ZTE

ZXV10 ET301
Video Conference Terminal
User Guide

Version: V3.0.3

Revision History

Revision NO.	Revision Date	Revision Reason
R1.0	2019-04-08	First edition

Serial Number: SJ-20190419091840-001

Publishing Date: 2019-04-08 (R1.0)

Contents

About This Manual

Purpose

The ZXV10 ET301 is a new-generation video conference terminal. This terminal is Android-based, light-weighted, and all-in-one. It is applicable to small-sized and medium-sized video conferences.

This manual describes the configuration operations, conference operations, system diagnosis, and maintenance of the ZXV10 ET301.

Intended Audience

This manual is intended for:

- Software debugging engineers
- Data configuration engineers
- Maintenance engineers

What Is in This Manual

This manual contains the following chapters.

Chapter 1, Safety Precautions	Describes the precautions during transportation, storage, installation, and use of the ZXV10 ET301terminal.
Chapter 2, Product Overview	Describes the features, structure, typical network modes, application scenarios, and technical specifications.
Chapter 3, Installation and Preparation	Describes the installation, connection, and preparations of the ZXV10 ET301.
Chapter 4, System Configurations	Describes how to configure a network, cloud services, common parameters of conference capability, and audio configuration.
Chapter 5, Conference Operations	Describes how to operate a camera, make a conference call, and perform common conference operations.
Chapter 6, System Diagnosis and Maintenance	Describes how to perform common system diagnosis and software maintenance operations.

Related Documentation

The following documentation is related to this manual.

Manual	Introduction
ZXV10 ET301 Quick Start Guide	Describes how to quickly connect to ZXV10 ET301 terminal or other peripherals, and common conference operations.

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Manual	Introduction
ZXV10 ET301 Product Description	Describes ZXV10 ET301 positioning, features, structure, function, network deployment, and technical specifications.

Conventions

This manual uses the following conventions.

ⓘ	Notice: indicates equipment or environment safety information. Failure to comply can result in equipment damage, data loss, equipment performance degradation, environmental contamination, or other unpredictable results.
📚	Note: provides additional information about a topic.

Chapter 1
Safety Precautions

Basic Requirements

● Do not disassemble the ZXV10 ET301 or open its shell by yourself. Contact your service provider in a timely manner if the device is faulty.

● Any modification of the structure, safety design, or performance design of the device without prior authorization is prohibited.

● Comply with related laws and regulations and respect the legal rights of others during the use of this device.

Transportation Security

● Keep the device dry, and avoid intense collision during its storage, transportation, and use.

● The outer packaging of the device must be retained during transportation to avoid scratches and damage on the surface of the device.

● When the device is temporarily stored, pad it with cushioning materials such as cartons at the bottom to avoid direct friction, bumps, and collision with the ground and surrounding objects.

● To move the device on site, you should prepare foam plastic and cardboard protection materials in advance to protect the force application points and contact points of the device through soft isolation.

● Use extreme care when hoisting the device to avoid damage to the surface of the device caused by collision between the device and other objects.

Requirements for Device Installation

● Place the device in a ventilated environment that is not exposed to bright light.

● Keep the device far away from any electrical appliance with a strong magnetic or electric field, for example, a microwave oven and a refrigerator.

● Keep the device away from heat sources, vapor, high-temperature and humid places, and sun light.

● Do not place the device in a violently vibrating environment.

● Do not place the device near inflammable objects, for example, foam.

● Horizontally place this device on a platform out of children's reach. Do not put any heavy object on the device.

● Ensure that there is no high-power device within a 5-meter radius of the device. The device cannot share a power supply line with any high-power device. Do not connect the device and any high-power device to the same AC power strip.

- Ensure that there is no facility that impacts the heat dissipation of the device within a 1-meter radius. Keep the heat dissipation holes of the device clean to prevent the device from being overheated.
- Do not hot swap HDMI cables.

Requirements for Device Maintenance

- Do not plug or remove input or output connectors frequently.
- After the device is powered off, wait for at least 15 seconds before powering it on.
- Keep the device clean.
- Before cleaning the product, power it off, and remove the power cable. Use a soft and dry cloth to clean the device case.
- Power off the device and remove the power cable if the device will not be used.

Battery Security

- Use batteries of the proper model and install them in accordance with the correct polarities.
- If a battery cannot be installed properly, do no forcibly press it, avoiding battery leakage or explosion.
- If a battery leaks, smokes, or releases a smell, replace it immediately.
- Do not use old and new batteries together. Replace all the batteries if any battery needs to be replaced.
- If battery liquid drops on your skin or clothes, wash it with plenty of clean water immediately, and go to hospital.
- If battery liquid splashes onto your eye, do not rub the eye, but wash it with plenty of clean water immediately, and go to hospital.
- Remove the batteries if the device will not be used for a long period.
- Dispose of exhausted batteries in accordance with the instructions.

Environmental Protection

Do not put scrapped devices into garbage cans. Abide by local regulations on how to dispose of packaging materials, exhausted batteries, and scrapped devices, and support recycling activities.

Class-A Product Statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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:

- This device may not cause harmful interference.
- 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.

Router Instructions

The precautions that should be taken when routers are used in a videoconferencing system are as follows:

- Use enterprise-level switches and routers.
- Do not use a hub.
- The routers must support the QoS protocol and algorithm. If not, upgrade the software.
- Set QoS parameters on the routers. Set QoS parameters for video services and common services on the routers, so that video data packets are not discarded upon network congestion.
- Use as few router hops as possible. Video devices should be connected to the main switch if possible. Reduce the number of the router hops to avoid too much network transmission, which may affect video transmission.
- Use different VLANs to separate the videoconferencing service from other services.
- When the network is blocked, use the buffer queue technology as the first prevention method. Large caches are preferred. Allocate an independent cache for each port.

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Chapter 2
Product Overview

Table of Contents

2.1 Product Positioning and Characteristics

2.1.1 Product Positioning

The ZXV10 ET301 is a new-generation lightweight videoconferencing terminal developed by ZTE. It uses an integrated structure, and is easy to deploy and operate.

Based on the international standard SIP and H.323 protocols, the ZXV10 ET301 has a full set of professional audio and video service components, supports 1080p ultra HD video, has good network adaptability and security, and is applicable to various types of small and medium-sized video conferences.

2.1.2 Product Characteristics

Ultra HD Videoconferencing at Low Bandwidth

- Provides 720p and 1080p HD video images at 256 kbps and 512 kbps bandwidth respectively, offering more lifelike, clearer, and more fluent video images at the same bandwidth.
- Supports a maximum 4 Mbps conference rate, providing ultra-high efficiency video effects.
- Displays images in natural colors and clear layers, eliminates the mosaic effect, and prevents images from flashing.
- Supports enhanced encoding in critical areas, presenting clear images.

Various Characteristic Intelligent Functions that Are Easy to Use and Meet Many Requirements

● Dual-stream sharing mode

Complies with the SIP-based BFCP and H.323-based ITU-T H.239 international dual-stream protocols, thus supporting communication with mainstream SIP and H.323 video terminals in the industry.

After a content source device with an HDMI interface is connected to the terminal through a cable, conference participants in all the conference rooms of the conference can watch the content.

● Access of multiple types of microphones

Supports input from built-in, digital, and linear microphones, meeting various personalized requirements and use scenarios.

Highly Integrated Design that Immensely Simplifies Installation and Deployment

● The interfaces are extremely simple and efficient.
● The host and the camera are integrated. There is a built-in omnidirectional microphone.
● The product supports multiple installation modes, which are applicable to various room structures.

The product can be placed on a horizontal table, or be mounted on a wall, over a TV set, or on the ceiling of a room by using the matching bracket.

User-Friendly GUI and Remote Control Design

● Simple configuration

When the terminal is used for is restored to the factory default settings, a configuration wizard is provided automatically to help the user configure basic parameters quickly.

● Delicate design of the remote control

Integrated with the keys that are used most frequently, the remote control looks small and exquisite, and is easy to use.

● Clear GUIs and easy operations

Beautiful remote control operation GUIs, on which, a user can make a call by pressing only one key.

● Real-time display of terminal information

A GUI displays the IP address of the local conference room, network status, and conference status in real time.

Good Network Adaptability and Security, and a Stable and Reliable System

- Supports audio and video packet loss compensation, Quality of Service (QoS), Forward Error Correction (FEC), automatic IP rate adjustment, and Network Address Translation (NAT)/Firewall traversal technologies, ensuring good network adaptability.
- Supports a number of security mechanisms such as terminal registration, password authentication, and Advanced Encryption Standard (AES) media encryption.

High Interoperability and Compatibility that Protect User Investment

- Interoperability

  Based on the SIP and H.323 protocols, this product has good interoperability with mainstream SIP terminals and H.323 terminals and servers in the industry.

- Multiple compatibility mechanisms

  This product supports intelligent access of terminals that use different audio and video protocols and different bandwidths, and selects the best conference effect.
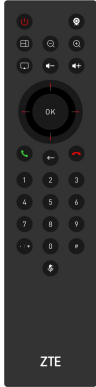
2.2 Product Structure

2.2.1 Basic Components of the System

For the basic components of the system and descriptions of their functions, refer to Table 2-1.

Table 2-1 Basic Components of the System

Compo-nent	Diagram	Function Description
Terminal host		The ZXV10 ET301 terminal host is the core device of the system. It encodes local images and audio, and sends them to the transmission network. At the same time, it decodes received remote images and audio, and outputs them to the video and audio devices connected to the local terminal.
TV set		A TV set is the basic video display and audio output device. Note: A display or projector can also be used as the display device.

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Compo-nent	Diagram	Function Description
Microphone		A microphone is the basic audio input device. Note: The left figure shows the ZXV10 A100 digital microphone, which is not a fixed configuration, and can be replaced with another type of microphone as needed.
Infrared remote control		The infrared remote control is the main operation and control device of the ZXV10 ET301. To remotely control a video conference by using the remote control, align the remote control with the infrared light-receiving surface of the terminal. Note: The left figure shows the remote control of the standard configuration. Other remote controls provided with ZTE videoconferencing terminals can also be used.

2.2.2 Terminal Overview

Front Panel of the Terminal

Figure 2-1 shows the front panel of the ZXV10 ET301 terminal host.

Figure 2-1 Front Panel Description

Built-in microphone

Built-in microphone

Infrared signal reception area:
responds to key signals from an
infrared remote control

Power switch/Terminal status indicator:
- If the indicator is steady on in blue,
  the terminal is operating.
- If the indicator is off, the terminal is
  powered off.

Rear Panel of the Terminal

Figure 2-2 shows the interfaces on the rear panel of the ZXV10 ET301.

Figure 2-2 Interfaces on the Rear Panel of the Terminal

Note:

The following describes the interface icons on the rear panel:

- The [icon] icon indicates an output interface.
- The [icon] icon indicates an input interface.

Table 2-2 Descriptions of Interfaces on the Rear Panel of the Terminal

No.	Interface	Description
1	Power interface	Connected to a 12 V DC power to supply power to the terminal.
2	D-MIC interface	Provides access for the A100 digital microphone.
3	LAN interface	Connected to an IP network. Either a WiFi network or an IP network should be selected.
4	TRS interface	3.5 mm audio input and output interface, which provides access for a linear microphone or audio matrix.
5	HDMI OUT interface 1	HD video and audio output interface, which is typically connected to the first display device (such as an HD TV set).
6	HDMI OUT interface 2	HD video and audio output interface, which is typically connected to the second display device (such as a projector).
7	HDMI IN interface	HD video and audio input interface, which is connected to an auxiliary video source device such as a computer.
8	USB 3.0 interface	USB interface. An upgrade software package stored in a USB storage device can be used to upgrade the terminal software.

2.3 Functions

Conference Call

- Answers a call to join a conference.
- Calls a SIP video terminal to initiate a point-to-point video conference: A user can enter the SIP number or IP address of the peer party, or use a call record to initiate a conference.
- Calls an H.323 video terminal to initiate a point-to-point video conference: A user can enter the H.323 terminal number (E.164) or IP address of the peer party, or use a call record to initiate a conference.
- Calls a videoconferencing server to join in a multi-point conference: A user can enter a conference number to join a multi-point conference.

Content Sharing

- Remote content sharing (dual streams)

    → The ZXV10 ET301 supports the following international dual-stream protocols: SIP-based BFCP and H.323-based ITU-T H.239.

    → Shared content can come from a PC or other video source devices.

- Local content sharing (screen projection)

    Shared content can come from a PC or other video source devices.

GUI

- Various video layouts: local full screen, remote full screen, full screen for auxiliary video, Picture-In-Picture (PIP), and Picture by Picture (PBP).
- Simple Network Time Protocol (SNTP) time synchronization configuration.

Compatibility

- Supports intercommunication with mainstream H.323 and SIP hardware video terminals.
- Supports intercommunication with the ZTE SIP software terminal, VT100.

2.4 Network Deployment

Typical Network Architecture

Figure 2-3 shows a network including the ZXV10 ET301 IP terminals and MCU conference servers, where these terminals join an IP conference held by the MCUs.

Figure 2-3 Typical Network Architecture
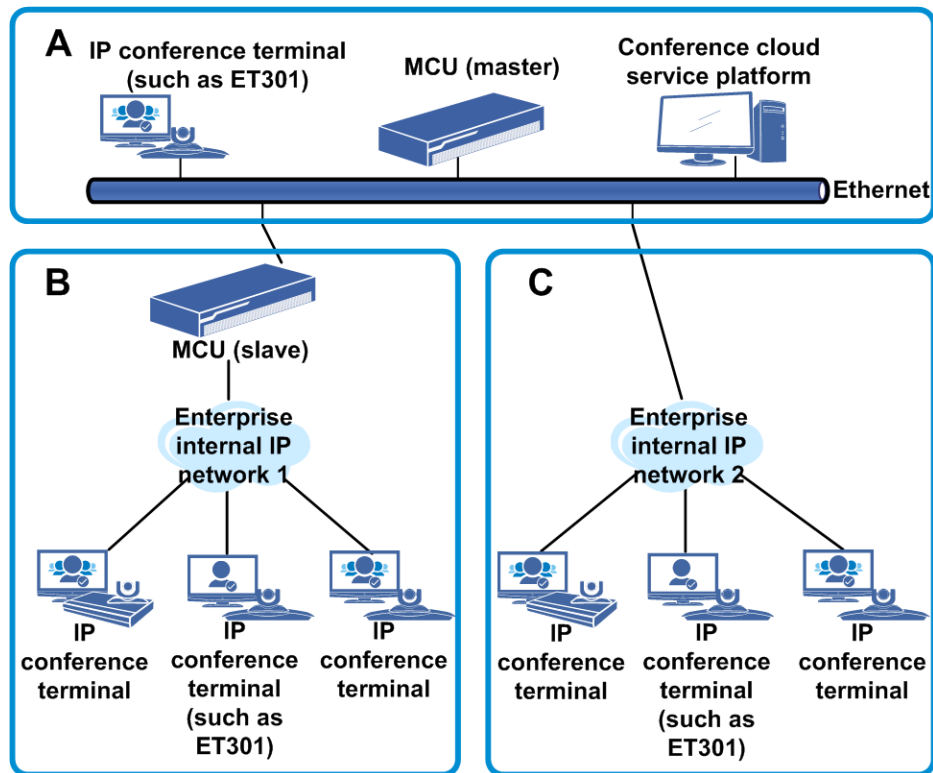
Network architecture description:

● In zone A, the ZXV10 ET301 terminal is connected to the MCU in the public network. This scenario is applicable to a conference between different companies or organizations in the public network.

● In zone B, the MCU is configured with two different network segments. This scenario is applicable to a conference between internal departments of a company in the same private network or between different companies or organizations in the public and private networks .

● In zone C, the ZXV10 ET301 terminals and the MCU are connected in the same private network. This scenario is applicable to a conference between internal departments in the same company in the same private network.

● If the MCUs in zones A, B and C are cascaded, this scenario is applicable to a conference between multiple organizations in different private networks and the public network.

Hybrid Network with Soft Terminals

Based on the SIP and H.323 protocols, the ZXV10 ET301 can be connected to the conference cloud service platform and the FTS2000 to intercommunicate with mainstream SIP video terminals, H.323 terminals, and VT100 software terminals. Figure 2-4 shows a typical network.

Figure 2-4 Hybrid Network with Soft Terminals
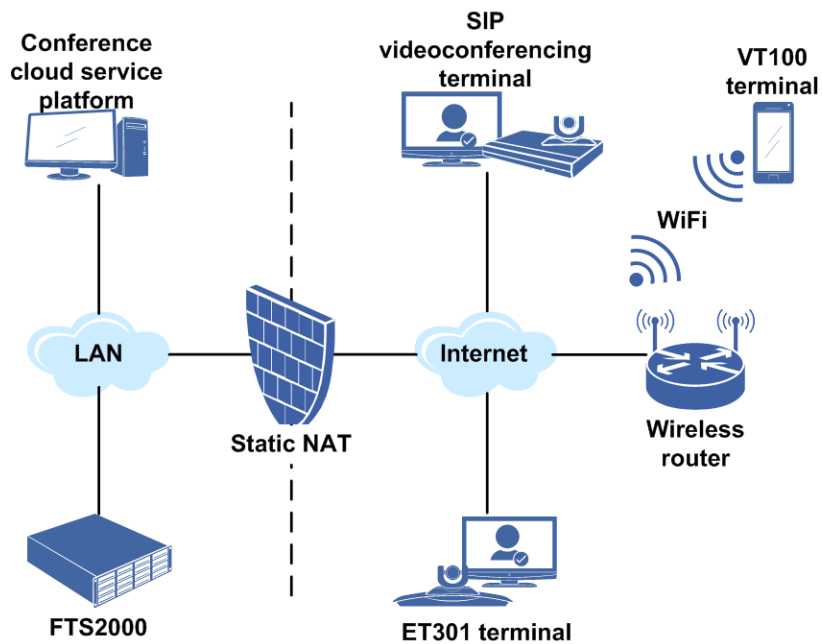
Network architecture description:

The ZXV10 FTS2000 is a firewall traversal software server developed by ZTE. It can provide multi-boundary firewall and NAT services for H.323 and SIP networks.

