



# VC110 Video Conferencing Endpoint Administrator Guide

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## About This Guide

Thank you for choosing the Yealink VC110 full HD video conferencing endpoint. It is an all-in-one unit that supports 1080P-full HD video conferencing and includes outstanding features such as good compatibility, easy deployment and intelligent network adaptability. These make it the best choice for SME.

The Yealink VC110 full-HD video conferencing endpoint is designed to help enterprises organize video conferences easily and efficiently. Users can expect to enjoy the high-quality video conferencing experience very cost-effectively.

The guide is intended for administrators who need to configure, customize, manage, and troubleshoot the video conferencing endpoint properly, rather than for end-users. It provides details on the functionality and configuration of the Yealink VC110 video conferencing endpoint.

Many of the features described in this guide involve network and account settings, which could affect the endpoint's performance in the network. Therefore, an understanding of IP networking and a prior knowledge of VoIP telephony concepts are necessary.

See the [Yealink Products Regulatory Notices Guide](#) for all regulatory and safety guidance.

## Documentations

This guide covers the VC110 video conferencing endpoint. In addition to the administrator guide, the following related documents are available:

- Quick Start Guide, which describes how to assemble the endpoint and configure basic network features on the endpoint.
- User Guide, which describes how to configure and use basic features available on the endpoints.
- Video Conference Room Deployment Solution, which describes the conference room layout requirements and how to deploy the endpoints.
- Network Deployment Solution, which describes how to deploy network for your systems.

You can download the above documentations online:

<http://support.yealink.com/documentFront/forwardToDocumentFrontDisplayPage>

For support or service, please contact your Yealink reseller or go to Yealink Technical Support online: <http://www.yealink.com/Support.aspx>.

## Firmware

Common reasons for updating firmware include fixing bugs or adding features to the device.

You can download the latest firmware for your product online:

<http://support.yealink.com/documentFront/forwardToDocumentFrontDisplayPage>

For more information on how to upgrade the endpoint firmware, refer to [Upgrading Firmware](#) on page 271.

## In This Guide

This administrator guide includes the following chapters:

- Chapter 1, "[VC110 Video Conferencing Endpoint Introduction](#)" describes endpoint components, icons and Indicator LEDs.
- Chapter 2, "[Getting Started](#)" describes how to install and start up the endpoint and configuration methods.
- Chapter 3, "[Configuring Network](#)" describes how to configure network features on the endpoint.
- Chapter 4, "[Configuring Call Preferences](#)" describes how to configure call preferences on the endpoint.
- Chapter 5, "[Configuring Endpoint Settings](#)" describes how to configure basic, audio and video features on the endpoint.
- Chapter 6, "[Endpoint Management](#)" describes how to manage endpoint contacts and call history.
- Chapter 7, "[Configuring Security Features](#)" describes how to configure security features on the endpoint.
- Chapter 8, "[Endpoint Maintenance](#)" describes how to upgrade endpoint firmware and reset the endpoint.
- Chapter 9, "[Troubleshooting](#)" describes how to troubleshoot the endpoint and provides some common troubleshooting solutions.

## Typographic Conventions

Yealink documentations contain a few typographic conventions.

You need to know the following basic typographic conventions to distinguish types of in-text information:

Convention	Description
<b>Bold</b>	Highlights the web/phone user interface items such as menus, menu selections, soft keys, or directory names when they are involved in a procedure or user action (e.g., Click on <b>Setting</b> -> <b>General</b> ). Also used to emphasize text

Convention	Description
Blue Text	Used for cross references to other sections within this documentation (e.g., refer to <a href="#">Troubleshooting</a> ).
<i>Blue Text in Italics</i>	Used for hyperlinks to Yealink resources outside of this documentation such as the Yealink documentations (e.g., For more information, refer to <a href="#">VC110 Video Conferencing Endpoint User Guide</a> .

You also need to know the following writing conventions to distinguish conditional information:

Convention	Description
->	Indicates that you need to select an item from a menu. For example, <b>Settings-&gt;Basic Settings</b> indicates that you need to select <b>Basic Settings</b> from the <b>Settings</b> menu.

## Terms

As you read this guide, you'll notice that the same terms are used repeatedly. Make sure you familiarize yourself with these terms.

**Cloud platform:** This term refers to Yealink VC Cloud Management Service (Yealink Cloud), Yealink Meeting Server, Zoom, BlueJeans, Pexip, Mind and Custom platform.

**Cloud account:** This term refers to Yealink Cloud, YMS, BlueJeans, Pexip, Mind and Custom account.

**Cloud systems:** This term refers to the systems that support Cloud feature, including SIP VP-T49G IP phone, VC desktop and VC110/VC120/VC400/VC500/VC800 video conferencing system.

**Cloud contacts:** This term refers to Yealink Cloud contacts and YMS contacts.

## Summary of Changes

This section describes the changes to this guide for each release and guide version.

