
| Software version | V1.0.10 |
|------------------|---------|

7 Cable Connection

Figure 7-1 shows the devices that are connected to the ZXHN F670E device.

Figure 7-1 Entire Connection

Verify that the cable connections are correct, and press the On/Off button. After the power indicator is lit and other indicators operate properly, services of the center can be used.

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:

- Reduce the number of walls and ceilings between the ZXHN F670E and other network devices.
- Each wall or ceiling reduces the wireless network scope by 1 to 30 meters. Properly place the ZXHN F670E to reduce the number of walls and ceilings.
- 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.
- 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, filling cabinet, bricks, and concrete weaken the wireless signals.
- Make sure that the ZXHN F670E 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 laptop.

8 Troubleshooting

The power indicator on the front panel is off after the power button is pressed.

The power adapter is not correctly connected to the device. Be sure to use the power adapter supplied with the device.

The LOS indicator is flashing red or solid red after the device is powered on.

- The optical fiber is not correctly connected to the ONT PON interface.
- If the indicator is solid red or keeps flashing, please contact the service provider for maintenance.

The PON indicator on the front panel is off or flashing green after the device is powered on.

- The GPON link is not established.
- The ONT is not registered.
- Please contact the service provider for help.

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.

The Phone indicator on the front panel is off after the device is powered on.

The telephone function is abnormal. Please contact the service provider for help.

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 the 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 equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

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.

Caution!

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

When this device operates in 5150-5250 MHz band, it should for indoor use only.

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ShenZhen, P.R.China  
Postcode: 518057  
Tel: +86-755-2677 1900  
URL: http://support.zte.com.cn  
E-mail: support@zte.com.cn

ZTE CORPORATION

| Indicator     | Status         | Description                                                                                  |
|---------------|----------------|----------------------------------------------------------------------------------------------|
| 5GHz          | Off            | The device is not powered on or the wireless interface is disabled.                          |
|               | Solid green    | The wireless interface is enabled.                                                           |
|               | Flashing green | Data is being transmitted.                                                                   |
| WPS           | Yellow         | Negotiation is in progress.                                                                  |
|               | Green          | Negotiation is successful.                                                                   |
|               | Red            | Session overlapping detection is being implemented or negotiation fails.                     |
| USB           | Off            | The device is not powered on or the USB interface is not connected.                          |
|               | Solid green    | The USB interface is connected and operating in host mode, but no data is being transmitted. |
|               | Flashing green | Data is being transmitted on the interface.                                                  |
| BBU(optional) | Off            | There is no standby power supply or the standby power supply fails.                          |
|               | Solid green    | The standby power supply is used and operates properly.                                      |
|               | Flashing green | The standby power supply is used but operates improperly. For example, undervoltage occurs.  |

4 Interface

Figure 4-1 shows the interfaces and buttons of the ZXHN F670E unit.

Figure 4-1 Interfaces and Buttons on the Side Panel

Table 4-1 describes the interfaces and buttons on the back panel of the ZXHN F670E unit.

Table 4-1 Interfaces and Buttons on the Back Panel

| Interface/Button | Description                                                                                                        |
|------------------|--------------------------------------------------------------------------------------------------------------------|
| On/Off           | Power switch.                                                                                                      |
| Power            | 12 V DC power connector.                                                                                           |
| USB1             | Standard USB 2.0 interface, connected to a USB storage device for file sharing, fast backup, and data restoration. |
| Phone1/Phone2    | RJ-11 telephone interface, connected to the telephone with RJ-11 telephone cable.                                  |
| LAN1 ~ LAN4      | RJ-45 Ethernet interface.                                                                                          |

Table 3-1 Indicators on the Front Panel

| Indicator     | Status         | Description                                                                                                                                                                                                                                    |
|---------------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Power         | Off            | The device is powered off.                                                                                                                                                                                                                     |
|               | Solid green    | The device is powered on.                                                                                                                                                                                                                      |
|               | Off            | The ONT registration fails or the system is not powered on.                                                                                                                                                                                    |
| PON           | Solid green    | The ONT registration is successful.                                                                                                                                                                                                            |
|               | Flashing green | The ONT is being registered.                                                                                                                                                                                                                   |
|               | Off            | The ONT received optical power is normal.                                                                                                                                                                                                      |
| LOS           | Solid red      | The optical transmitter of the PON interface is powered off.                                                                                                                                                                                   |
|               | Flashing red   | The received optical power is less than the optical receiver sensitivity, or the device is connecting a program upgrade.                                                                                                                       |
|               | Off            | The device is not powered on, there is no WAN connection with Internet properties configured, or the WAN configuration is not effective. There is a WAN connection with Internet properties configured and the WAN configuration is effective. |
| Internet      | Solid green    | The device is not powered on.                                                                                                                                                                                                                  |
|               | Flashing green | Data is being transmitted.                                                                                                                                                                                                                     |
|               | Off            | The device is not powered on or the network link is not established.                                                                                                                                                                           |
| LAN1~LAN4     | Solid green    | The network link has been established but no data is being transmitted or received.                                                                                                                                                            |
|               | Flashing green | Data is being transmitted or received.                                                                                                                                                                                                         |
|               | Off            | The device is not powered on or the voice service cannot be registered on the softswitch.                                                                                                                                                      |
| Phone1/Phone2 | Solid green    | The voice service is successfully registered on the softswitch, but there is no service traffic.                                                                                                                                               |
|               | Flashing green | There is voice service traffic.                                                                                                                                                                                                                |
|               | Off            | The device is not powered on or the wireless interface is disabled.                                                                                                                                                                            |
| 2.4GHz        | Solid green    | The wireless interface is enabled.                                                                                                                                                                                                             |
|               | Flashing green | Data is being transmitted.                                                                                                                                                                                                                     |