Network of Convergence with the ZTE IMS

The IMS provides mobile and fixed multimedia services by using a SIP-based VoIP application. The ZTE IMS solution is integrated with MCUs, so it can provide HD videoconferencing functions. Based on SIP, the ZXV10 ET301 terminal can be seamlessly converged with the IMS. Figure 2-5 shows a typical network.

Figure 2-5 Network of Convergence with the ZTE IMS
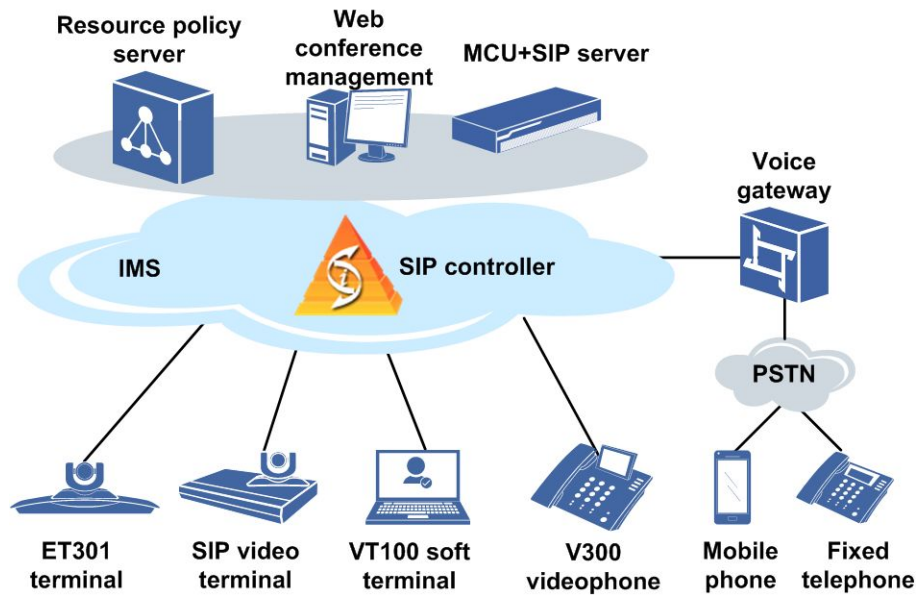
Network architecture description:

● The ZXV10 ET301 terminal accesses an IMS network through SIP registration, and can join or hold an HD video conference on the IMS network.

● After joining the IMS—converged conference, the ZXV10 ET301 can exchange video and audio signals with multiple types of clients, for example, SIP hard terminals, soft terminals, and video phones, facilitating user communication.

2.5 Interfaces and Protocols

For a description of the interfaces and protocols of the ZXV10 ET301, refer to Table 2-3.

Table 2-3 Interfaces and Protocols

Interface Type	Description and Quantity	Compliant Standard and Protocol
Video input interfaces	1×HDMI IN, high-definition video input	HDMI 1.4
	1×built-in camera	-
Video output interfaces	2×HDMI OUT, high-definition video output	HDMI 1.4
Audio input interfaces	1×D-MIC, providing access for the A100 digital microphone	RJ-45
	1×TRS, 3.5 mm linear video input interface	-
	2×built-in microphones, one on the left side and the other on the right side of the front panel	-

Interface Type	Description and Quantity	Compliant Standard and Protocol
Audio output interfaces	2×HDMI OUT (both video output and audio output are supported), for audio output	HDMI 1.4
	1×TRS (both audio input and output are supported), 3.5 mm linear audio output interface	-
Network interfaces	1×LAN, IP 10/100 Base-T	RJ-45
USB interface	1×USB	USB 3.0
Infrared remote control interface	Receives infrared signals from the remote control.	NEC coding standard
Power interface	1	12 V RTN

2.6 Technical Specifications

Physical Specifications

For the physical specifications of the ZXV10 ET301, refer to Table 2-4.

Table 2-4 Physical Specifications of the Terminal

Physical Parameter	Specification
Dimensions	298.01 mm × 133 mm × 178.52 mm (length × width × height)
Weight	1.38 kg

Performance and Capacity

For a description of the performance and capacity specifications of the ZXV10 ET301, refer to Table 2-5.

Table 2-5 Performance and Capacity Specifications

Item	Value
Call bandwidth	IP: 64 kbps–4 Mbps
Moving image resolution	● HD 1080p（1920×1080），15/30fps ● 720p（1280×720），15/30fps ● 576p（1024×576），15/30fps ● 448p（768x448），15/30fps ● 288p（512x288），15/30fps ● 192p（352x192），15/30fps

Item	Value
Data content resolution	• HD 1080p（1920×1080），30fps • 720p（1280×720），30fps • XGA（1024×768），30fps • SXGA（1280×1024），30fps • SXGA（1280×768），30fps • WXGA（1360x768），30fps • WXGA（1280x800），30fps • WXGA+（1440x900），30fps

Built-in Camera

For a description of the built-in camera of the ZXV10 ET301, refer to Table 2-6.

Table 2-6 Built-in Camera of the Terminal

Item	Value
Image Sensor	1/3 inch HD CMOS, 2.3 million effective pixels, 2.6 megapixels in total
Resolution	1080p@30/25 fps, 720p@60/50/30/25 fps Defualt configuration: 1080p@30 fps resolution
Lens	Fixed-focus len, f=2.74 mm, F2.07 Automatic focus
Angle of View	H: 83° V: 65.5°
White Balance	Automatic
Rotation Angle	• Horizontal: -90°-90° • Pitch angle: -25°-25°
Minimum illumination	2 lux
Signal-Noise Ratio	≥55 dB

2.7 Environmental Requirements

Requirements for the Power Supply

The rated operating voltage and operating current of the ZXV10 ET301 terminal are described below:

• Input: 100 V AC–200 V AC, 50–60 Hz
• Output: 12 V DC

The overall power consumption of the ZXV10 ET301 terminal is 12 W.

Operating Environment

In operating status, the ZXV10 ET301 terminal has the following requirements for the environment:

- Temperature: 0°C to 40°C
- Relative humidity: 10% to 90%
- Ambient noise: less than 46 dB A SPL

Transportation and Storage Environment

In non-operating status, the ZXV10 ET301 terminal has the following requirements for the environment:

- Temperature: –40°C to +70°C
- Relative humidity: 10% to 90%

2.8 Compliant Standards

For the standards that the ZXV10 ET301 complies with, refer to Table 2-7.

Table 2-7 Compliant Standards

Item	Specifications
Multimedia framework protocols	IETF SIP and ITU-T H.323
Video encoding and decoding protocols	H.264HP, and H.264
Audio encoding and decoding protocols	G.711 A-Law, G.711 µ-Law, G.722, G.722.1 [Polycom], G.722.1C [Polycom], ZTE_BA_STEREO, AAC-LD_STEREO, and SILK
Dual-stream standards	IEFT BFCP and ITU-T H.239
Network transport protocols	TCP/IP, DHCP, Telnet, HTTP, and TR069
IP protocols	IPv4 and IPv6
WiFi standards	IEEE 802.11b/g/n 2.4G
Media encryption algorithm	AES
Execution standards	GB4943.1-2011, GB9254-2008, and YD/T993-1998

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Chapter 3
Installation and Preparation

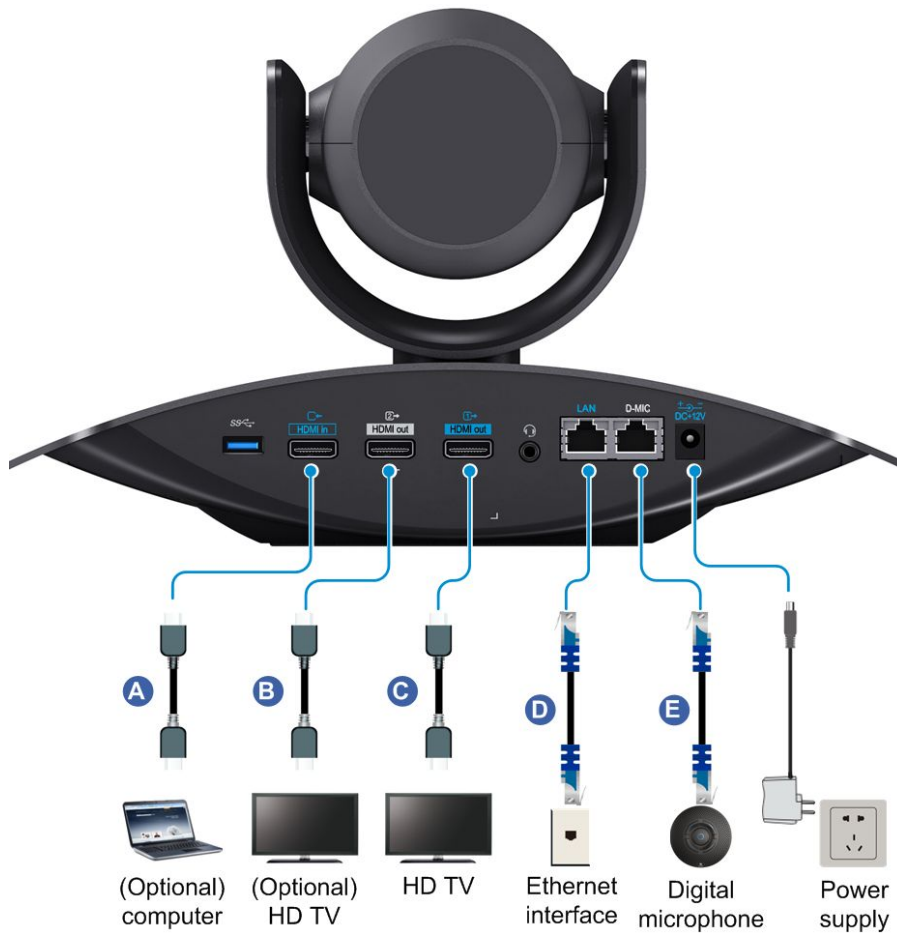**Table of Contents**

3.1 Device Connection

Figure 3-1 shows the common devices that can be connected to the ZXV10 ET301 terminal.

🛈 **Notice!**

Do not hot swap an HDMI cable. Otherwise, the device may be damaged.

Figure 3-1 Device Connection

For a description of the devices that can be connected to the ZXV10 ET301 terminal, refer to Table 3-1.

Table 3-1 Devices that Can Be Connected to the ZXV10 ET301

Connection Type	Connection Description
Display device connection	• The recommended connection is as shown at **C**. Connect the **HDMI OUT 1** interface of the terminal to an HD TV set, which is to be used as the main display device. • The connection as shown at **B** can also be used. Connect the **HDMI OUT 2** interface of the terminal to an HD TV set, which is to be used as the auxiliary display device.
Audio output connection	• The **HDMI OUT** interface of the ZXV10 ET301 terminal can output video and audio signals simultaneously, as shown at **C**. Connect the **HDMI OUT** interface of the terminal to an HD TV set to make the TV set play audio. • A user can also connect the 3.5 mm **TRS** interface of the terminal to a power amplifier to play amplified audio.

3-2

Connection Type	Connection Description
Video input source connection	The terminal supports simultaneous input of two channels of main video and auxiliary video. • For the main video input, the built-in camera of the ZXV10 ET301 terminal is recommended. • For the auxiliary video input, the connection is as shown at **C**. Connect the **HDMI IN** interface of the terminal to a video source device such as a PC.
Microphone connection	Select any of the following microphones: • Built-in microphone: No connection is required. The ZXV10 ET301 terminal has two built-in microphones, which are distributed on the left and right sides of the front panel. • A100 digital microphone: The connection is as shown at **E**. • Linear microphone: Connect the 3.5 mm **TRS** interface to the linear microphone.
Network connection	Access either of the following networks: • Wired IP network: Connect the **LAN** interface of the terminal to the Ethernet. • WiFi network: Enable WiFi on the network setting page of the terminal.

3.2 Terminal Control Modes

The ZXV10 ET301 terminal supports two control modes: remote control mode and Web mode. For the typical application scenarios of each mode, refer to Table 3-2.

Table 3-2 Control Modes in Typical Application Scenarios

Operation	Remote Control Mode	Web Mode
Configuration and modification	o	o
Holding a conference	o	o
Multi-point conference control	o	-
Sending subtitles	-	o
Software maintenance	o	o
System diagnosis	o	o

• Remote control mode: A user uses the terminal remote control to control the terminal.

Note:

If the remote control is insensitive, check its battery level.

3-3

- Web mode: A user logs in to the Web page for the terminal through a browser to control the terminal. The address is "`http://IP address of the terminal`".

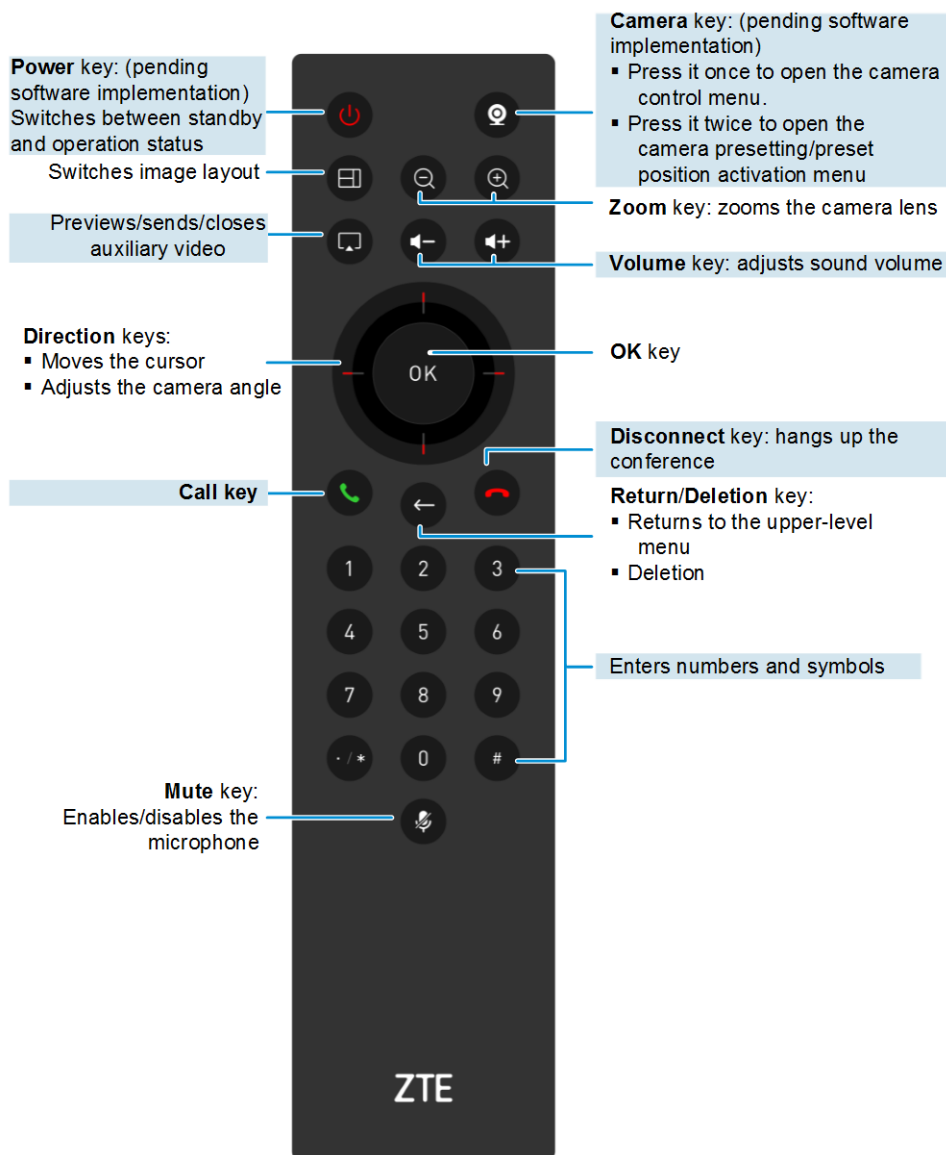# 3.3 Remote Control Operation Overview

3.3.1 Remote Control Overview

You can use an infrared remote control to operate the ZXV10 ET301.

You can use the remote control to perform the following operations:
- Configuring a terminal
- Holding a conference
- Controlling a conference
- System diagnosis
- Software maintenance

Figure 3-2 shows the buttons and functions of a remote control.

Figure 3-2 Buttons and Functions of a Remote Control

Power key: (pending software implementation) Switches between standby and operation status

Switches image layout

Previews/sends/closes auxiliary video

Direction keys:
- Moves the cursor
- Adjusts the camera angle

Call key

Mute key: Enables/disables the microphone

Camera key: (pending software implementation)
- Press it once to open the camera control menu.
- Press it twice to open the camera presetting/preset position activation menu

Zoom key: zooms the camera lens

Volume key: adjusts sound volume

OK key

Disconnect key: hangs up the conference

Return/Deletion key:
- Returns to the upper-level menu
- Deletion

Enters numbers and symbols

Note:

- The above image is used for illustration purposes only. The actual remote control is subject to your shipment.
- The remote control is powered by two AAA (#7) batteries. Verify that the batteries are properly installed, and ensure that the batteries of the remote control have sufficient electric power before using.
- It is recommended that you operate the remote control within six meters (not exceeding eight meters) by pointing it to the infrared signal reception area on the front panel of a terminal when operating the remote control.
- In the current version, the local camera of the ZXV10 ET301 is adjusted by hand.

3.3.2 Remote Control Home Page Overview

Power on the terminal. The system automatically displays the home page, see Figure 3-3.