### Changes for Release 23, Guide Version 23.20

The following section is new for this version:

- [Virtual Remote Control](#) on page 171
- [Public Mode](#) on page 169
- [Hiding Menu Logo](#) on page 184

- [Multiple Preset](#) on page 210

Major updates have occurred to the following sections:

- [Configuring Video Conference Platform](#) on page 107
- [Appendix B: Trusted Certificates](#) on page 300

## Changes for Release 23, Guide Version 23.6

The following section is new for this version:

- [Registering a YMS Account](#) on page 112
- [Logging out of the Cloud Platform](#) on page 130
- [Sharing Content](#) on page 164
- [Endpoint Integrated with Control Systems](#) on page 244

Major updates have occurred to the following sections:

- [Intelligent Firewall Traversal](#) on page 99
- [Default Layout](#) on page 168

## Changes for Release 22, Guide Version 22.15

The following section is new for this version:

- [Logging into the StarLeaf Cloud Platform](#) on page 114

Major updates have occurred to the following sections:

- [H.323 Tunneling](#) on page 82
- [Enabling H.460 Support for H.323 Calls](#) on page 142
- [Methods of Transmitting DTMF Digit](#) on page 145
- [Dual-Stream Protocol](#) on page 200
- [Camera Control Protocol](#) on page 215
- [H.235](#) on page 264

## Changes for Release 22, Guide Version 22.5

The following sections are new for this version:

- [Virtual Remote Control](#) on page 171
- [Auto Dialout Mute](#) on page 159
- [Meeting Blacklist](#) on page 191
- [USB Configuration](#) on page 222

Major updates have occurred to the following sections:

- [Icon Instructions](#) on page 33
- [Configuring Video Conference Platform](#) on page 107
- [DTMF](#) on page 144
- [Dual-Stream Protocol](#) on page 200
- [Camera Control Protocol](#) on page 215
- [Secure Real-Time Transport Protocol](#) on page 261

## Changes for Release 21, Guide Version 21.20

The following sections are new for this version:

- [Keyboard Input Method](#) on page 192
- [Configuring Video Conference Platform](#) on page 107

Major updates have occurred to the following sections:

- [Icon Instructions](#) on page 33
- [Setup Wizard](#) on page 49
- [Directory](#) on page 231

## Changes for Release 21, Guide Version 21.15

The following section is new for this edition:

- [IPv6 Support](#) on page 64
- [Video Codecs](#) on page 152
- [Hiding Icons in a Call](#) on page 185
- [Output Resolution](#) on page 221
- [Video Recording](#) on page 223
- [Screenshot](#) on page 225

Major updates have occurred to the following sections:

- [Icon Instructions](#) on page 33
- [Setup Wizard](#) on page 49
- [Configuring LAN Properties](#) on page 56
- [Call Protocol](#) on page 153
- [Dual-Stream Protocol](#) on page 200
- [Far-end Camera Control](#) on page 214
- [Search Source List in Dialing](#) on page 242

## Changes for Release 10, Guide Version 10.11

Major updates have occurred to the following sections:

- [Codecs](#) on page 150
- [Configuring Camera Settings](#) on page 206
- [Camera Control Protocol](#) on page 215

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# VC110 Video Conferencing Endpoint

## Introduction

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This chapter contains the following information about VC110 video conferencing endpoint:

- [VoIP Principles](#)
- [Physical Features of Endpoint](#)
- [Packaging Contents](#)
- [Endpoint Component Instructions](#)
- [Icon Instructions](#)
- [LED Instructions](#)
- [User Interfaces](#)

## VoIP Principles

### VoIP

**VoIP** (Voice over Internet Protocol) is a technology that uses the Internet Protocol instead of traditional Public Switch Telephone Network (PSTN) technology for voice communications.

It is a family of technologies, methodologies, communication protocols, and transmission techniques for the delivery of voice communications and multimedia sessions over IP networks. The H.323 and Session Initiation Protocol (SIP) are two popular VoIP protocols that are found in widespread implementation.

### H.323

**H.323** is a recommendation from the ITU Telecommunication Standardization Sector (ITU-T) that defines the protocols to provide audio-visual communication sessions on any packet network. The H.323 standard addresses call signaling and control, multimedia transport and control, and bandwidth control for point-to-point and multi-point conferences.

It is widely implemented by voice and video conference equipment manufacturers, is used within various Internet real-time applications, such as GnuGK and NetMeeting, and is widely deployed by service providers and enterprises for both voice and video services over IP networks.

## SIP

**SIP** (Session Initiation Protocol) is the Internet Engineering Task Force's (IETF's) standard for multimedia conferencing over IP. It is an ASCII-based, application-layer control protocol (defined in RFC 3261) that can be used to establish, maintain, and terminate calls between two or more endpoints. Like other VoIP protocols, SIP is designed to address the functions of signaling and session management within a packet telephony network. Signaling allows call information to be carried across network boundaries. Session management provides the ability to control the attributes of an end-to-end call.

## Physical Features of Endpoint

Video conferencing endpoints are in the overall network topology, which are designed to interoperate with other compatible equipment, including application servers, media servers, Internet-working gateways, and other endpoints.

In order to operate endpoints in your network successfully, the endpoints must meet the following requirements:

- A working IP network is established.
- VoIP gateway is configured for SIP or H.323, and H.323 gatekeeper is configured for H.323. You can also deploy Cloud server for Cloud platform.
- The latest (or compatible) firmware of endpoint is available.
- A call server is active and configured to receive and send SIP/H.323 messages.



### VC110 All-in-one Unit User Interface

- 2 x HDMI
- 1x DVI-I
- 1 x Line-in (3.5mm)



- 1 x Line-out (3.5mm)
- 2 x USB2.0 port
- Others: 1 x security lock slot, 1 x reset slot

#### **Cable Hub User Interface**

- 1x DVI-I
- 1x 10/100Mb (RJ-45)
- 1x VGA
- 1xRJ-45
- Input: AC 100-240V; Output: 12V/2A

#### **Full-HD Camera**

- 1920x1080 video resolution
- Pan range:  $\pm 100^\circ$
- Tilt range:  $\pm 30^\circ$
- Beauty shot feature

#### **Video Resolution**

- Full-HD 1080P at 30fps (1920x1080), from 1Mbps
- 720P (1280x720), from 512Kbps
- W448P (768 x 448), WQVGA (400 x 240)
- 4CIF (704x576), CIF (352 x 288)