Table 3-1 describes the indicators on the front panel of the ZXHN F670E unit.

Table 3-1 Package Contents

| Name                       | Quantity |
|----------------------------|----------|
| ZXHN F670E unit            | One      |
| AC-DC power supply adapter | One      |
| RJ-45 Ethernet cable       | One      |
| User manual                | One      |

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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.
- 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.
- Do not directly stare at the optical interface to prevent any eye injuries.
- 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.

Note

The users should read the usage cautions above carefully and will be responsible for any incident resulting from the violation of the above cautions.

Environment Requirements

- Ensure proper ventilation to the device. Place the device away from direct sunlight and 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.

| DIM      | TOL±        |              |              |     |  |
|----------|-------------|--------------|--------------|-----|--|
| RANGE    | C1          | C2           | C3           | C4  |  |
| 0~6      | 0.1         | 0.1          | 0.15         | 0.2 |  |
| 6~30     | 0.2         | 0.3          | 0.4          | 0.5 |  |
| 30~80    | 0.25        | 0.5          | 0.9          | 1.2 |  |
| 80~180   | 0.3         | 0.8          | 1.2          | 1.5 |  |
| 180~315  | 0.5         | 1.3          | 1.8          | 3   |  |
| 315~500  | 0.7         | 1.5          | 2.5          | 4   |  |
| 500~800  | 0.9         | 1.8          | 3            | 5   |  |
| ANG.TOL± | 0°~30°/0.1° | 30°~60°/0.3° | 60°~90°/0.5° |     |  |

|                  |                                 |                          |                |
|------------------|---------------------------------|--------------------------|----------------|
| CUSTOMER:<br>ZTE |                                 | PART NO:<br>61000000xxxx |                |
| TITLE:<br>用户手册   | MODEL:<br>ZXHN F670E (V1.0)外置天线 | VER:<br>V01              | DRAW<br>DRAW   |
| UNIT'S<br>mm     | SCALE<br>N/A                    | CHECK<br>CHECK           | DATE: 17'06,07 |
| MAT'L<br>/       | SHEET<br>1/1                    | PDE<br>PDE               |                |
| FINISH<br>/      |                                 |                          |                |

NOTES(技术要求):

- 1.Dimension after folding(折叠后尺寸): 97\*139mm.
- 2.Print colour(印刷颜色): black printing(黑色印刷).
- 3.Material(材质): 70g writing paper (70g 书纸).
- 4.Coating(表面处理): 无.
- 5.Binding process(装订工艺): Paper folding(折页)——对折再包心折.
- 6.Output Ipi(输出网线): 200 Ipi.
- 7.Tolerance(公差): L(长)\*W(宽):±1mm.
- 8.Raw materials and the corresponding post processing should meet requirements defined in the Environmental Protection Technical Standards.

(原材料及后处理工艺均能满足我司《环保技术标准》要求).

效果图

| TOL± |          |             |     |              |     |                |  | CUSTOMER:             |    |               |                |
|------|----------|-------------|-----|--------------|-----|----------------|--|-----------------------|----|---------------|----------------|
| DIM  | RANGE    | C1          | C2  | C3           | C4  |                |  | ZTE                   |    |               |                |
|      | 0~6      | 0.1         | 0.1 | 0.15         | 0.2 | TITLE:<br>用户手册 |  | MODEL:                |    | PART NO:      |                |
|      | 6~30     | 0.2         | 0.3 | 0.4          | 0.5 |                |  | ZXHN F670E (V1.0)外置天线 |    | 61000000xxxxx |                |
|      | 30~80    | 0.25        | 0.5 | 0.9          | 1.2 |                |  | UNIT'S                | mm | VER:          | DATE: 17'06,07 |
|      | 80~180   | 0.3         | 0.8 | 1.2          | 1.5 |                |  | MAT'L                 | /  | SCALE         |                |
|      | 180~315  | 0.5         | 1.3 | 1.8          | 3   | FINISH         |  | SHEET                 |    | PDE           |                |
|      | 315~500  | 0.7         | 1.5 | 2.5          | 4   |                |  | 1/1                   |    |               |                |
|      | 500~800  | 0.9         | 1.8 | 3            | 5   |                |  |                       |    |               |                |
|      | ANG.TOL± | 0°~30°/0.1° |     | 30°~60°/0.3° |     | 60°~90°/0.5°   |  |                       |    |               |                |