Figure 3-3 Home Page

1. Local terminal name/IP	4. Screen sharing	6. Calling
2. Status bar	5. Conference schedule and joining	
3. System setup		

Note:

To display the home page, press the **Back** key.

- On the home page, press the arrow and **OK** keys. You can open the system configuration, conference schedule, screen sharing, and calling windows.
- Table 3-3 describes the icons of the status bar.

Table 3-3 Icon Descriptions

Icon	Description
GK✓	GK registration succeeds, and the H.323 conference cloud service can be used normally.
GK✗	GK registration fails, and the H.323 conference cloud service cannot be used normally.
SIP✓	SIP registration succeeds, and the SIP conference cloud service can be used normally.

Icon	Description
	SIP registration fails, and the SIP conference cloud service cannot be used normally.
	The network is properly connected.
	The network is improperly connected.

3.4 Web Page Operations

After the network connection of the terminal is normal, the user can log in to the Web page of the terminal. The IP address of the terminal is the address for accessing the Web page. For example, if the IP address of the terminal is `10.10.10.1`, the address of the Web page of the terminal is `http://10.10.10.1`.

The browsers supported by the ZXV10 ET301 terminal include IE, Firefox, Chrome, and Safari.

Prerequisite

- The network connection of the terminal is normal.
- The IP address of the ZXV10 ET301 terminal is already known.
- The username and password for logging in to the Web page of the ZXV10 ET301 terminal are already known.

Steps

1. Enter the Web page address (for example, `http://10.10.10.1`) of the ZXV10 ET301 terminal in the address bar of a browser to open the system login page.
2. Select the language for display on the system login page.
3. Select the username from the **Username** list. Enter the password in the **Password** text box.

   There are two options for the username: **admin** and **user**. The initial password for both the usernames is **zxv10@UCC**. Where,

   - The **admin** option is the administrator, who can modify and save terminal configurations after login.
   - The **user** option is a common user, who cannot modify the system configurations of the terminal after login.

Note:

To ensure system security, the user should modify the password after first login.

4. Click the **Login** button to open the Web page of the ZXV10 ET301 terminal, see Figure 3-4.

Figure 3-4 Web Page
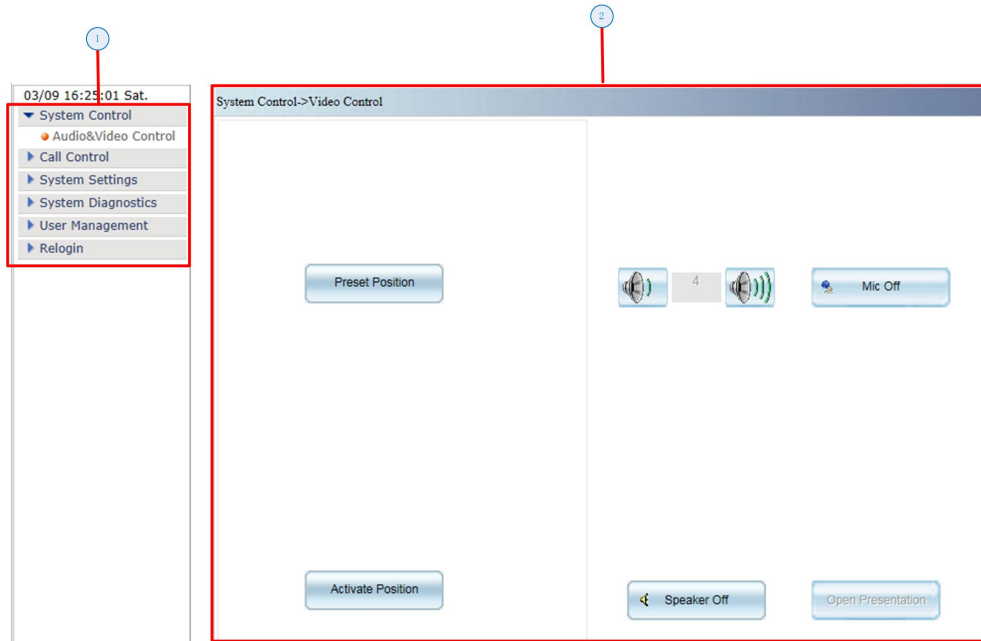
1. Menu area   2. Operation display area

Chapter 4
System Configurations

Table of Contents

4.1 Initial Settings

4.1.1 Configuration Wizard

When the ZXV10 ET301 is first powered on or restored to the factory settings, the configuration wizard guides a user through the configuration of the ZXV10 ET301 (for example, network connection, conference server, and terminal name).

The parameters take effect immediately when the configuration is completed. The system automatically saves these configurations, which remain valid every time when the system is started. This facilitates subsequent operations.

Prerequisite

The terminal is not engaged in a conference.

Steps

1. Configure the network connection parameters through the configuration wizard, as shown in Figure 4-1. For details about the configuration, refer to 4.1.2 Configuring a Network Connection.

Figure 4-1 Configuration Wizard — Network Configuration

![Note icon] **Note:**
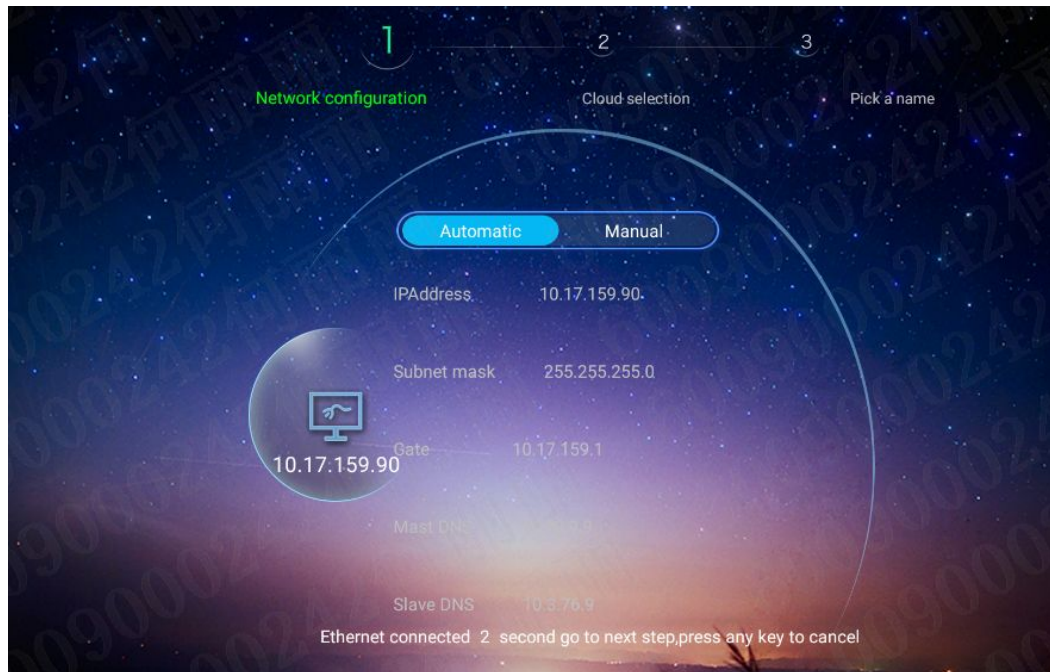
- If necessary, you can skip a step temporarily.
- The default setting is DHCP (wired). When the IP address is obtained and no operation is performed in five seconds, the system automatically saves the setting and proceeds to the next step, press any key to cancel.

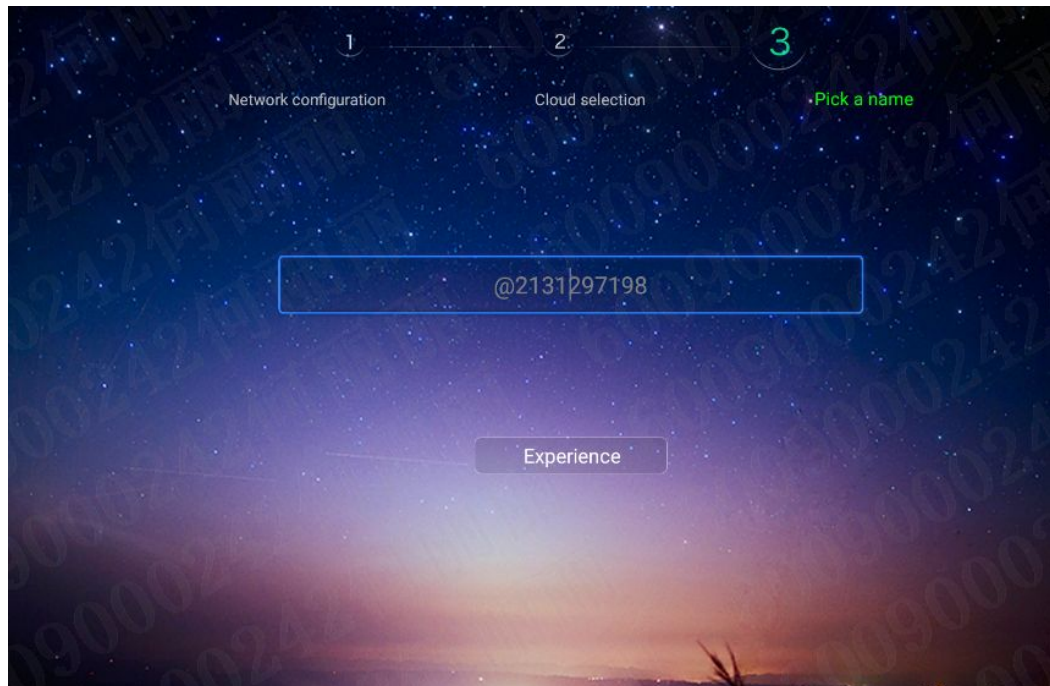- To configure the network connection, select ⚙ **> Network > Ethernet**. For details, refer to 4.1.2 Configuring a Network Connection.

2. Click **Next**, press **OK** key, switch to the **Cloud selection** tab, as shown in Figure 4-2, Configure the cloud service parameters. For details about the parameters, refer to 4.1.3 Configuring the SIP Conference Cloud Service4.1.4 Configuring the H.323 Conference Cloud Service.

Figure 4-2 Configuration Wizard — Cloud Service
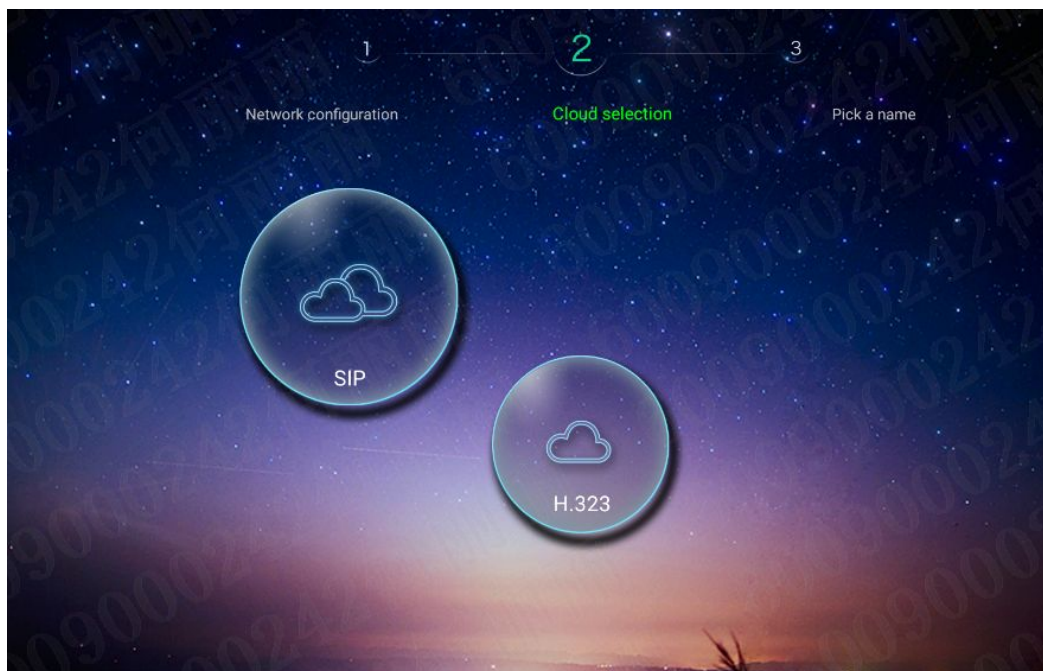
Note:

- If necessary, you can skip a step temporarily.

- To configure the cloud service, select ⚙ **> Cloud Service**. For details, refer to 4.1.3 Configuring the SIP Conference Cloud Service and 4.1.4 Configuring the H.323 Conference Cloud Service.

3. Click **Next**, press **OK** key, switch to the **Pick a name** tab, as shown in Figure 4-3, Configure a name for the terminal. For details about the configuration, refer to 4.1.5 Configuring General Parameters.

Figure 4-3 Configuration Wizard — Pick a name

![Note icon] **Note:**

- If necessary, you can skip a step temporarily.

- To configure the terminal name, select ![gear icon] **> General > Terminal Name**. For details, refer to 4.1.5 Configuring General Parameters.

4.1.2 Configuring a Network Connection

This procedure describes how to configure a network environment and obtain a network address, in order to enable the terminal to communicate with other devices.

Prerequisite

The terminal is not engaged in a conference.

Steps

1. Press the **Back** key on the remote control to display the home page.

2. From the home page, select ![gear icon] **> Network > Ethernet**, the **Ethernet** Configuration window is displayed, see Figure 4-4.

Figure 4-4 Ethernet Configuration Window
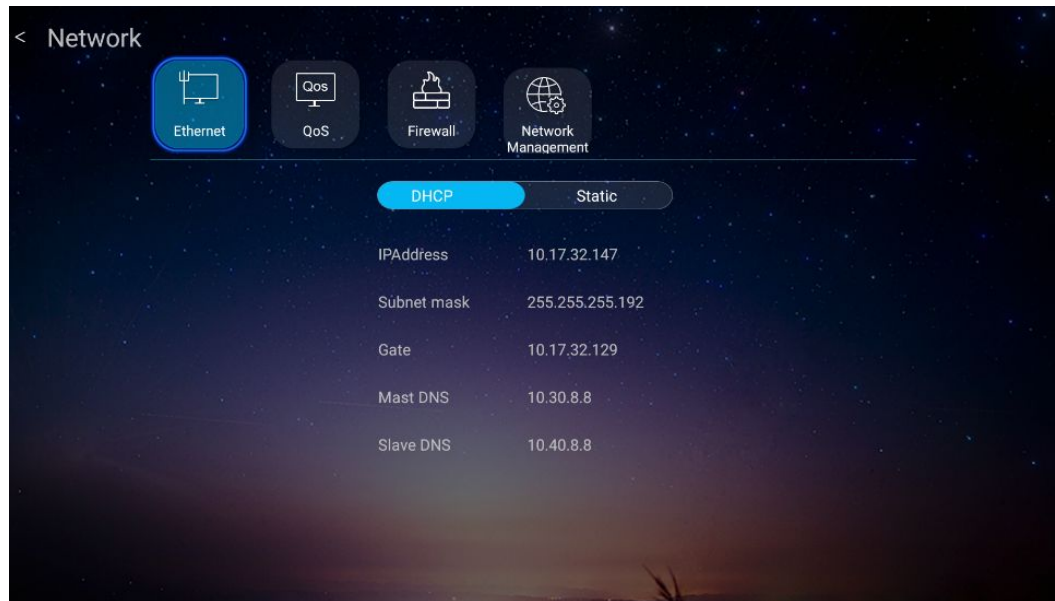
3. Configure ethernet connection parameters. For a description of the parameters, refer to Table 4-1.

Table 4-1 Ethernet Parameter Descriptions

Parameter	Description
Obtaining an address	• **Manual**: Network information (for example, IP address of a terminal) is allocated by the administrator. Therefore, you need to manually configure it. • **Automatic**: Network information (for example, IP address of a terminal) is automatically allocated by a Dynamic Host Configure Protocol (**DHCP**) server. Therefore, you do not need to configure it.
IP Address	The IP address of a terminal (for example, **10.10.10.1**). The default value is **128.128.128.128**.
Subnet mask	Divides an IP address into two parts: network address and host address (for example, **255.255.255.0**).
Gate	The IP address of the gateway corresponding to the terminal.
Mast DNS/ Slave DNS	The address of a Domain Name Server (DNS). If no DNS is enabled, you do not need to configure it. It can be provided by the administrator. If a DNS is enabled, the domain names of SNTP and SIP servers can be parsed. Consequently, a relative stable domain name can be used as an IP address.

4. Press the **Back** key on the remote control to save your configuration.

Result

After the network is successfully connected, the home page displays the following information:

- On the home page, the ⊡ icon is displayed at the upper right corner. This indicates that the current network is successfully connected.
- On the home page, the following terminal configuration information is displayed at the upper left corner:

    → IP address (for example, 10.10.10.1): The terminal is properly connected to a network. However, the terminal name is not configured.

    → Terminal name/IP address (for example, industry park 16–01/10.10.10.1): The terminal is properly connected to a network. The terminal name is configured.

4.1.3 Configuring the SIP Conference Cloud Service

This procedure describes how to use the SIP conference cloud service of the ZXV10 ET301 to hold a conference between two parties or among multiple parties.

Prerequisite

- The terminal is not engaged in a conference.
- The network is properly connected.