## **Packaging Contents**

We provide the following packaging contents. You can purchase any combination according to your needs:

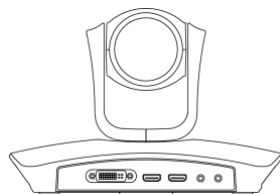
- VC110 Package
- VC110 Package+VCM60 Package
- VC110 Package+VCP40 Package
- VC110 Package+VCP41 Package
- VC110 Package+VCM30 Package

#### **Note**

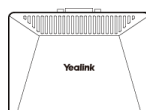
We recommend that you use the accessories provided or approved by Yealink. The use of unapproved third-party accessories may result in reduced performance

## VC110 All-in-one Package

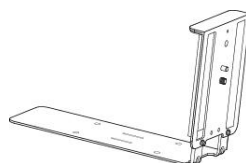
- **VC110 All-in-one Unit**






- **Cable Hub**



- **L-Bracket** (for installing the VC110 one-in-one unit)



- **Mounting Accessories** (for installing the VC110 one-in-one unit)

Expansion bolts		× 4
Screws(Specificaiton: T4×30)		× 4
Screws(Specificaiton: M3×8)		× 2

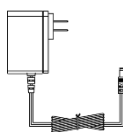
- **VCR10 Remote Control**



- **AAA Batteries×2**



- **Power Adapter**



- **Cables**



DVI Cable



HDMI-VGA Direct Cable



HDMI Cable



Ethernet Cable  
(2m)

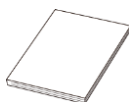
- **Velcro×2**



- **Cable Ties×5**

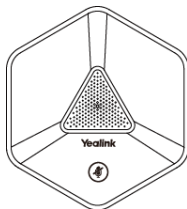


- **VC110 Quick Start Guide**

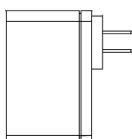


## VCM60 Package

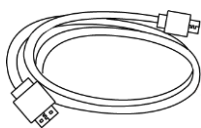
- **VCM60 Video Conferencing Wireless Microphone**



- **Power Adapter**



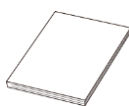
- **USB Cable**



- **Dongle**

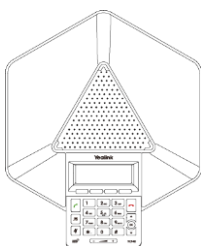


- **VCM60 Quick Start Guide**

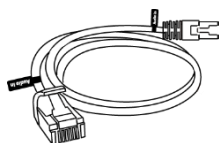


## VCP40 Package

- **VCP40 Video Conferencing Phone**



- **Ethernet Cable (7.5m)**



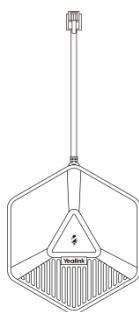
Locate the Audio In port of the cable hub, and connect it to the Audio Out port of the VCP40 video conferencing phone with the 7.5m Ethernet cable. VCP40 video conferencing phone can work as an audio device for the VC110 endpoint. You can also place calls, answer calls or view directory and history on the VCP40 video conferencing phone.

## VCP41 Package

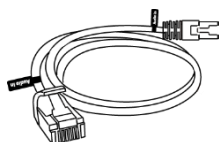
- **VCP41 Video Conferencing Phone**



- **Expansion Microphone CPE80×2**



- **Ethernet Cable (7.5m)**



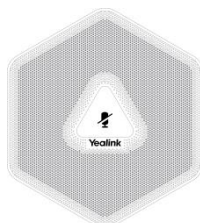
- **3.5mm Audio Cable** (for connecting a PC/Mobile device to the VCP41)



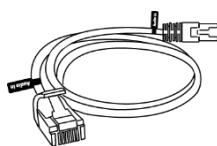
Locate the Audio In port on the cable hub, and connect it to the Audio Out port of the VCP41 video conferencing phone with the 7.5m Ethernet cable. VCP41 Video conferencing phone can work as an audio device for the VC110 endpoint. You can also place calls, answer calls or view directory and history on the VCP41 video conferencing phone.

## VCM30 Package

- **VCM30 Video Conferencing Microphone Array**



- **Ethernet Cable (7.5m)**



Locate the Audio In port of the cable hub, and connect it to the Audio Out port of the VCM30 with the 7.5m Ethernet cable. VCM30 video conferencing microphone array can work as the audio input device for the VC110 endpoint. For more information, refer to [Audio Input Device](#) on page 195.

### Note

Check the list before installation. If you find anything missing, contact your system administrator.

## Endpoint Component Instructions

Before installing and using the VC110 video conferencing endpoint, you need to be familiar with the following endpoint components, including:

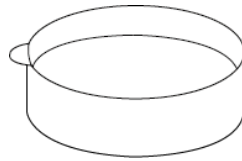
- [VC110 All-in-one Unit](#)
- [Cable Hub](#)
- [VCM60 Video Conferencing Wireless Microphone](#)
- [Video Conferencing Phone](#)
- [CPE80 Expansion Microphone](#)
- [VCM30 Video Conferencing Microphone Array](#)
- [VCR10 Remote Control](#)

## VC110 All-in-one Unit

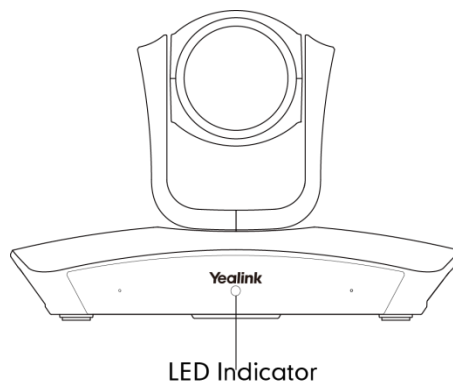
The VC110 all-in-one unit integrates the camera, the built-in microphone and the codec into a unit. VC110 all-in-one unit compresses outgoing video and audio data, transmits this information to the far end, and decompresses incoming data. It supports 16:9 and 4:3 aspect ratios. It can be compatible with different audio output devices, and can adapt to the display devices automatically.