Context

You can use the SIP cloud service configuration function to register a user name on the SIP server. After registration, you can use the user name to initiate SIP calls.
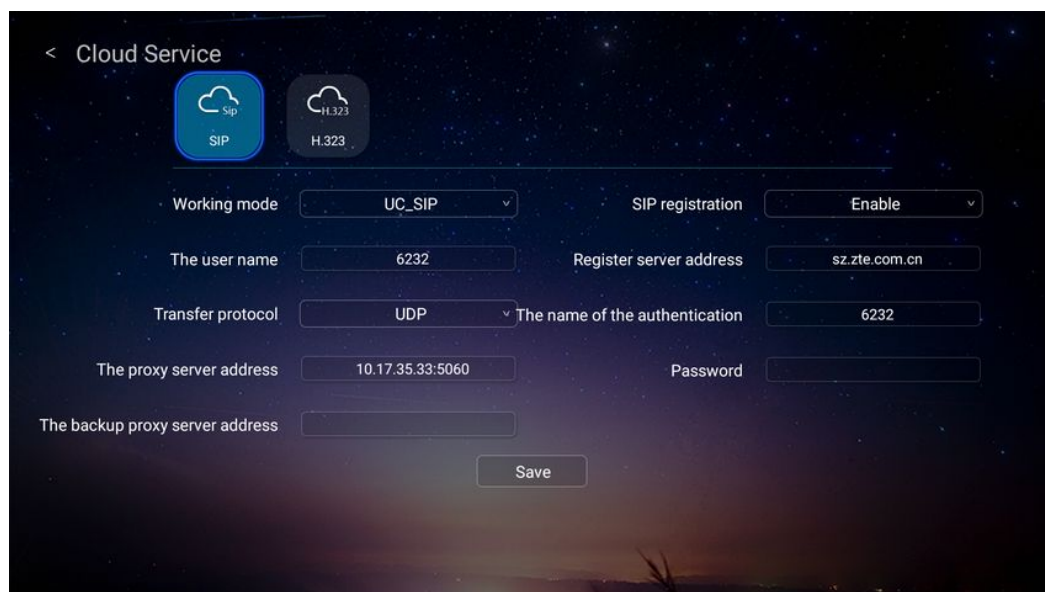
Steps

1. Press the **Back** key on the remote control to display the home page.

2. From the home page, select 🔅 **> Cloud Service**. The **SIP** cloud service configuration window is displayed, see Figure 4-5.

Figure 4-5 SIP Cloud Service Configuration Window

3. Configure the SIP cloud service parameters according to the actual network situation. For a description of the parameters, refer to Table 4-2.

Table 4-2 SIP Cloud Service Parameter Descriptions

Parameter	Description
Working mode	Options: **UC_SIP**, **IMS_SIP**, **TELECOM_SIP,** and **MICROSOFT_LYNC**. ● **UC_SIP** is the default mode. ● If the IMS network is used, select **IMS_SIP**. ● If the TELECOM IMS network is used, select **TELECOM_SIP**. ● To communicate with a Microsoft LYNC client, select **MICROSOFT_LYNC**.
SIP registration	Whether to enable SIP registration. If you want to use SIP user name for calling, select **Enable**.
The user name	A user name registered in the SIP server. It consists of letters, symbols, and digits. This user name is used to address a call.
Register server address	Domain name of the SIP server on which the terminal is registered. The domain is allocated by the administrator. The register server is a database that covers all user agents in the same domain. The register server can query and send IP address and other information in accordance with the request from the SIP proxy server. The SIP register server performs address registration for clients.

Parameter	Description
Transfer protocol	Select the transfer protocol in accordance with the SIP server working mode. ● If **Working Mode** is set to **UC_SIP**, **IMS_SIP**, or **TELECOM_SIP**, you can select User Datagram Protocol (**UDP**), Transmission Control Protocol (**TCP**) or Transport Layer Security (**TLS**). If you select **TCP** or **TLS**, you can make a call of SIP type after the successful registration to the SIP server. You must use the SIP user name for addressing. If the IP address needs to be used for the call, both parties must be successfully registered on the SIP server. ● If **Working Mode** is set to **MICROSOFT_LYNC**, you must select the Transport Layer Security (**TLS**).
The name of the authentication	When the register server requires authentication, the authentication name must be configured and is assigned by the administrator.
The proxy server address/The backup proxy server address	IP address of the proxy server. The SIP proxy server can receive a session request from the user agent, and query the accepted address from the register server. If the user agent and the proxy server are in the same domain, the session initialization is forwarded to the user agent. If they are not in the same domain, the session initialization is forwarded to another proxy server. If **the proxy server** fails to operate, **the backup proxy server** can replace it for normal operation. In most cases, only the IP address needs to be specified. If the port number is required, the format should be **proxy/standby proxy server IP address:port number**, and the general default port number is **5060**.
Password	The password registered by a terminal in the SIP server. This password is used by the SIP server to authenticate the validity of a terminal. The password of a terminal must be consistent with that predefined in the SIP server.

Parameter	Description
Registration policy	**Register Policy** refers to the processing policy used by the terminal when the user name to be registered by the terminal is already registered. If **Working Mode** is set to **IMS_SIP** or **TELECOM_SIP**, this parameter is available. ● **Mandatory**: If the user name that the terminal wants to register has been registered, no message will be displayed and the user name will be used for the terminal registration. ● **Manual**: If the user name that the terminal wants to register has been registered, a message will be displayed, asking the user to confirm whether to register this user name. ● **Intelligent**: If the user name that the terminal wants to register has been registered, no message will be displayed and the terminal keeps querying till this user name is available. **Mandatory** or **Manual** is recommended.
SIP domain name	If the work mode is **IMS_SIP** or **TELECOM_SIP**, this setting is required. The SIP domain name registered by the terminal is assigned by the administrator.

4. After the configuration is completed, click **Save**.

Result

If the terminal is successfully registered to the SIP cloud service, ![SIP icon] and SIP user name are displayed in the upper right corner, for example, BIJ001.

4.1.4 Configuring the H.323 Conference Cloud Service

With the H.323 (ITU-T Rec.   Packet-based Multimedia Communications Systems) conference cloud service, the ZXV10 ET301 terminal can communicate with terminals using the same H.323 cloud service, and initiate two-party or multi-party video conferences.

Prerequisite

● The terminal is not engaged in a conference.
● The network is properly connected.

Context

The GK is a gate keeper of the video conference for bandwidth management, terminal authentication, and address translation. You can use registered name or terminal number instead of a changeable IP address to initiate a call.

You can use the H.323 cloud service to register a name (H.323 ID) and terminal number (E.164) for the local terminal on the GK server. After registration, you can use the registered name and terminal number to initiate H.323 calls.
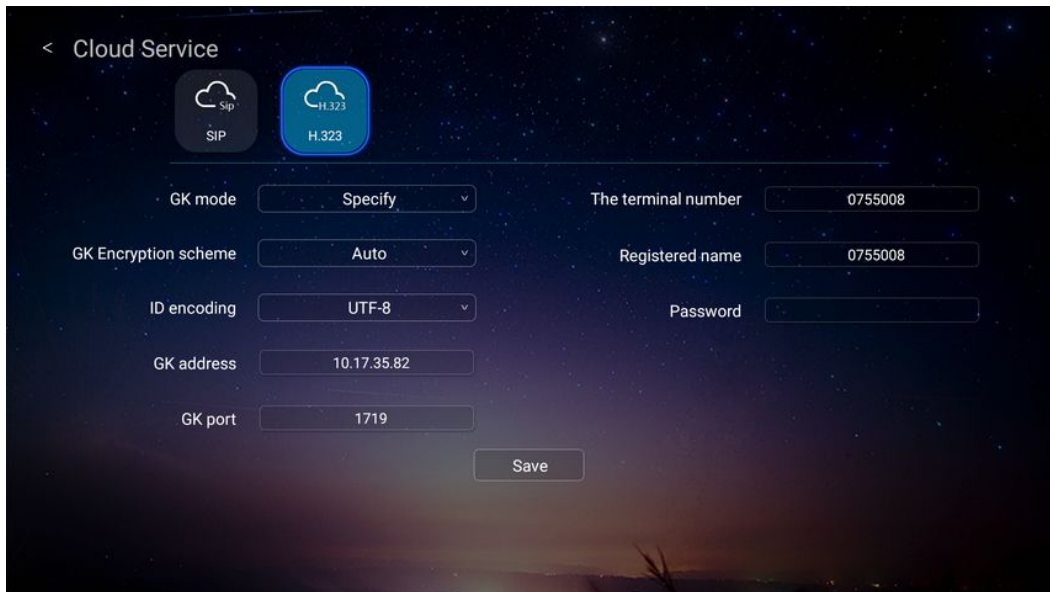
Steps

1. Press the **Back** key on the remote control to display the home page.

2. Select **> Cloud Service > H.323**. The **H.323** cloud service configuration window is displayed, see Figure 4-6.

Figure 4-6 H.323 Cloud Service Configuration Window

3. Configure H.323 parameters according to the actual network situation. For a description of the parameters, refer to Table 4-3.

Table 4-3 Cloud Service-H.232 Configuration Descriptions

Parameter	Description
GK mode	Sets the GK mode. Options: ● **Disabled**: Registration for a GK server is not allowed. ● **Specify**: The administrator will specify a GK for terminal registration. ● **Auto**: The terminal searches a GK automatically. If you need to register for GK, select **Specify** or **Auto**. It is recommended to select **Specify**.
The terminal number	**Terminal No.** (E.164) is the unique identifier of a terminal in the whole network, and also the addressing base for an H.323 call.

Parameter	Description
GK Encryption scheme	If password authentication is set for the GK server, you should select a GK encryption mode when registering on the GK server. Options: **Disabled**, **Auto**, **ZTE**, **New Vision**, and **Cisco**. ● **Auto**: Selected to try the following three encryption mode ZTE, New Vision, and Cisco until the registration succeeds. ● **ZTE**: Selected for ZTE GK server. ● **New Vision**: Selected for Huawei GK server. ● **Cisco**: Selected for Tandberg GK server.
Registered name	The name that the terminal registers on the GK server consists of Chinese/English characters, digits or symbols. The name must be unique.
ID encoding	To set the encode mode when the ZXV10 ET301 terminal communicates with other model terminals. Options: **UTF–8** and **Unicode**. It is recommended to select **UTF–8**. If characters cannot be displayed normally, select **Unicode**.
Password	Used by the GK to verify terminal validity. If the GK enables password authentication, this password must be the same as the preset password, and then the terminal can be registered on the GK successfully.
GK address	Enter the domain name or IP address of the GK server obtained from the administrator of the GK server.
GK port	The RAS port of the GK is consistent with that of the GK server. The default is **1719**.

4. After the configuration is completed, click **Save**.

Result

If the terminal is successfully registered to the H.323 cloud service, and GK terminal number are displayed in the upper right corner, for example, 075502.

4.1.5 Configuring General Parameters

This procedure describes how to configure general parameters (including the terminal name, system time, language, resolution, scale, and telnet service) for daily use.

Prerequisite

The terminal is not engaged in a conference.
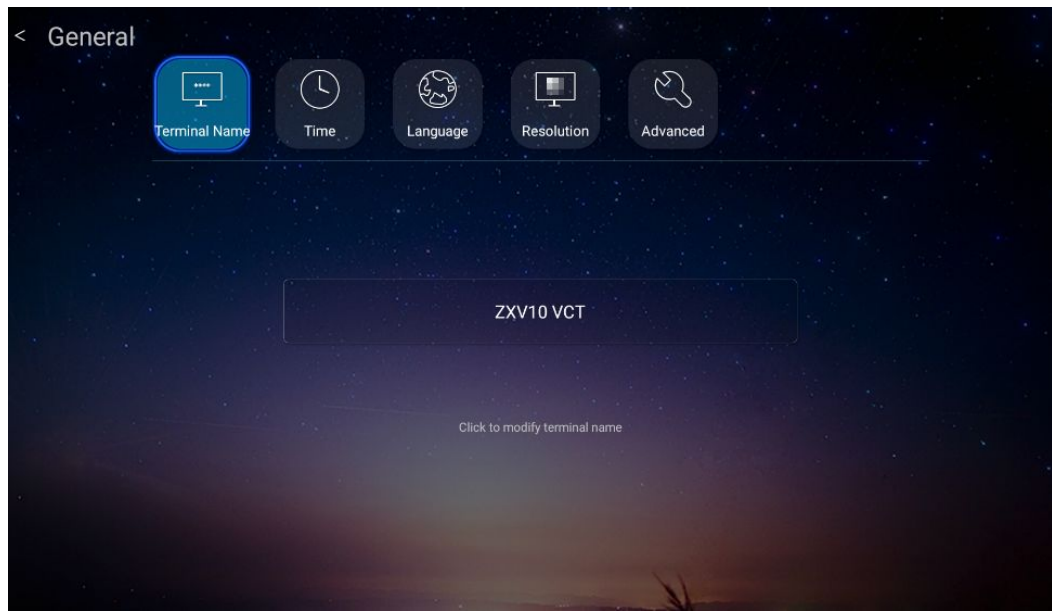
Steps

1. Press the **Back** key on the remote control to display the home page.

2. From the home page, select [⚙] **> General**. The **General** configuration window is displayed, see Figure 4-7.

Figure 4-7 General Configuration Window

3. Configure general parameters for a terminal as required. For a description of the parameters, refer to Table 4-4.

Table 4-4 General Configuration Descriptions

Parameter	Description
Terminal Name	The name of a terminal. It consists of letters, symbols, and digits (for example, **Shenzhen Industrial Park 10–01**).
Time	The date and time of a terminal. You can configure it in either of the following ways: ● If **Synchronization server time** is selected, ZXV10 ET301 will Synchronize it with the time of an SNTP server. ● If configure it manually, **TimeZone** and **Server IP** has to be configured.
Language	The language to be displayed on a screen.
Resolution	The terminal resolution. A higher resolution indicates a clearer video.
Scale	Select a scale, depending on the video location and size of a display. In this way, the size of a screen can better match that of the display. Select the scale button, and then press the left and right arrow keys on the remote control to adjust the scale.

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Parameter	Description
Advanced	Whether to control a terminal via Telnet for debugging purposes. The default value is **off**. Configuratuion will take effect after the restart.

4. Press the **Back** key on the remote control to save your configuration.

4.1.6 Configuring the Firewall

Network Address Translation (NAT) maps IP addresses of an LAN to IP addresses of an external public network, and then terminals in the LAN can communicate with terminals in the Internet.

If an H.323 terminal in a private network that connects to a public network through NAT needs to communicate with a terminal in the public network, you can configure the firewall to implement NAT traversal.

- If a terminal in the private network communicates with a terminal in another network by making an H.323 call, H.323 NAT information needs to be configured.
- If a terminal in the private network communicates with a terminal in another network by making an SIP call, SIP NAT information needs to be configured.

Context

ICE has the following restrictions:

- Only point-to-point calls are supported, and multi-point calls are not supported.
- Both the private network and public network support the ICE function.
- BFCP dual stream is not supported.

Prerequisite

The terminal is not engaged in a conference.

Steps

1. Press the **Back** key on the remote control to display the home page.
2. From the home page, select 🔧 **> Network > Firewall**. The **Firewall** window is displayed, see Figure 4-8.

Figure 4-8 Firewall Configuration Window
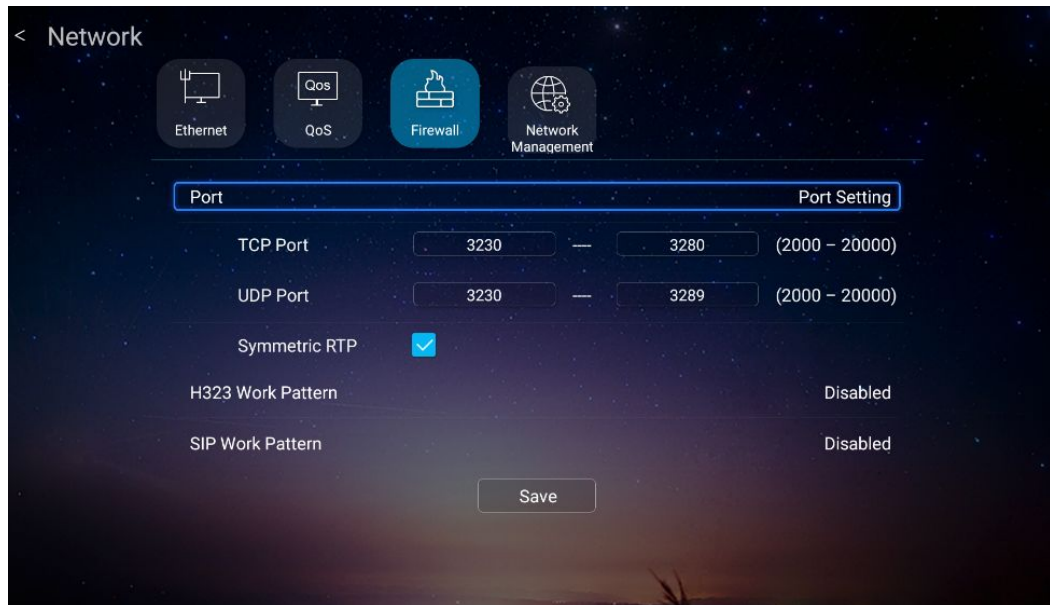
3. For a description of the parameters for configuring NAT port, refer to Table 4-5. For a description of the parameters for configuring H.323 Work pattern, refer to Table 4-6. For a description of the parameters for configuring SIP Work pattern, refer to Table 4-7.

- Select **Port**. The port configuration page is displayed. For a description of the parameters, refer to Table 4-5.

Table 4-5 NAT Port Configuration Descriptions

Parameter	Description
TCP Port	The upper and lower thresholds of the TCP port range. These ports are used to send H.245 signaling. The default value ranges from 3230 to 3280. You can configure the TCP port range to 2000 through 20000.
UDP Port	The upper and lower thresholds of the UDP port range. These ports are used to send RTP media streams. The default value ranges from 3230 to 3289. You can configure the UDP port range to 2000 through 20000.
Symmetric RTP	Whether to enable the symmetric RTP function. If there are two terminals, one is in the private network, and the other is in the public network, and the firewall across functions such as H.460, static NAT, or ICE are not enabled at the terminal on the private network terminal. You can enable the **symmetric RTP** function of the public terminal to achieve the interconnection between the terminals on public and private networks.

- Select **H.323 Work Pattern**. For a description of the parameters, refer to Table 4-6.

Table 4-6 H.323 NAT Configuration Descriptions

Parameter	Description
Work Mode	Whether to enable H.323 NAT, including **Disabled**, **Static NAT** and **H.460**. If **Disabled** is selected, there is no need to set other parameters. **Static NAT** means that a private IP address inside the Intranet is translated into the corresponding public IP address. **H.460** is a group of firewall traversal protocols. Using this protocol together with an external gateway, the terminal can flexibly traverse firewalls.
Public NAT	If **NAT Mode** is set to **Static NAT**, this setting is required. Enter a public IP address.
IP 1-3	If **NAT Mode** is set to **Static NAT**, this setting is required.
Subnet Mask 1-3	Local intranet private IP address and corresponding subnet mask. The network segment determined by the IP address and corresponding subnet mask is the private network segment of the local terminal. The NAT function is not used when the terminals in this network segment are called.
Keep Alive Intervel	If **NAT Mode** is set to **H.460**, this setting is required. Set the interval for the sending keep-alive packet to the H.460 server, ranging from 5 to 30 seconds. You are advised to retain the default setting (5 s).

● Select **SIP Work Pattern**. For a description of the parameters, refer to Table 4-7.

Table 4-7 SIP NAT Configuration Descriptions

Parameter	Description
Work Mode	Enable or disable the NAT function of the SIP. Options: **Disable**, **Static NAT**, and **ICE**. If **Disable** is selected, you do not need to configure other parameters. **Static NAT**: Every private IP address of an internal network is converted to a public IP address. It means that a private IP address is converted to only a public IP address. **ICE**: Tests whether two communication parties can be connected through Traversal Using Relays around NAT (TURN) or Session Traversal Utilities for NAT (STUN)and determines a better mode.
Public NAT	This parameter is set only when **Work Mode** is set to **Static NAT**. Enter a public network address.
Compatibility Mode	This parameter is set only when **Work Mode** is set to **ICE**. Options: **RFC5245** and **WLM2009**. Normally **RFC5245** is selected. **WLM2009** is selected when the terminal interconnects with a Microsoft LYNC terminal.

Parameter	Description
Turn Server Addr.	This parameter is set only when **Work Mode** is set to **ICE**.
Turn Server Port	Enter the information about the ICE Turn server. It is provided by the
Turn Server User	administrator.
Turn Server Pwd	
StunServer Addr.	This parameter is set only when **Work Mode** is set to **ICE**. IP address of the ICE Stun server.
StunServer Port	This parameter is set only when **Work Mode** is set to **ICE**. Port ID of the ICE Stun server.

4. After the configuration is completed, click **Save**.

4.2 Other Settings

4.2.1 Setting Call Parameters

This procedure describes how to set the call response mode, whether auxiliary video grab is allowed, and the default call type for a terminal.

Prerequisite

The terminal is not engaged in a conference.

Steps

1. Press the **Back** key on the remote control to display the home page.

2. From the home page, select **> Conference > Call**. The **Call** window is displayed, see Figure 4-9.

Figure 4-9 Call Setting Window
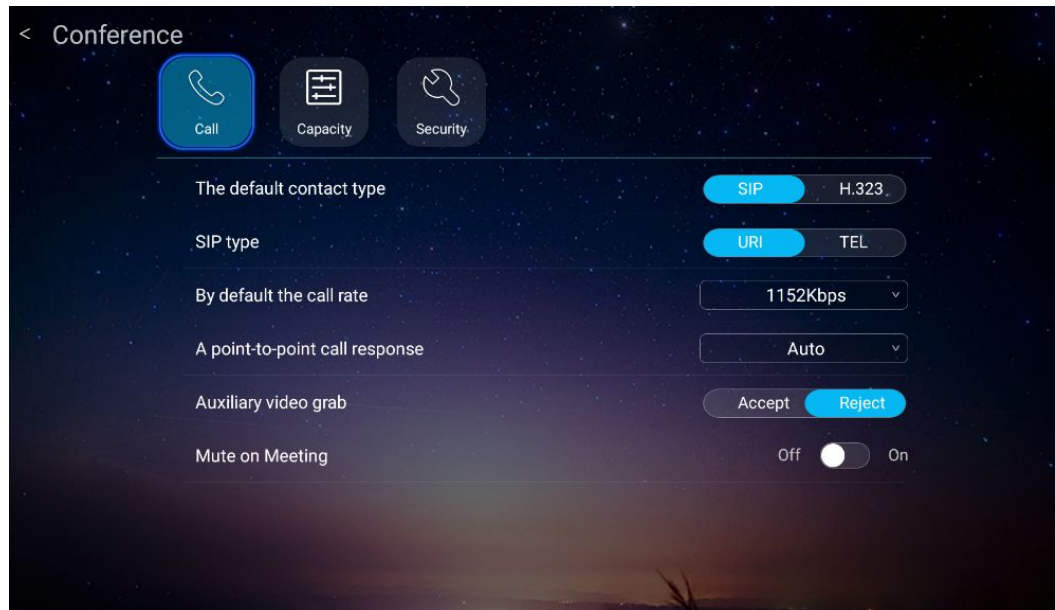
3. Set the call parameters. For a description of the parameters, refer to Table 4-8.

Table 4-8 Call Parameter Descriptions

Parameter	Description
The default contact type	Whether the terminal originates calls to other terminals via SIP or H.323.
SIP type	If **The default contact type** is set to SIP, this parameter must be set based on the network situation. Options: **URI** and **TEL**.
By default the call rate	The default rate for a terminal to originate a call to another terminal.
A point-to-point call response	Select the answer mode for a point-to-point call: **Auto**, **Manual**, **Do Not Disturb** and **Auto (Only audio)**. ● **Auto**: When a call is received, the terminal automatically answers the call and connects to the conference. ● **Manual**: When a call is received, the terminal displays a call prompt asking you whether to accept the call. ● **Do Not Disturb**: When a call is received, the terminal directly rejects the call. ● **Auto (Only audio)**: When there is an incoming call, the ZXV10 ET301 terminal directly connects the conference by audio mode.

Parameter	Description
Auxiliary video grab	Whether to allow other terminals to take away the presentation token in the H.323 conference. ● **Accept**: Other terminals can take away the presentation token when the local terminal is sending a presentation video, that is to say, when other terminals send a presentation video, the local terminal stops its presentation video, and allow other terminals to send its presentation video. ● **Reject**: when the local terminal is sending a presentation video, other terminals cannot send a presentation video.
Mute on meeting	Whether a terminal automatically mutes a local microphone when joining a conference.

4. Press the **Back** key on the remote control to save your configuration.

4.2.2 Setting QoS

The Quality of Service (QoS) setting refers to the mode in which the network processes IP packets are transferred during a video conference. In an IP network with restricted resources, the terminal can automatically adapt to packet loss, jitter, and delay in the network to ensure video and audio transmission quality.

Prerequisite

The terminal is not engaged in a conference.

Context

● Forward Error Correction (FEC) enables the terminal to adopt specified redundancy transmission policies that will guarantee a clear and smooth video transmission under a specified packet loss rate.

   When enabling the FEC function, you are recommended to enable the **IP Auto Rate** function.

● Auto IP Rate function is used to increase or decrease the real-time conference rate automatically in accordance with the network situation. If the packet loss ratio exceeds a specified threshold, the system decreases the conference rate, and if the network recovers to the normal situation, the system increases the conference rate.

Steps

1. Press the **Back** key on the remote control to display the home page.

2. From the home page, select 🔧 > **Network > QoS**. The **QoS** setting window is displayed, see Figure 4-10.

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Figure 4-10 QoS Setting Window
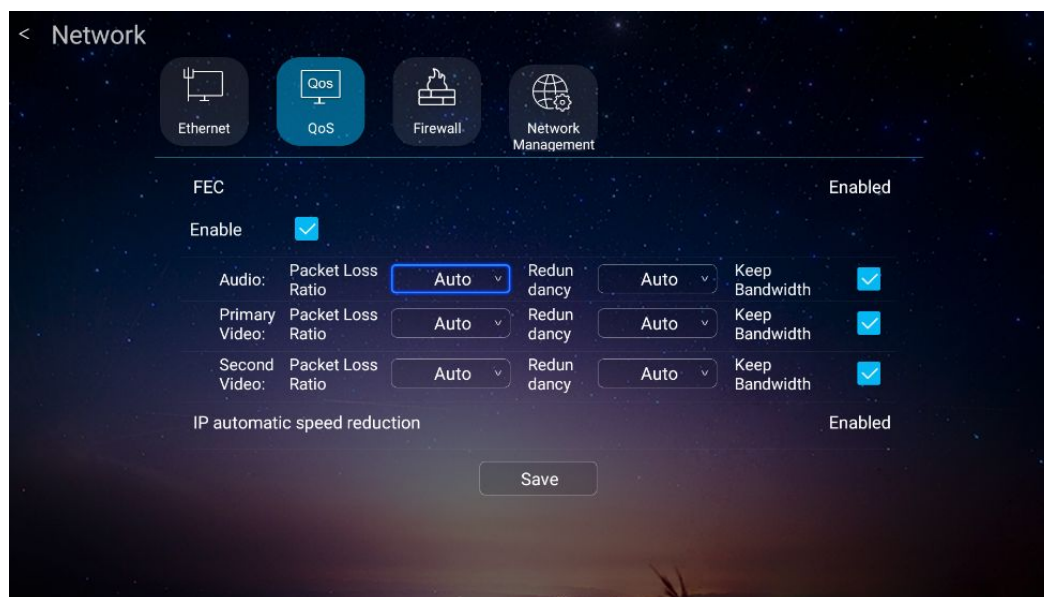
3. Select **FEC**. Set FEC parameters by referring to Table 4-9.

    Table 4-9 FEC Parameter Descriptions

Parameter	Description
Enable FEC	Whether to enable the FEC function. You are recommended to enable the function and the **IP Auto Rate** function.
Audio/Primary Video/Secondary Video Packet Loss Ratio	The packet loss ratio at the remote end, including **Auto**, **1%**, **3%**, **5%**, **10%**, **20%**, and **30%**. **Auto** means the packet loss ratio is subject to the actual situation at the remote end.
Audio/Primary Video/Secondary Video Redundancy	Options: **Auto**, **5%**, **10%**, **15%**, **20%**, **30%**, **40%**, **50%**, and **100%**. **Auto** by default.
Audio/Primary Video/Secondary Video Keep Bandwidth	Whether to lower the code rate to keep the total bandwidth unchanged.

4. Select **Auto IP Rate**. Set **Auto IP Rate** parameters by referring to Table 4-10.

    Table 4-10 Auto IP Rate Parameter Descriptions

Parameter	Description
Auto IP Rate	If **Auto IP Rate** is selected, the ZXV10 ET301 terminal enables auto IP rate function, and you need to set **Lowest Tx.** - When the network quality deteriorates and the packet loss ratio exceeds the threshold, the conference rate is decreased. - When the network recovers to the normal situation, the system increase the conference rate automatically. If this parameter is not selected, this function is not enabled.

Parameter	Description
Lowest Tx.	**Lowest Tx.** means the lowest control rate. The minimum value is 64 kbps and the maximum value is 1920 kbps. If the rate amounts to **Lowest Tx.** the conference rate does not decrease any more even the packet loss ratio increases.

5. After the configuration is completed, click **Save**.

4.2.3 Selecting the Video Source

This procedure describes how to configure the video source in accordance with the connection between the video input interface of the terminal and the peripheral.

In most cases, the default settings are used. If the interface to which the video source is connected is changed, the settings need to be changed.

Prerequisite

The terminal is not engaged in a conference.

Steps

1. Select ⚙ **> Media > Video**, the **Video** setting window is displayed.
2. Select the desired video source from the drop-down list. It is recommended that you select the built-in camera as the primary video source.
3. Press the **Back** key on the remote control to save your configuration.

4.2.4 Setting Audio Input

The ZXV10 ET301 supports a built-in microphone, digital microphone, and linear input. Audio input can be enabled or disabled as required. After the ZXV10 ET301 is connected to an A100 digital microphone, its built-in microphone is automatically disabled.

If the local sound heard on a remote terminal is too low, the gain can be increased, and vice versa.

Prerequisite

The terminal is not engaged in a conference.

Steps

1. Press the **Back** key on the remote control to display the home page.
2. Select ⚙ **> Media > Audio**, the **Audio** setting Window is displayed.
3. Slide **Mic input** to adjust the gain of microphone input.

   The maximum gain is 16, and the minimum is 0.

4. Select whether to enable **Built-in microphone** and **Linear Audio** as required.
5. Press the **Back** key on the remote control to save your configuration.

4.2.5 Setting AES Encryption

AES is a type of encryption algorithm. If it is enabled, the terminal encrypts the data packets. The receiving terminal can decode video and audio only after decrypting the data packets.

Through AES, you can encrypt the communication data of a conference to protect information security.

Prerequisite

The terminal is not engaged in a conference.

Context

● If the MCU has enabled AES encryption, the terminals need to enable this function to participate in the MCU conference. Otherwise the terminals cannot participate in the conference.

● If AES encryption is forcibly enabled on one terminal, this function must be enabled on the remote terminal. Otherwise, the terminals cannot initiate the conference.

Steps

1. Press the **Back** key on the remote control to display the home page.

2. From the home page, select ⚙ > **Conference > Security**. The **Security** setting window is displayed, see Figure 4-11.

Figure 4-11 Security Setting Window
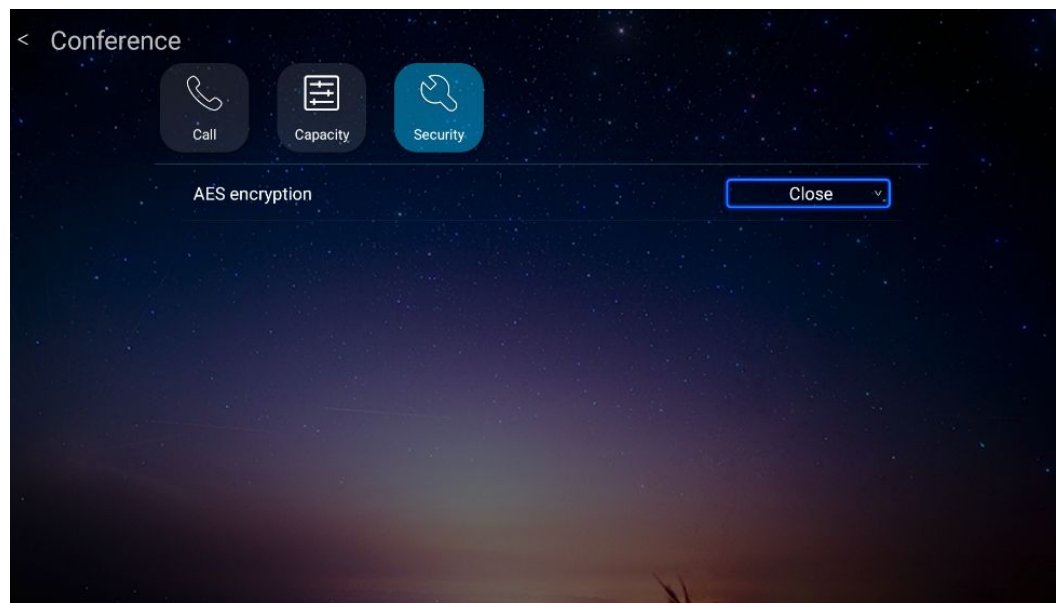
3. Set **AES encryption** parameters by referring to Table 4-11.

Table 4-11 AES Encryption Parameter Descriptions

Parameter	Description
Close	Does not encrypt or decrypt data.
Auto	Determines whether to encrypt or decrypt data in accordance with the AES settings of the remote terminal. If **AES encryption** is set to **Open** at the remote end, the terminal encrypts and decrypts data. If **AES encryption** is set to **Close** at the remote end, the terminal does not encrypt and decrypt data.
Open	Forcibly encrypts or decrypts the data.

4. Press the **Back** key on the remote control to save your configuration.

4.2.6 Setting Conference Capacity

This procedure describes how to configure the preferred coding capability and quality of the conference audio, primary video and secondary video.

Prerequisite

The terminal is not engaged in a conference.

Steps

1. Press the **Back** key on the remote control to display the home page.

2. From the home page, select ⚙️ **> Conference > Capacity**. The **Capacity** setting window is displayed, see Figure 4-12.

Figure 4-12 Capacity Setting Window

3. Retain the default capacity setting or customize the setting as needed. For a description of the capacity parameters, refer to Table 4-12.

Table 4-12 Capacity Parameter Descriptions

Parameter		Description
Audio capacity	Basic Capacity	Audio coding format. ● If this parameter is set to **Default**, all coding formats are selected. ● If this parameter is set to **Custom**, you can choose among the G.722, G722.1, ZTEBA-STEREO, G.711 a-Law, G.711 u-Law, G.722.1C, SILK, and ZTE BA coding formats.
	Preferred Audio	Configure the preferred audio coding format. If **Auto** is selected, the terminal adjusts in accordance with conference requirements. It is recommended to select **Auto**.
Primary/Sec-ondary video capacity	Basic Capacity	Primary/Secondary video coding format. ● If this parameter is set to **Default**, all coding formats are selected. ● If this parameter is set to **Custom**, you can choose among the H.264, H.264HP coding formats. → **H.264**: The video coding efficiency of H.264 is higher than that of traditional coding protocols. H.264 is able to deliver 720p HD video streams at 1024 kbps.