### Lens cover

The lens cover is used for protecting the lens, which shall not receive dust pollution and all possible brush, collision.

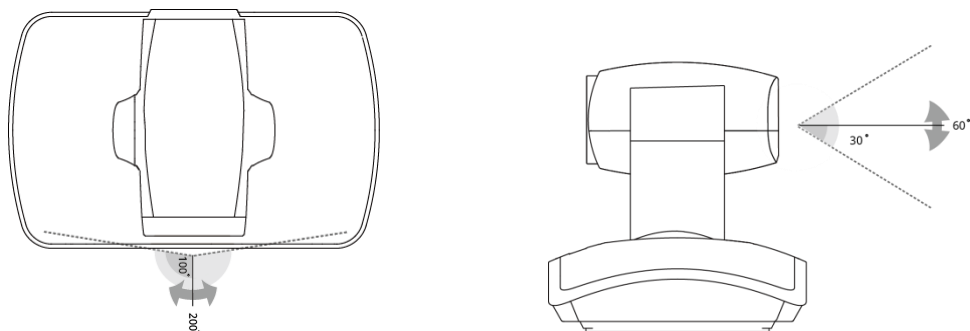


### The front of VC110 all-in-one unit



The HD camera supports 4xdigital zoom, white balance and automatic gain. You can place the VC110 all-in-one unit on the table or mount it on a wall. The LED indicator in front of the camera indicates different statuses of the endpoint. For more information, refer to [LED Instructions](#) on page 36.

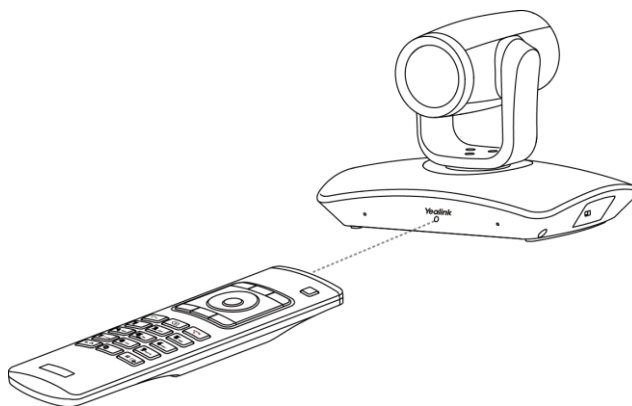
You can use the remote control to adjust the position or focus of the camera. The VC110 camera can be panned ( $\pm 100$  degrees range), tilted ( $\pm 30$  degrees range).





## Infrared Sensor

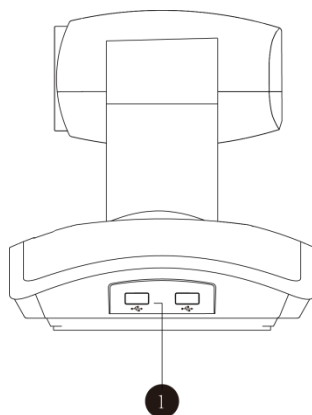
The infrared sensor is located within the Yealink logo. Aim the remote control at the camera IR sensor to operate the unit.



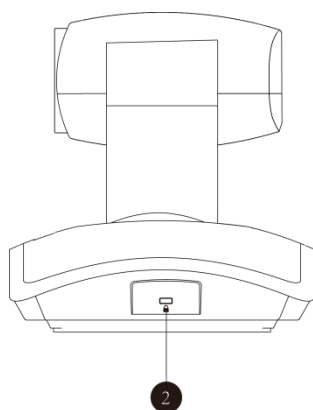
### Note

When the endpoint is powered on, avoid physically turning the camera. This may cause permanent damage to the camera. Always use the remote control to pan and tilt it.

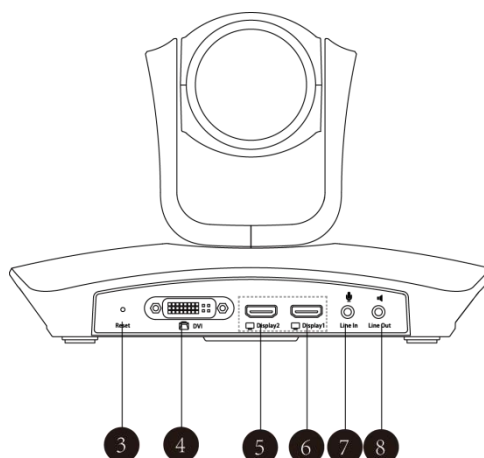
## The right side of the VC110 all-in-one unit



	Port Name	Description
①	USB	<p>Inserts a USB flash drive to one of the two USB ports for storing screenshots, recording videos or capturing packets. Inserts a dongle to one of the two USB ports for connecting the VCM60 video conferencing wireless microphone.</p> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>The wireless microphone dongle and USB flash drive can work at the same time.</li> <li>If two USB flash drives are connected, only the latter one can be identified.</li> </ul>

**The left side of the VC110 all-in-one unit**

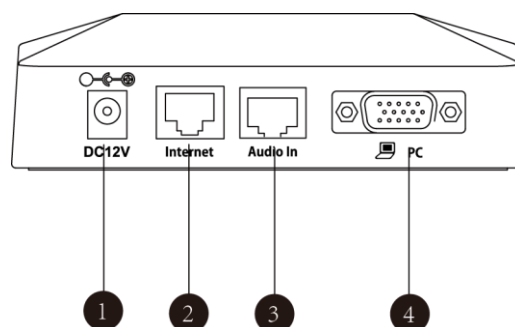
	Port Name	Description
②	Security Slot	Allows you to connect a universal security cable to VC110 all-in-one unit, so you can lock it down. The endpoint cannot be removed when locked.