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Parameter		Description
		→ **H.264HP**: The video coding efficiency of H.264HP is higher than that of **H.264**. H.264HP is able to deliver 720p HD video streams at 768 kbps. If **Secondary video capacity** is set, you also need to configure the **BFCP Transport Protocols**. Either Transmission Control Protocol (**TCP**) or User Datagram Protocol (**UDP**) can be selected to send SIP BFCP auxiliary videos. Generally, you can select **TCP**, which is a reliable transmission protocol. You need to select **UDP** in either of the following scenarios: ● The peer device supports UDP only. ● It is required to have a good environment adaptability, but used for unreliable transmission.
	Preferred Video	Configure the preferred primary/secondary video coding. If **Auto** is selected, the terminal adjusts in accordance with conference requirements. It is recommended to select **Auto**.
	Primary/Secondary Video Quality	Options: **Auto**, **Clear**, and **Smooth**. ● **Auto**: the system adjusts resolution and frame frequency automatically in accordance with network quality. ● **Clear**: in case of insufficient bandwidth, the system decreases frame frequency to guarantee video quality. ● **Smooth**: in case of insufficient bandwidth, the system reduces video quality to guarantee a smooth video. ● It is recommended to set **Primary Video Quality** to **Smooth**. ● It is recommended to set **Secondary Video Quality** to **Clear**.
Advanced	Basic Capacity	● If this parameter is set to **Default**, all coding formats are selected. ● If this parameter is set to **Custom**, you can choose among the H.224/H.281, H.264 Aggregation Packets 1, CCM, and BFCP coding formats. → **H.224/H.281**: it is the camera controlling protocol. It is required to select this parameter for both local terminal and remote terminal to enable far end control function. → **H.264 Aggregation Packets 1**: selected to communicate with the terminals of other manufactur-

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Parameter		Description
		ers. For some terminals, only when this parameter is selected, is the H.264 video capacity enabled.
		→ **CCM**: Code Control Message, it is used to control the media channel of the SIP type conference. After it is enabled, the conference of the SIP type can receive the handing VCU requests and flow control command messages.

4. After the configuration is completed, click **Save**.

4.2.7 Setting TR069

TR–069 (Technical Report 069) is a DSL Forum technical specification. After a terminal is configured with the TR069 information, the TR069 network management system can query terminal status and conference information, restart the terminal, upgrade the terminal, and receive alarms from the terminal.

Prerequisite

The terminal is not in the conference.

Steps

1. Press the **Back** key on the remote control to display the home page.

2. Select ⚙ **> Network > Network Management**, the **Network Management** Window is displayed, see Figure 4-13.

Figure 4-13 Network Management Window
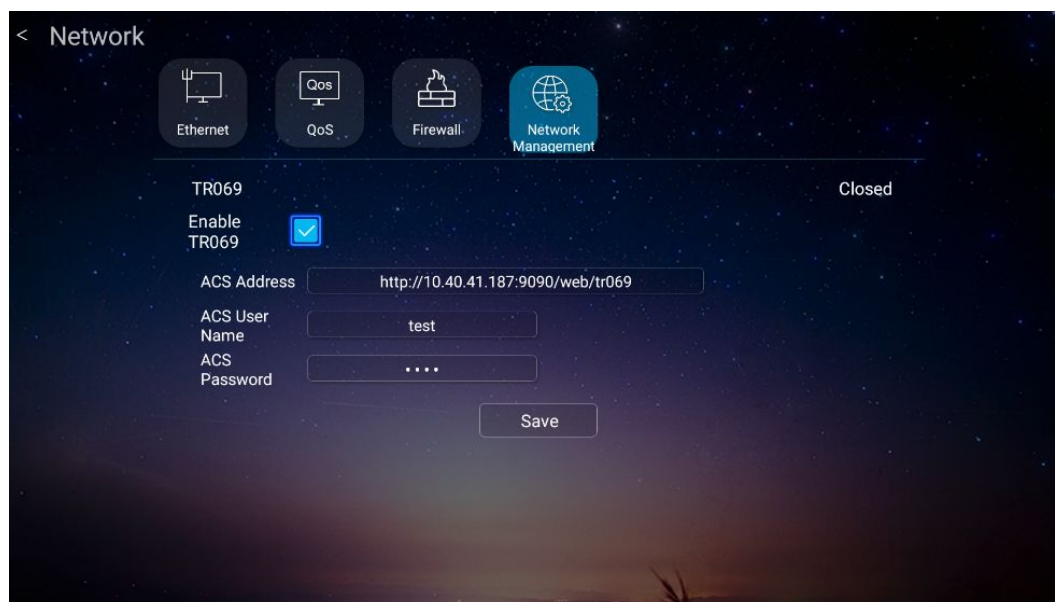
3. Set the parameters. For a description of the parameters, refer to Table 4-13.

Table 4-13 TR069 Parameter Descriptions

Parameter	Description
Enable TR069	Sets whether to enable TR069. If yes, other parameters displayed on the screen must be set.
ACS Address	Enter the IP address of ACS.
ACS User Name	The ACS user name is identical with the name set on the server, the default ACS user name is **cpe**.
ACS User Password	The ACS user password is identical with the password set on the server, the default ACS user password is **cpe**.

4. After the configuration is completed, click **Save**.

Chapter 5
Conference Operations

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5.1 Holding a Conference

5.1.1 Holding a Point-to-Point Conference

The ZXV10 ET301 enables you to manually enter a peer address, select a person from a contact list, and select a historical record to hold a point-to-point conference. The called party can be a mainstream video conference terminal that supports the SIP or H.323 protocol.

Note:

- If a multipoint conference is held on an MCU, addition of terminals is allowed. For how to join a new terminal or rejoin a disconnected terminal to the conference by calling the MCU, refer to 5.1.2 Joining a Conference.
- In a point-to-point conference (meaning that one terminal calls the other without the involvement of the MCU), no new terminal is allowed.

Prerequisite

- The terminal is not engaged in a conference and properly connected to the network.
- Terminals at both ends can properly communicate over the IP network, or are connected to the same cloud service. For how to configure the cloud service, refer to 4.1.3 Configuring the SIP Conference Cloud Service and 4.1.4 Configuring the H.323 Conference Cloud Service.

Note:

If unregistered in the cloud service, a terminal can make a call through an IP address even as a guest, instead of through a terminal ID.

● The AES encryption function is already enabled on both ends of a call when the call is encrypted. This function is configured in the **> Conference > Security** path for the ZXV10 ET301.

Steps

● Making a Call Through an IP Address

1. Press the **Back** key on the remote control to display the home page.

2. Click the icon, and then press **OK** on the remote control to display the **make call** window, see Figure 5-1.

Figure 5-1 Make Call Window
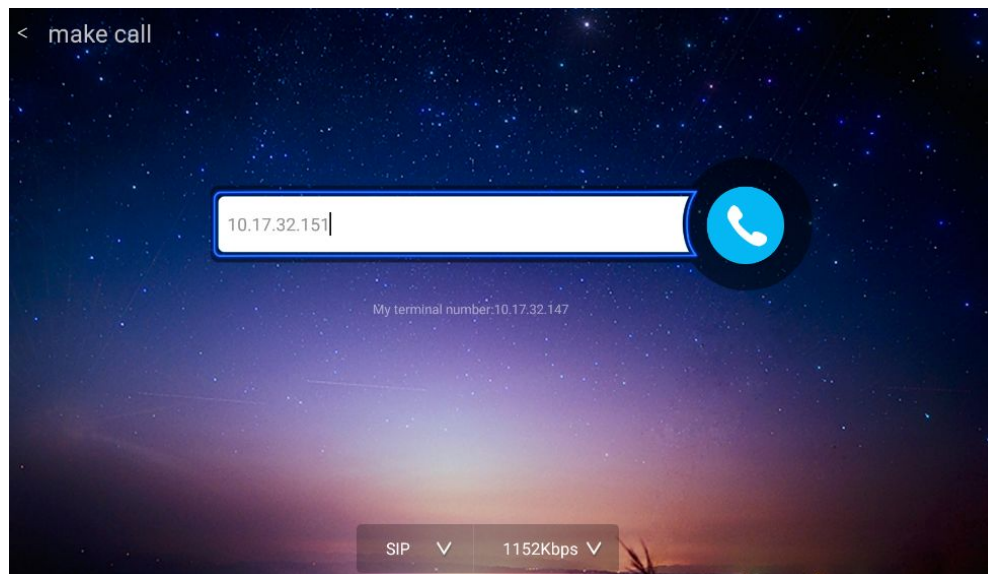
3. Select the address bar, and then press **OK** on the remote control.
4. Open the **dialing** keyboard, and then enter the address of the other party. For a description of the parameters, refer to Table 5-1.

Table 5-1 Address Setting Descriptions

If...	Then...
Both parties are not registered with any cloud service.	Use the remote IP address, for example, **10.10.10.1**.

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If...	Then...
Both parties are registered with the SIP cloud service and need to initiate a **SIP** conference.	Use one of the following: → Remote IP address → Registered SIP user name of the remote end → Remote "SIP user name@domain name"
Both parties are registered with the H.323 cloud service and need to initiate an **H.323** conference.	Use one of the following: → Remote IP address → Registered H.323 user name (H.323 ID) of the remote end → Remote terminal number (E.164)

Note:

→ If the remote IP address is used to initiate a call, local and remote terminals do not need to be registered with the H.323/SIP cloud service.

→ If the registered H.323 user name or terminal number of the remote end is used to initiate a call, local and remote terminals must be registered with the H.323 cloud service. For the registration method, refer to 4.1.4 Configuring the H.323 Conference Cloud Service.

→ If the registered SIP user name of the remote end is used to initiate a call, local and remote terminals must be registered with the SIP cloud service. If the remote "SIP user name@domain name" is used to initiate a call, only the remote party needs to be registered with the SIP cloud service. For the registration method, refer to 4.1.3 Configuring the SIP Conference Cloud Service.

5. Press **Back** on the remote control.
6. Set the call parameters by referring to Table 5-2.

Table 5-2 Call Parameter Descriptions

Parameter	Description
Call type	Select **SIP** or **H.323**. Select **SIP** in the following scenarios: → The remote party only supports SIP conferences. → The IMS network of China Mobile is used. → The IMS network of China Telecom is used. → The remote terminal is a Microsoft Lync client.

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Parame-ter	Description
Rate	Select conference rate in accordance with conference requirements and network situation, ranging from 64 kbps to 4 Mbps. → For 720p HD video conference, at least select 512 kbps. → For 1080p HD conference, at least select 1024 kbps. → The selected conference rate should be less than the network bandwidth.

7. Click , and then press **OK** on the remote control to make a call.

● Making a Call Through a Contact List

1. Press the **Back** key on the remote control to display the home page.

2. Click the icon, and then press **OK** on the remote control to display the **make call** window.

3. Select the address bar, and then press **OK** on the remote control.

4. Select a callee from the contact list. For details, refer to Table 5-3.

Table 5-3 Callee Selection Descriptions

If...	Then...
The terminal is not registered in the cloud service.	You can only select a callee that supports call initiation via an IP address or **SIP user name@domain name**.
The terminal is registered with the H.323 cloud service.	You can select a callee that supports call initiation via an H.323 address.
The terminal is registered with the SIP cloud service.	You can select a callee that supports call initiation via a SIP address.

5. Click , and then press **OK** on the remote control to make a call.

● Making a Call Through a Historical Conference

1. Press the **Back** key on the remote control to display the home page.

2. Click the icon, and then press **OK** on the remote control to display the **Conference Schedule** window.

3. Click **History Conference**, and then press **OK** on the remote control.

4. Select a two-party conference from the historical conference list.

Note:

→ If the local terminal is registered with the SIP cloud service alone, you can only select a SIP historical conference.

→ If the local terminal is registered with the H.323 cloud service alone, you can only select an H.323 historical conference.

5. Click **Edit Call**, and then press **OK** on the remote control to make a call.

6. Click the icon, press **OK** on the remote control.

5.1.2 Joining a Conference

To join a conference, a terminal can:

● Accept a call.

● Call a conference ID.

Prerequisite

● The terminal is unengaged in the conference and properly connected to the network.

● To call a conference ID, you need to obtain it from the caller. If a conference password is set, you need to obtain the password.

● To call a conference ID, the terminal must be connected to the cloud service successfully.

● If the AES encryption function is enabled on the MCU, this function is also enabled in the **> Conference > Security** path on the ZXV10 ET301, before it joins the conference.

Steps

● Answering a Call

In idle mode, the terminal can answer a call to join a conference.

● Calling a Conference ID to Join a Conference

1. Press the **Back** key on the remote control to display the home page.

2. Click the ◌ icon, and then press **OK** on the remote control to display the **make call** window, see Figure 5-2.

Figure 5-2 Make Call Window
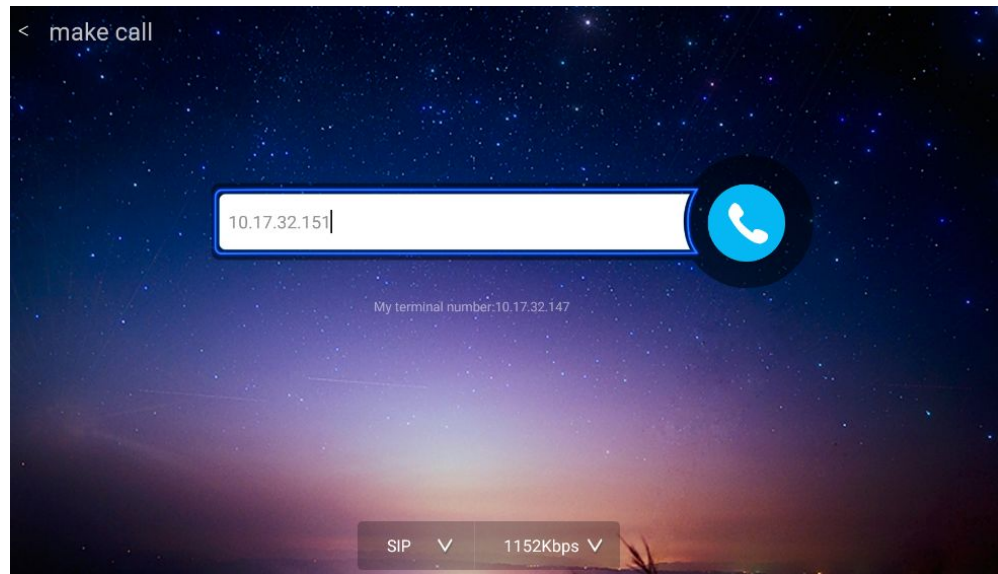
3. Select the address bar, and then press **OK** on the remote control.
4. Open the **dialing** keyboard, and then enter the conference ID.

Note:

If a conference password is set, you need to enter the password to join the conference.

---

5. Press **Back** key on the remote control.
6. (Optional) Set the call parameters by referring to Table 5-4.

Table 5-4 Call Parameter Descriptions

Parameter	Description
Call type	Select **SIP** or **H.323**.
Rate	Select conference rate in accordance with conference requirements and network situation, ranging from 64 kbps to 4 Mbps. → For 720p HD video conference, at least select 512 kbps. → For 1080p HD conference, at least select 1024 kbps. → The selected conference rate should be less than the network bandwidth.

7. Click , and then press **OK** on the remote control to make a call.

5.2 Adjusting a Camera

During a conference, you can use a remote control to adjust a remote camera or zoom in or out.

In the current version, the local camera of the ZXV10 ET301 is adjusted by hand.

Context

- To adjust a remote camera, you can tilt or rotate it to point to the speaker.
- To make the image clear, you can zoom in or out.

Steps

1. Press the **Back** key on the remote control to hide the remote control operation window.
2. Press the **Camera** key to open the remote camera control window.
3. Perform the following operations as required to open the **Camera Control** window.
4. Perform the following operations as required.

To...	Do...
adjust a camera.	Press the arrow keys (up, down, left, and right) on the remote control.
zoom in or out an image.	Press **Zoom in/out** on the remote control.

5. After adjusting the camera, Press **Back** on the remote control to exit the **Camera Control** window.

5.3 Adjusting the Volume of a Local Terminal

In a conference, you can adjust the volume of a local terminal or stereo.

Note:

This adjustment affects the sound of the local terminal only.

Steps

- Adjusting the Volume of a Terminal
  1. Check whether the terminal is in the **Camera Control** window. If yes, press **Back** on the remote control.
  2. Press **Volume Up/Down** on the remote control to adjust the volume.
- Adjusting the Volume of a Stereo

  You can adjust the volume of a stereo (for example, TV) by pressing **Volume Up/Down** on its remote control.

5.4 Controlling a Local Microphone

To prevent another terminal from hearing a local terminal during a conference, you can close the local microphone.

Steps

Perform one of the following operations as required to open or close a local microphone.

If...	Then...
The terminal is engaged in a conference.	Perform one of the following operations to open or close a local microphone: ● Press **Mute** on the remote control. ● Press **On/Off** on the local microphone.
The terminal is idle.	1. From the home page, select [icon] **> media > Audio**. Then, the **Audio** setting page is displayed. 2. Drag the **Mic input** slider to adjust the input of the local microphone. If **Mic input** is set to **0**, the local microphone is muted. 3. Select whether to enable **Built-in microphone** and **Linear Audio**. 4. Press the **Back** key of the remote control to save the setting.

5.5 Sharing a Local Screen

If a terminal is not engaged in a conference, you can display a video source (for example, PC) on a local screen.

Prerequisite

The terminal is not engaged in a conference.

Steps

1. Connect an HDMI video source device (for example, PC) to the **HDMI IN** interface of a terminal.
2. Press the **Back** key on the remote control to hide the remote control operation window.
3. Click the [icon] icon, and then press **OK** on the remote control to display the **Screen Share** window, see Figure 5-3.

Figure 5-3 Screen Share Window
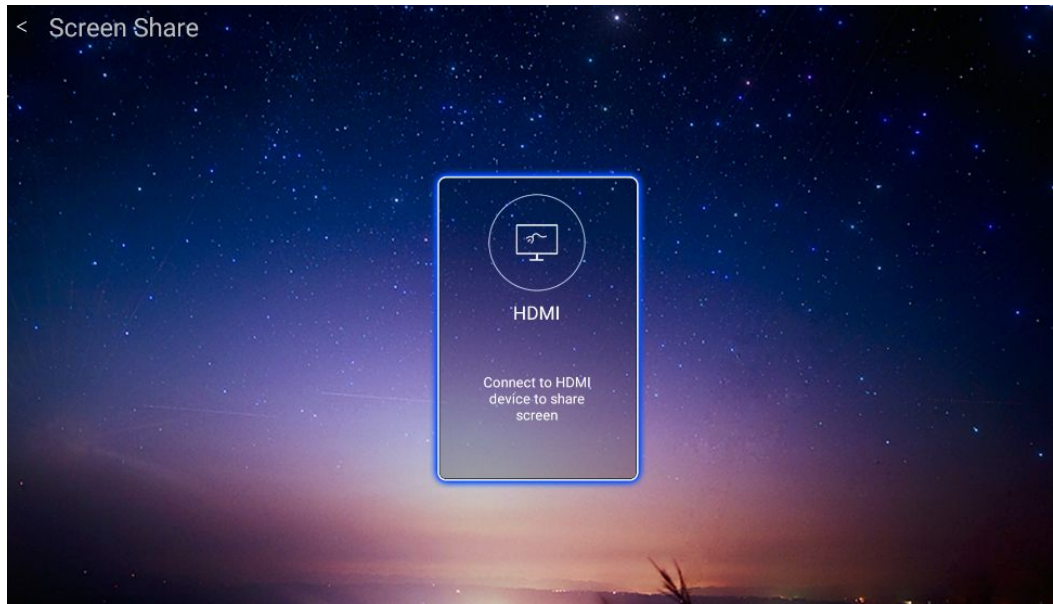
![Note icon] **Note:**

The current version does not support **PC Screen Share** and **Mobile Screen Share**.

4. Click **HDMI**, and then press **OK** on the remote control.

    The contents stored on the HDMI device (for example, PC) is displayed on the screen of the local terminal.

5.6 Sharing a Remote Screen via Dual Streaming

In a conference, you can display a video source (for example, PC) on the screens of other terminals via dual streaming.

Prerequisite

- The terminal is engaged in a conference.
- The default video source is already set. For how to set the default video source, refer to "4.2.3 Selecting the Video Source".

Context

The ZXV10 ET301 supports a standard dual-streaming function. In other words, it can send two streams: primary video and secondary video. If two streams are successfully sent, a remote terminal can view both the primary video and the secondary video.

- The primary video comes from the screen captured by a camera.
- The secondary video comes from an HDMI device (for example, PC).

Steps

1. Connect an HDMI video source device (for example, PC) to the **HDMI IN** of a terminal.
2. Send dual stream in either of the following ways.

To...	Do...
Send dual streams by pressing keys on the remote control	Press the **Content** key. Click **Send** in the dialog box that is displayed, and press the **OK** key.
Send dual streams in the conference control window	a. Press any **Direction** key on the remote control to open the **Conference Control** window, see Figure 5-4. b. Click ![icon], and then press **OK** on the remote control. c. Select the desired device, and then press **OK** on the remote control. d. Click **Send Dual Video**, and then press **OK** on the remote control.

Figure 5-4 Conference Control Window
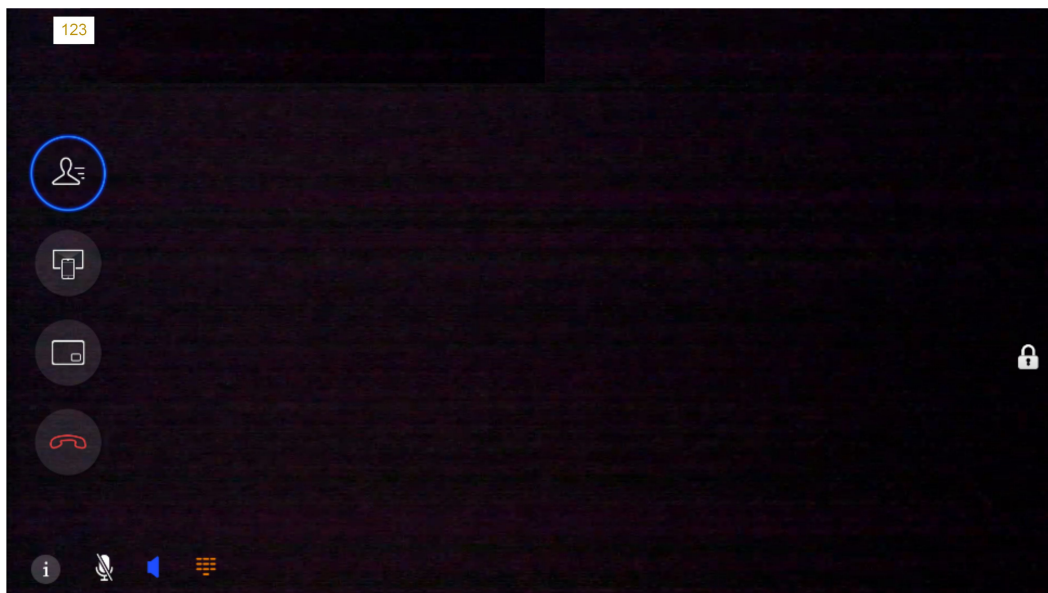
3. After two streams are successfully sent, each terminal can change the screen layout to view a combination of local, remote, and secondary videos.

   For details about how to change the screen layout, refer to 5.7 Changing the Layout of a Screen.

5.7 Changing the Layout of a Screen

You can change the layout of a screen to view a combination of local, remote, and secondary videos (for example, full-screen, picture-in-picture, and picture-by-picture).

Prerequisite

The terminal is engaged in a conference.

Steps

1. Switch the image layout in either of the following ways.
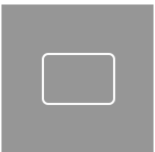
To...	Do...
Switch the image layout by using the remote control	Press the **Layout** key on the remote control.
Switch the image layout in the conference control window	a. Press any **Direction** key on the remote control to open the **Conference Control** window, see Figure 5-5. b. Click ![icon], and then press **OK** on the remote control.
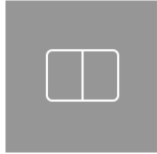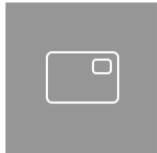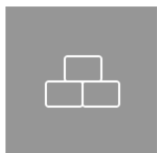
Figure 5-5 Conference Control Window
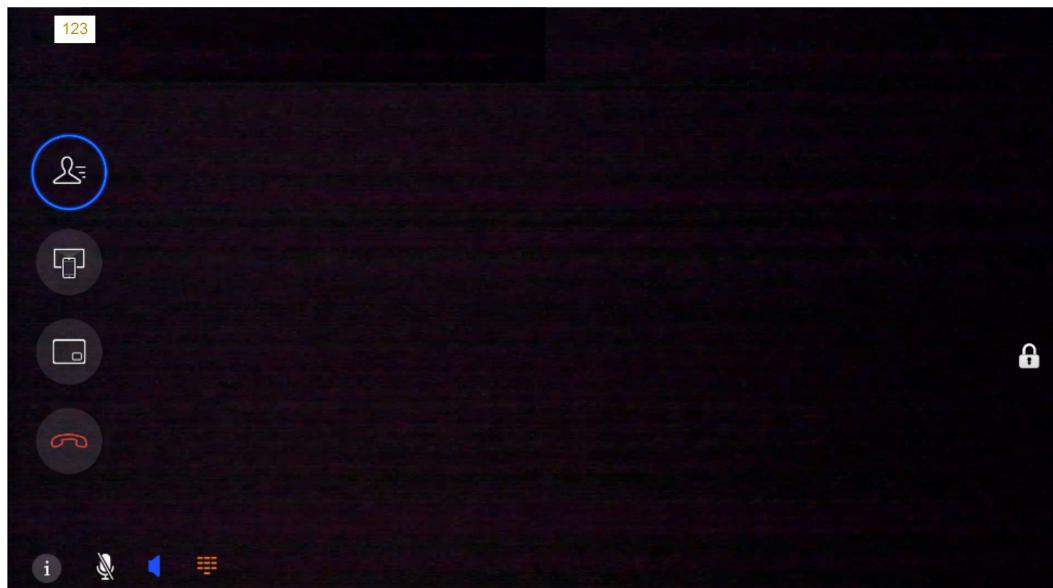
2. Select the desired layout (Table 5-5), and then press **OK** on the remote control to view the effect.

Table 5-5 Screen Layout Descriptions

Layout	Description
	Full-screen: It can be a local video, remote video, or secondary video.

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Layout	Description
	Dual-screen: It consists of any combination of two videos: local, remote, or secondary.
	Dual-screen (picture-in-picture): It consists of any combination of two videos: local, remote, or secondary.
	This screen layout is available when the auxiliary video is enabled for a conference. For how to enable the auxiliary video, refer to 5.6 Sharing a Remote Screen via Dual Streaming. Three-screen (picture-by-picture): It consists of three videos: local, remote, and secondary.
	This screen layout is available when the auxiliary video is enabled for a conference. For how to enable the auxiliary video, refer to 5.6 Sharing a Remote Screen via Dual Streaming. Three-screen (triangle): It consists of three videos: local, remote, and secondary.

3. On the selected screen layout, press **OK** again on the remote control to switch screens.

5.8 Using a Conference Schedule

The ZXV10 ET301 displays historical conference schedules in real time. Historical conference schedules allow users to learn about the use of the terminal, and thus maximize its utilization.

Context

The current version does not support the display of the **Conference Schedule** and **Ordered Conference** of the current day.

Steps

1. Press **Back** key on the remote control to display the home page.

2. Click the ⟳ icon, and then press **OK** on the remote control to display the **Conference Schedule** window, see Figure 5-6.

Figure 5-6 Conference Schedule
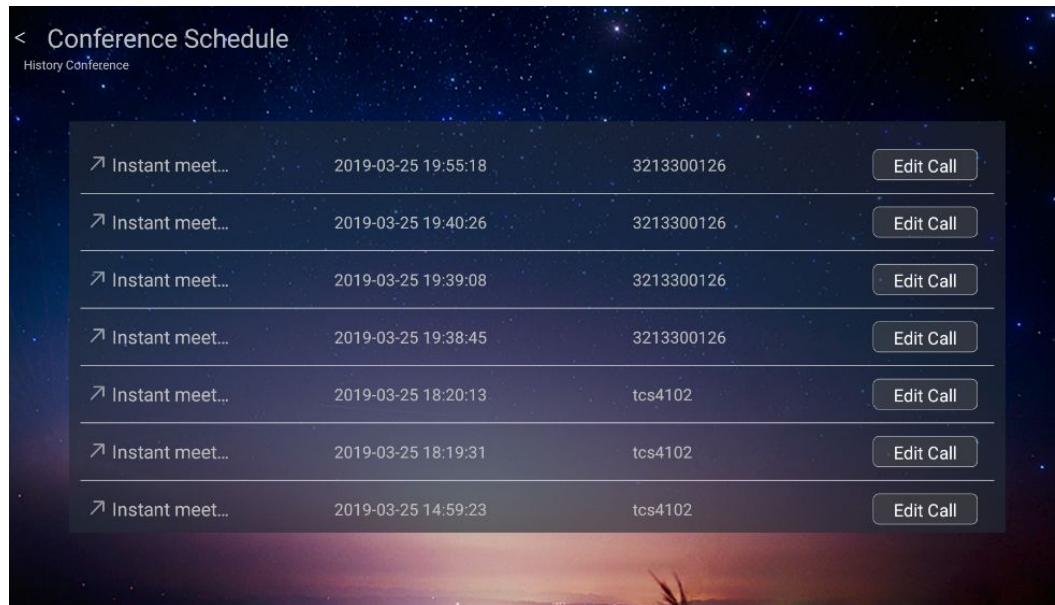
Page display the **History Conference** list.

5.9 Disconnecting a Conference

If it is unnecessary to attend a conference, you can manually disconnect it to save resources.

Context

- In a Point-to-point conference, if either party disconnects it, this conference is ended.
- In a multi-party conference, if a terminal exits, other terminals can continue the conference.

Steps

1. Press any **Direction** key on the remote control to open the **Conference Control** window.
2. Perform the following operations as required.

If...	Then...
A local terminal is engaged in a P2P conference	a. Press the **Disconnect** key on the remote control. b. In the popup dialog box, click **Confirm**, and then press **OK** on the remote control to end the conference.

If...	Then...
A local terminal is engaged in a multi-party conference	Hang up the conference in either of the following ways: ● Press **Disconnect** key on the remote control. In the popup dialog box, click **Confirm**, and then press **OK** on the remote control. The local terminal exits and other terminals continue the conference. ● Click , and then press **OK** on the remote control. In the popup dialog box, click **Confirm**, and then press **OK** on the remote control. The local terminal exits and other terminals continue the conference.

Chapter 6
System Diagnosis and Maintenance

Table of Contents

6.1 System Diagnosis

6.1.1 Viewing the Information of a Version

This procedure describes how to view the information of a terminal version. This facilitates the understanding, usage, and maintenance of a terminal. The **Version Information** window displays the terminal model, terminal ID, MAC address, software version, and hardware version.

Prerequisite

The terminal is not engaged in a conference.

Steps

1. Press **Back** key on the remote control to display the home page.

2. From the home page, select [icon] **> About**. The **About** window is displayed, see Figure 6-1.

Figure 6-1 About Window
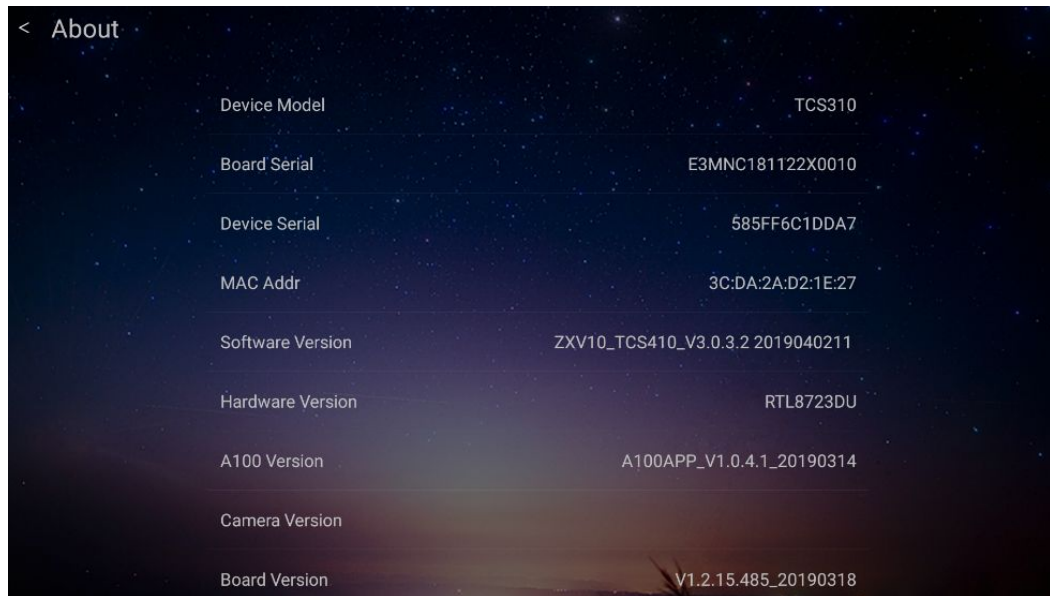
This window displays the terminal model, terminal serial, MAC address, software version, and hardware version.

6.1.2 Viewing the Information of a Call

This procedure describes how to view the information of a call in communication mode. This facilitates the understanding, usage, and maintenance of a terminal. The **Call Information** window displays sent and received media stream messages as well as call, primary video, secondary video, and audio parameters.

Prerequisite

The terminal is engaged in a conference.

Steps

1. Press any **Direction** key to open the **Conference Control** window.
2. In the **Conference Control** window, click the **Information** icon on the lower left corner, and press the **OK** key on the remote control. The **Remote Information** window is displayed, see Figure 6-2.

Figure 6-2 Remote Information Window

This window displays the following call information of a terminal:

● Primary/secondary video parameters: including call type, bandwidth, call rate, format, FPS, network VPL, video VPL.

● Call parameters: including the call rate, call type and LSD/MLP rate.

● Audio parameters: including the rate, format and bandwidth as well as the audio packet loss ratio.

6.1.3 Viewing the Information of a Terminal

This procedure describes how to view the information of a terminal, such as terminal name, network status, registration status of the cloud service, and audio/video interface status. This facilitates the understanding, usage, and maintenance of a terminal.

Prerequisite

The terminal is engaged in a conference.

Steps

1. Press any **Direction** key to open the **Conference Control** window.
2. In the **Conference Control** window, click the **Information** icon on the lower left corner, and press the **OK** key on the remote control to open the **Local Information** window.
3. Press **OK** on the remote control to open the **Local Information** window, see Figure 6-3.

Table 6-1 describes the parameters of the **Local Information** window.

Table 6-1 Local Information Descriptions

Parameter	Description
Terminal Name	The terminal name (for example, **Shenzhen Industrial Park 10–01**) configured through ⚙ **> Other**.
IP Addr.	The IP address of a terminal.
MAC Addr.	The Media Access Control (MAC) address (namely, physical address) of a terminal before shipment. A MAC address is unique globally and determined by a network adapter.
SIP Status	Displays the SIP user name (of the current terminal) registered to the cloud service. For the registration method, refer to 4.1.3 Configuring the SIP Conference Cloud Service.
GK Status	Displays the GK (of the current terminal) registered to the cloud service. For the registration method, refer to 4.1.4 Configuring the H.323 Conference Cloud Service.
Video Source	The currently used interface and its operating status of the video source of a terminal.
Audio Source	The currently used interface and its operating status of the audio source of a terminal.

6.1.4 Uploading and Downloading Log Files

To facilitate users to query and check the operation information of a terminal, the system will automatically record logs. This procedure describes how to upload log files to a server or download log files from a storage device (for example, a USB storage device). This facilitates you to maintain a terminal or locate a problem from a terminal.