**The back of VC110 all-in-one unit**

	Port Name	Description
③	Reset Key	Resets the endpoint to factory defaults.
④	DVI Port	Connects to the cable hub.
⑤	Display1	Connects to a display device for displaying video images. When connecting to only one display device, Display1 port on the VC110 all-in-one unit is the only available port.
⑥	Display 2	Connects to secondary display device for displaying video images.
⑦	Line In	Connects to an audio input device using an audio cable (3.5mm).
⑧	Line Out	Connects to an audio output device using an audio cable (3.5mm).

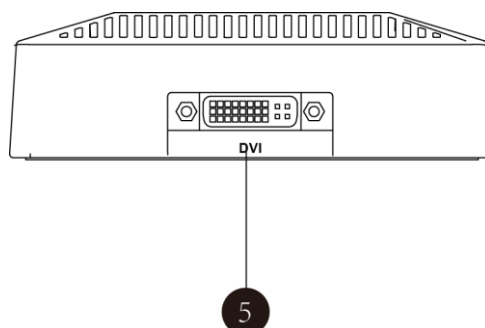
## Cable Hub

### The front of cable hub:



	Port Name	Description
①	DC12V	Connects to the power source via a power adapter.
②	Internet	Connects to the network device.
③	Audio In	Connects to the video conferencing phone or the VCM30 video conferencing microphone array.
④	PC	Connects to a PC for sharing documents or videos during a call.

### The back of cable hub:

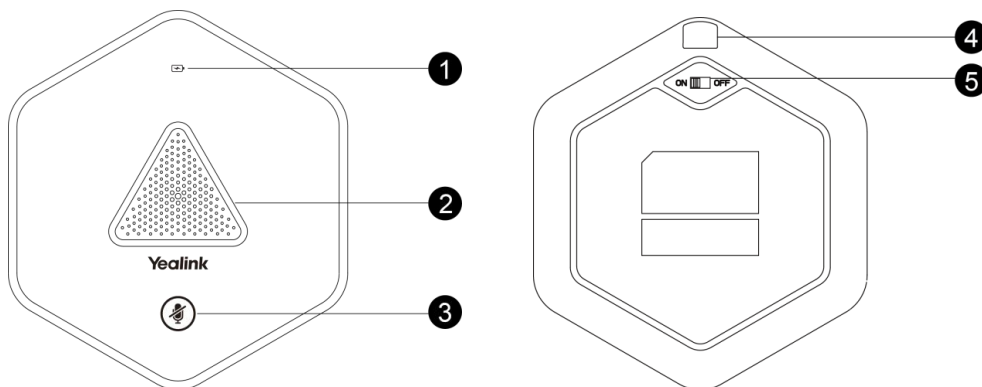


	Port Name	Description
⑤	DVI Port	Connects to the VC110 all-in-one unit.

## VCM60 Video Conferencing Wireless Microphone

The VCM60 is a video conferencing wireless microphone which can work as the audio input device for VC110 video conferencing endpoint. It supports 360-degree audio pickup at a radius of up to 2 meters. There are a mute button and a battery indicator LED on its top. You can mute or unmute the VCM60 by tapping the mute button.

There is a power switch on its bottom. You can turn off this switch if the VCM60 is not in use for a long period of time.



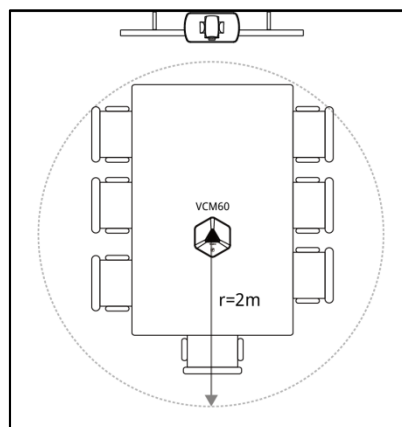
	Name	Description
①	Battery Indicator LED	Indicates the battery information. For more information on the mute indicator LED, refer to <a href="#">LED Instructions</a> on page 36.
②	Built-in Microphone	Supports 360-degree audio pickup at a radius of up to 2 meters.
③	Mute Button	<ul style="list-style-type: none"> <li>Mutes or unmutes the VCM60. For more information on the mute indicator LED, refer to <a href="#">LED Instructions</a> on page 36.</li> <li>Activates the VCM60 to search for the dongle when it is in the offline standby mode. For more information, refer to <a href="#">Standby Mode</a> on page 33.</li> <li>Enters registration mode. For more information, refer to <a href="#">Registering and Unregistering the VCM60</a> on page 18.</li> </ul>
④	Charging Interface	Connects the VCM60 to a power adapter or a computer's USB port using a USB cable to charge the VCM60.
⑤	Switch	Turns on or off the VCM60.

## Placing the VCM60

The VCM60 has a rubber pads on its base to prevent it from sliding. You can place the VCM60 on a conference table. Do the following to ensure optimal voice quality:

- For registering to the dongle successfully, make sure the VCM60 video conferencing wireless microphone is less than 30 meters distant from the dongle.
- Place the VCM60 on a stable surface and keep it away from obstacles so that it can

effectively pick up sounds.



### Turning On or Off the VCM60

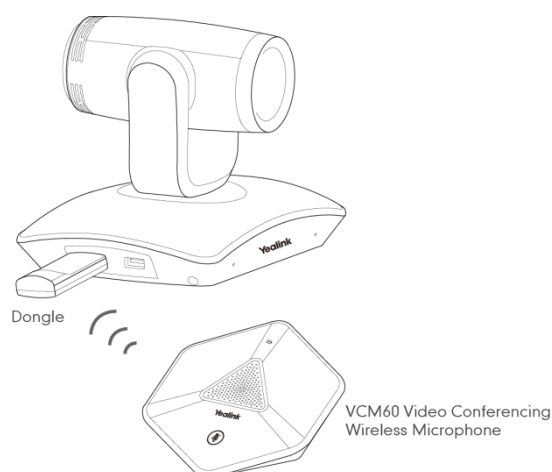
There is a power switch on the bottom of the VCM60. Turn on the power switch to start the VCM60. After the VCM60 starts, it registers with the paired dongle automatically. You can turn off this switch if the VCM60 is not in use for a long period of time.


### Connecting VCM60 to the Video Conferencing Endpoint

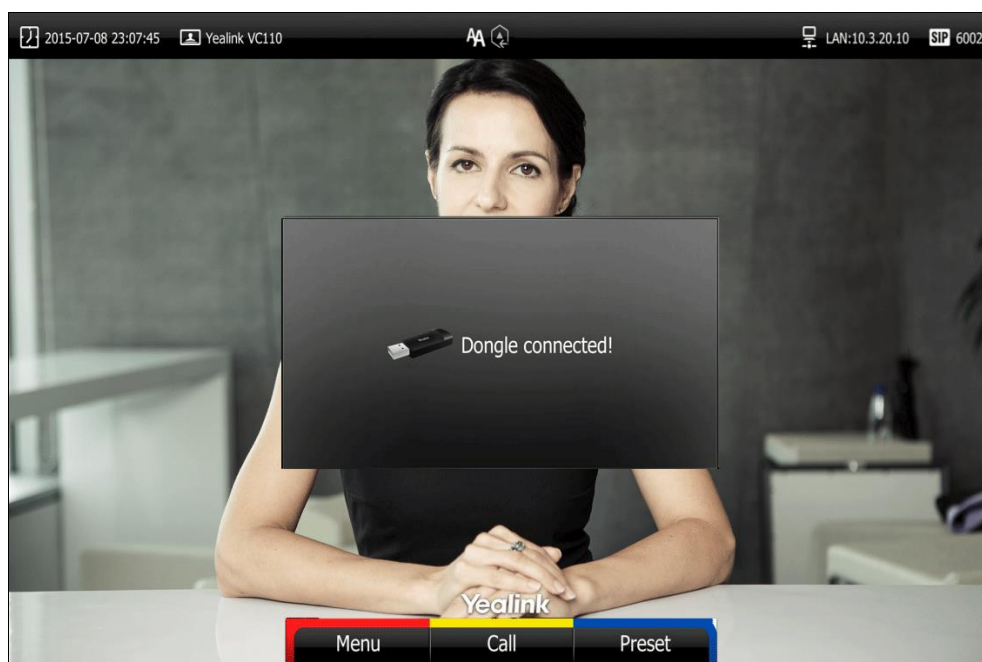
To ensure good voice quality, VCM60 video conferencing wireless microphone can be connected to the VC110 video conferencing endpoint to work as the audio input device.

**To connect the VCM60 to the VC110 video conferencing endpoint, do the following:**




1. Connect the dongle to one of the USB ports on the VC110 all-in-one unit.

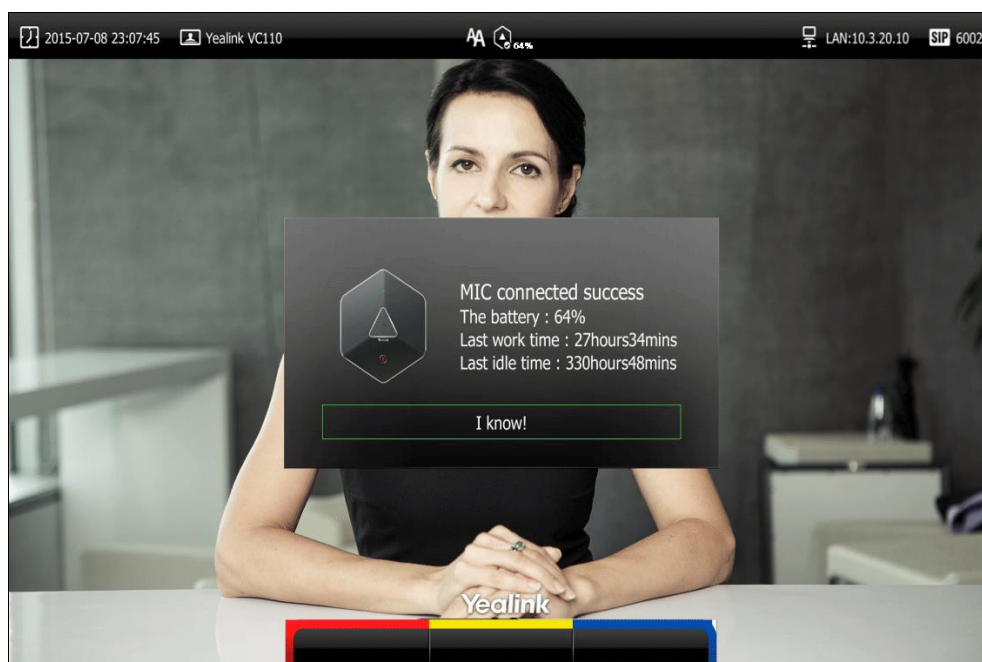


The display device prompts "Dongle connected!", and the  (unregistered) icon appears on the status bar.