Prerequisite

The terminal is not engaged in a conference.

Steps

1. Press **Back** key on the remote control to display the home page.

2. From the home page, select ⚙ **> System > System Diagnosis**. The **System Diagnosis** window is displayed, see Figure 6-4.

Figure 6-4 System Diagnosis window

3. Perform the following operations as required.

To...	Do...
Upload log files	a. In the **Upload Log** area, set log server parameters by referring to Table 6-2. Click **Save**, and press the **OK** key. b. Select **Start upload** from the **Upload Log** area. The window displays the upload progress. After the log files are successfully uploaded, the window displays **File upload success!**
Download log files	a. Connect a storage device (for example, a USB storage device) to the **USB** port of a terminal. b. Select **Click start download** from the **Download the log** area. The window displays the download progress. After the log files are successfully downloaded, the window displays **File download success!**

Table 6-2 Descriptions of Log Server Parameters

Parameter	Description
Server IP	IP address of the log server, for example, **10.12.13.14**.

Parameter	Description
Port	Port of the log server, for example, **8080**.
The user name	Username and password for logging in to the log server.
Password	

6.1.5 Testing the Sound of a Terminal

If the network sound of the terminal is faulty, you can perform a local-sound loop back test. This procedure describes how to test whether the microphone of a terminal is properly connected and operated.

Prerequisite

The terminal is not engaged in a conference.

Steps

1. Press **Back** key on the remote control to display the home page.

2. From the home page, select ![icon] **> System > System Diagnosis**. The **System Diagnosis** window is displayed, see Figure 6-5.

Figure 6-5 System Diagnosis window
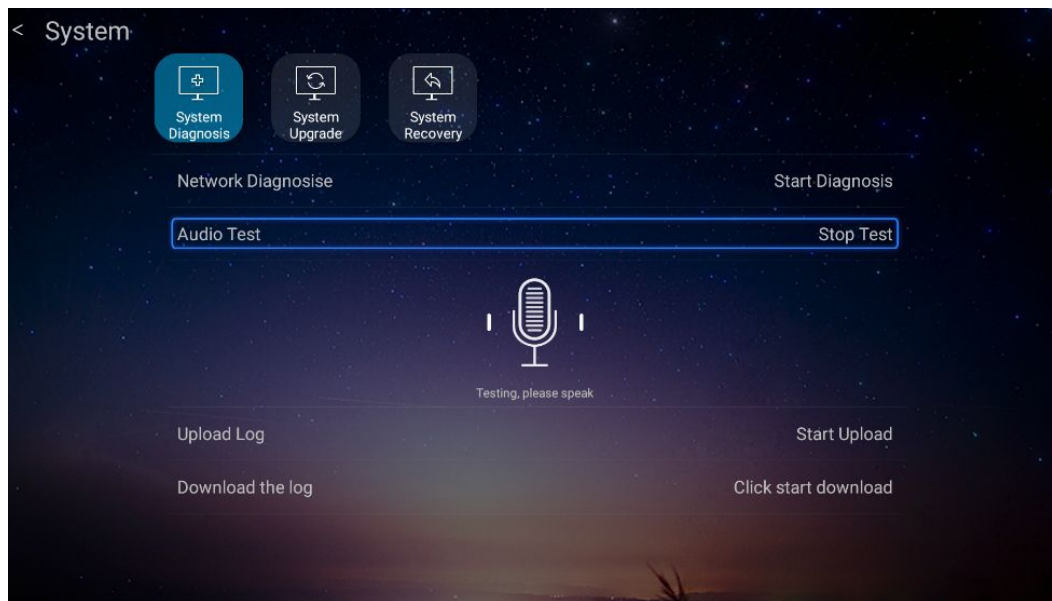
3. Select **Start Test** from the **Audio Test** area, and then press **OK** on the remote control.

4. Speak to the microphone. The window displays the volume of the microphone (![icon]: green bar).

6-6

The terminal automatically plays the sound recorded. If you can hear a proper sound, it indicates that the microphone is normal.

5. (Optional) Select **Stop Test** from the **Audio Test** area to stop the test. Otherwise, the system will not stop the test.

6.1.6 Diagnosing a Network Connection

When the terminal network is faulty, you can diagnose the network connectivity between the terminal and the set server or remote end. One-click diagnosis of the network connectivity between the terminal and the server is provided. You can also enter an IP address to perform a ping test to diagnose the connection to a remote end.

Prerequisite

The terminal is not engaged in a conference.

Steps

1. Press **Back** key on the remote control to display the home page.

2. From the home page, select [icon] **> System > System Diagnosis**. The **System Diagnosis** window is displayed, see Figure 6-6.

Figure 6-6 System Diagnosis Window
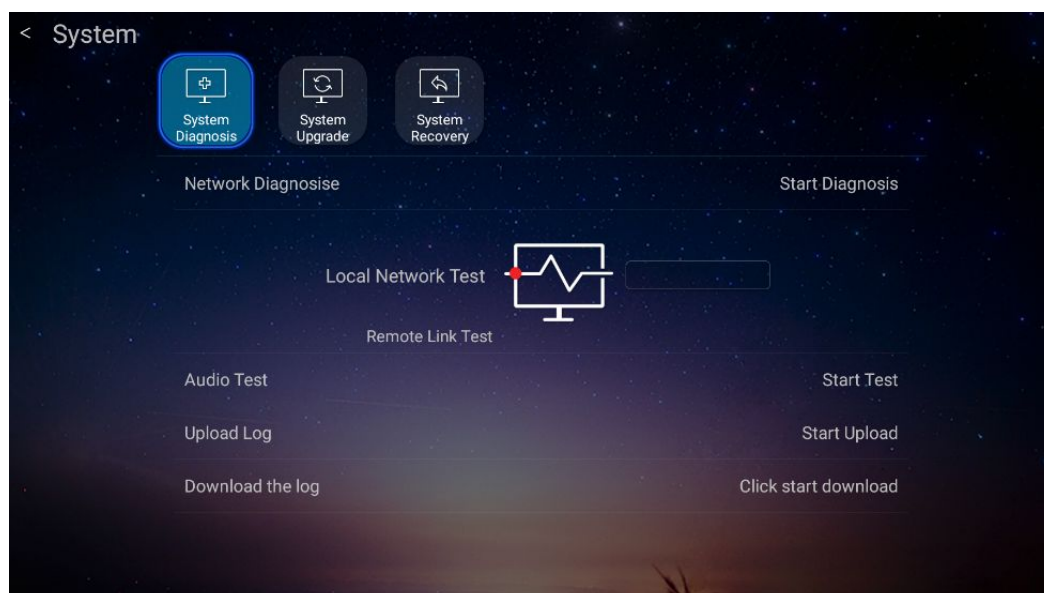
3. Enter the IP address of a remote terminal into the **Network Diagnosis** area.

   Remote Link Test is used to detect whether a terminal is properly connected to a cloud service authentication server (default) or remote terminals through a network.

4. Click **Start Diagnosis**, and then press **OK** on the remote control to start a diagnosis.
5. Click **Stop Diagnosis**, and then press **OK** on the remote control to stop the diagnosis.

6.2 System Maintenance

6.2.1 Configuring a Software Upgrade Method

A terminal supports the following software upgrade methods:

- Local upgrade: The upgrade file package is stored on a local storage device (for example, a USB storage device). The terminal detects the software version and upgrades it.
- Network upgrade. The upgrade file package is stored on a server. The terminal detects the software version and upgrades through a specified path.

Notice!

During an upgrade, the system displays the upgrade progress. In this case, do not disconnect the power. Otherwise, the device may be damaged.

Prerequisite

The terminal is not engaged in a conference.

Steps

1. Press **Back** key on the remote control to display the home page.

2. From the home page, select [icon] **> System > System Upgrade**. The **System Upgrade** window is displayed, see Figure 6-7.

Figure 6-7 System Upgrade Window
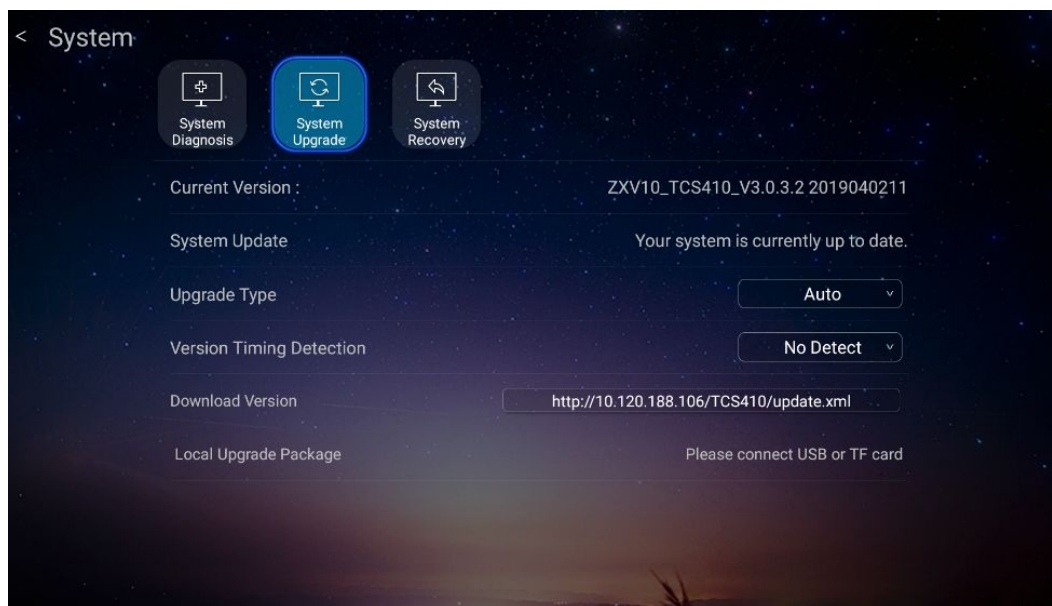
3.   Configure software upgrade parameters. For a description of the parameters, refer to Table 6-3.

Table 6-3 Software Version Upgrade Descriptions

Parameter	Description
Current Version	The version number of the current terminal.
System Update	Whether to update the latest version or whether to detect a new version.
Upgrade Type	Options: **Prohibit**, **Auto**, and **Manual**. **Manual** is recommended. ● **Prohibit**: The version is not updated. ● **Auto**: The system automatically detects the latest version and prompts you to perform an upgrade every time when a terminal is powered on or the **System Upgrade** window is open. ● **Manual**: You need to manually perform a version upgrade. Open the **System Upgrade** window, enter the IP address of the server, or insert the USB storage device where the upgrade file package is stored. After a new version is detected, select **OK** to perform upgrade.
Version Timing Detection	Options: **No Detect**, **1H**, **2H**, **4H**, and **8H**. If **No Detect** is selected, whether there is an update is not detected. The terminal detects whether there is any version update in accordance with the time period set by **Version Timing Detection**. If there is an update, it performs download and upgrade. If the detection time is set, the version upgrade path is detected immediately after the configuration is saved, and is detected at the interval of this time. If a new version is found, the terminal performs upgrade. If the upgrade mode is not **Auto**, and if the upgrade is rejected when upgrade information is displayed on the screen for the first time, the terminal will not detect whether there is any version update in accordance with the time period set by **Version Timing Detection**.
Download Version	You need to configure this parameter for a network upgrade, but not for a local upgrade. Enter the IP address of the server where the upgrade file package is stored.
Local Upgrade Package	You need to configure this parameter for a local upgrade, but not for a network upgrade. Insert the USB storage device with the upgrade file package into the USB port of a terminal. The terminal will automatically detect the upgrade file package.

4. Click **Back** on the remote control to save your configuration.

6.2.2 Recovering System Settings

This procedure describes how to restore the factory default settings of the terminal, when it is faulty.

Note:

If a system is recovered, the terminal may lose some information, such as call records and logs.

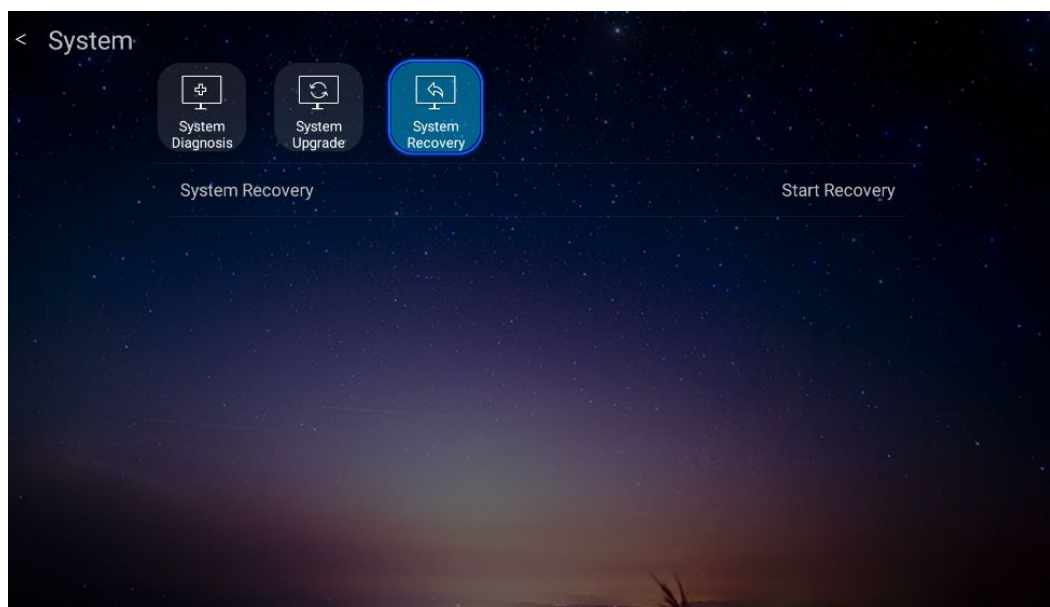## Prerequisite

The terminal is not engaged in a conference.

Steps

1. Press **Back** key on the remote control to display the home page.

2. From the home page, select [icon] **> System > System Recovery**. The **System Recovery** window is displayed, see Figure 6-8.

Figure 6-8 System Recovery window

3. Click **Start Recovery**, and then press **OK** on the remote control.
4. In the popup dialog box, click **OK**, and then press **OK** on the remote control.

   The terminal starts to load the factory settings of the software version. After the factory settings are loaded, it will be automatically restarted.

6.2.3 Querying Customer Service Information

This procedure describes how to query customer service information. You can obtain more product information and help.

Prerequisite

The terminal is not engaged in a conference.

Steps

1. Press **Back** key on the remote control to display the home page.

2. From the home page, select ⚙ **> Contact us**. The **Contact us** window is displayed, see Figure 6-9.

Figure 6-9 Contact us Window
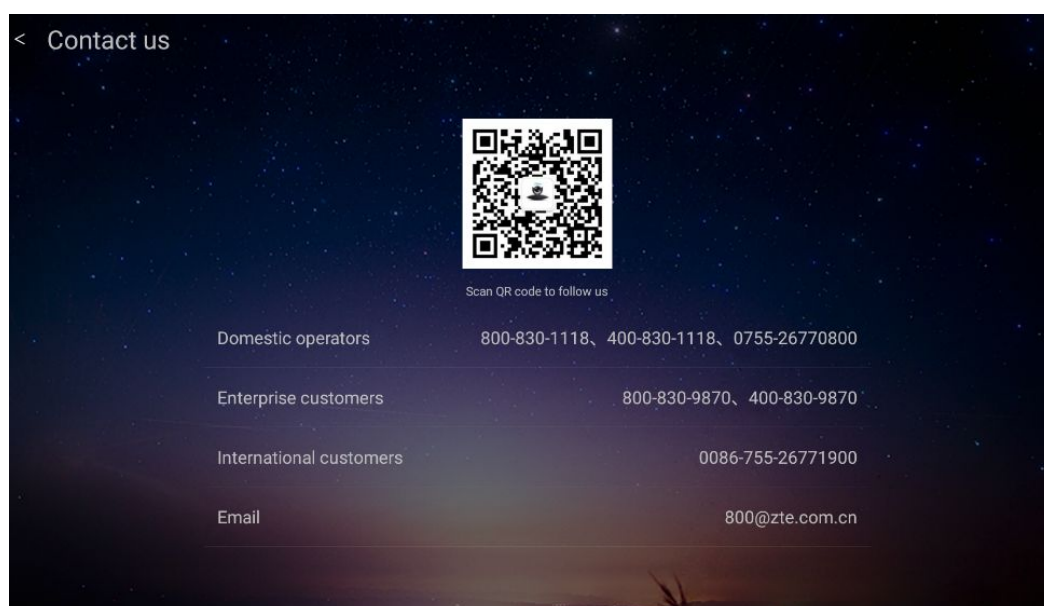
This window provides contact information, such as the E-mail address, phone number, and two-dimensional code (official Wechat).

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Glossary

ACS
  - Auto Configuration Server

AES
  - Advanced Encryption Standard

BFCP
  - Binary Floor Control Protocol

DHCP
  - Dynamic Host Configuration Protocol

DNS
  - Domain Name Server

FEC
  - Forward Error Correction

H.323
  - ITU-T Rec. Packet-based Multimedia Communications Systems

HDMI
  - High-Definition Multimedia Interface

ICE
  - Interactive Connection Establishment

LSD
  - Low Speed Data

MAC
  - Media Access Control

MCU
  - Multipoint Control Unit

MLP
  - Multiple Link Protocol

NAT
  - Network Address Translation

QoS
  - Quality of Service

RTP
  - Real-time Transport Protocol

SIP
  - Session Initiation Protocol

SNTP

  - Simple Network Time Protocol

TCP

  - Transmission Control Protocol

TLS

  - Transport Layer Security

UDP

  - User Datagram Protocol

URI

  - Uniform Resource Identifier

VLAN

  - Virtual Local Area Network

VoIP

  - Voice over Internet Protocol

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