## 2. Turn on the VCM60.

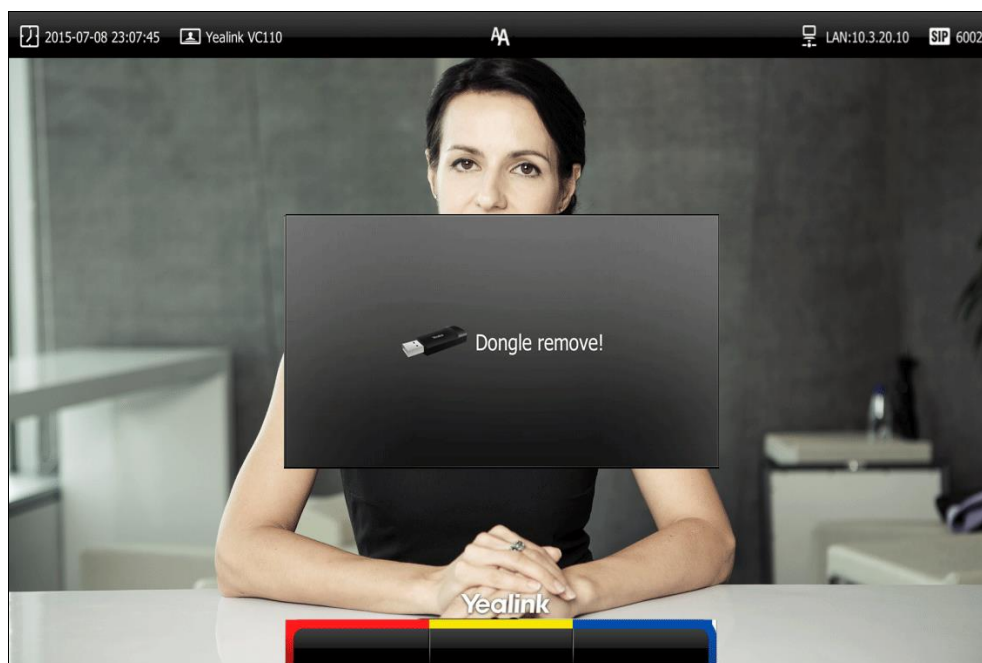
The VCM60 registers with the dongle automatically. If successful, the  (unregistered) icon will change to  (registered). Current capacity appears on the right side of the  icon. When the standby time is less than 1 hour, please charge the VCM60. For more information, refer to [Charging the VCM60](#) on page 20.



**To remove the VCM60 from the VC110 video conferencing endpoint, do the following:**

1. Remove the dongle from the VC110 all-in-one unit.

The display device prompts "Dongle remove!". And the icon  disappears from the status bar.



## Standby Mode

The VCM60 supports two standby modes: online standby and offline standby.

### Online standby:

- When registering with dongle successfully, the VCM60 enters online standby mode and the mute indicator LED changes to green and is in breathing state.

### Offline standby:



- If VC110 video conferencing endpoint encounters poor signal, wireless interference or is powered off, the VCM60 may lose connection with the dongle. In this case, the VCM60 will search for the dongle again, and the mute indicator LED fast flashes green. If dongle cannot be searched in 2 minutes, the VCM60 will enter offline standby mode automatically and the mute indicator LED slowly flashes orange.
- When the VCM60 is in offline standby mode, you need to tap the mute button to activate VCM60 to search for dongle again and the mute indicator LED fast flashes green.

## Muting or Unmuting the VCM60



There is a mute button on the top of the VCM6. If VCM60 works as the audio input device of the VC110 video conferencing endpoint, you can mute or unmute it in the following scenarios:

- If you do not want to have your voice broadcast during a conference, you can tap the mute button to mute the VCM60.
- If you want to speak again during a conference, you can tap mute button to unmute the VCM60.

### To mute the VCM60 during a call:

1. Tap  again to un-mute the call.  
The mute indicator LED illuminates solid red. And the  mute icon appears on the local video image.

### To un-mute the VCM60 during a call:

1. Tap  again to un-mute the call.  
The mute indicator LED illuminates solid green. And the  mute icon disappears from the local video image.

## Viewing VCM60 Information

When the dongle is connected to the USB port of the VC110 one-in one unit, you can view VCM60 status via the remote control or web user interface.

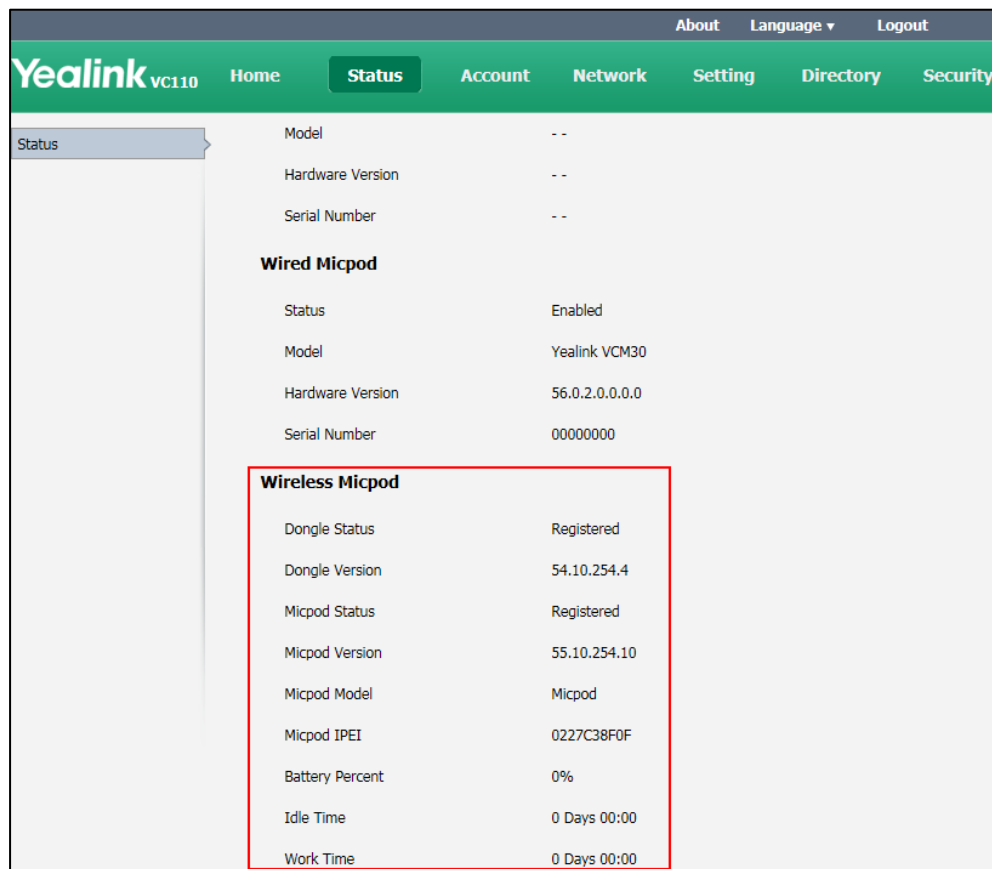
Available information of VCM60 includes:

- Dongle status
- Dongle Version
- Micpod Status
- Micpod Version
- Micpod Model
- Micpod IPEI
- Battery percent
- Idle Time (estimated standby time)
- Work Time(estimated working time)



**To view the VCM60 information via web user interface:**

1. Click on **Status**.

**To view the VCM60 information via the remote control:**

1. Select **Menu->Status->Wireless Micpod**.

## Registering and Unregistering the VCM60

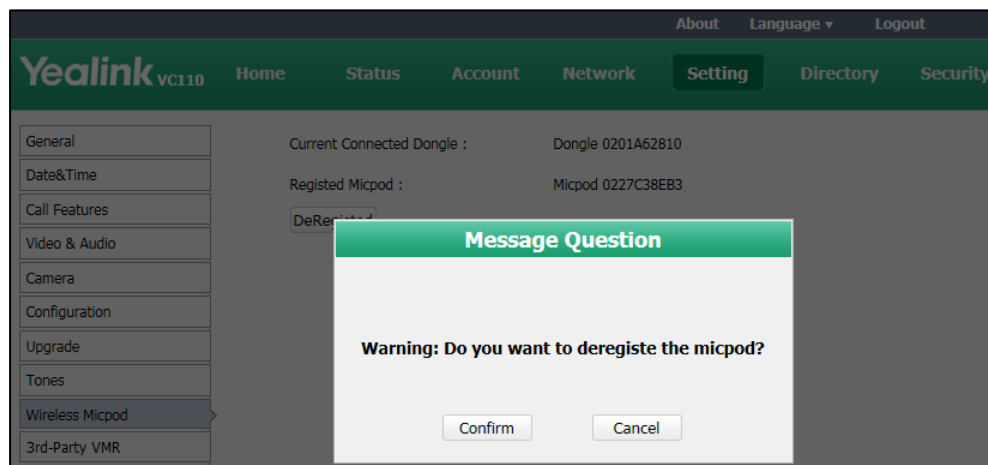
The VCM60 video conferencing wireless microphone and dongle are automatically "paired" at the factory. But In following cases, you may need to deregister or register the VCM60 video conferencing wireless microphone manually.

- The device is broken, new VCM60 or new dongle need to be re-paired.
- VCM60 and dongle need to be paired during the production.

You can only register and unregister the VCM60 via web user interface. The web user interface will display the model and product ID of the dongle and video conferencing wireless microphone.

**To deregister the VCM60 via web user interface:**

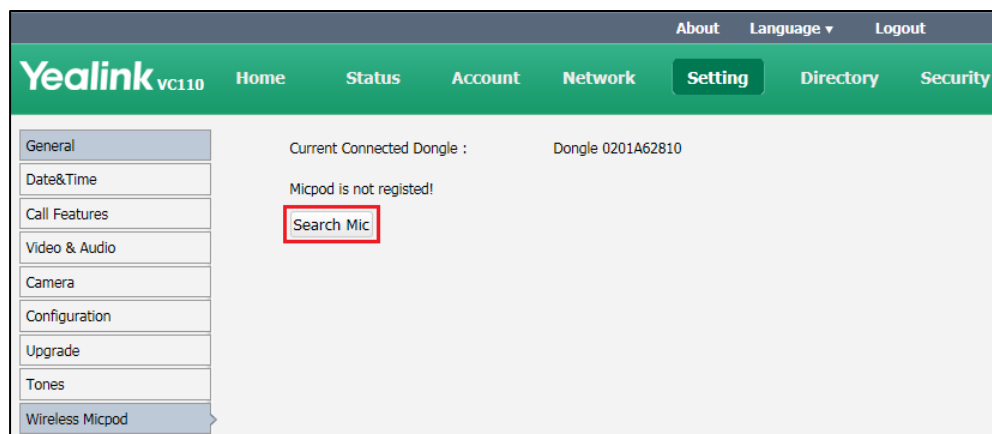
1. Click on **Setting->Wireless Micpod**.
2. Click **DeRegistered**.



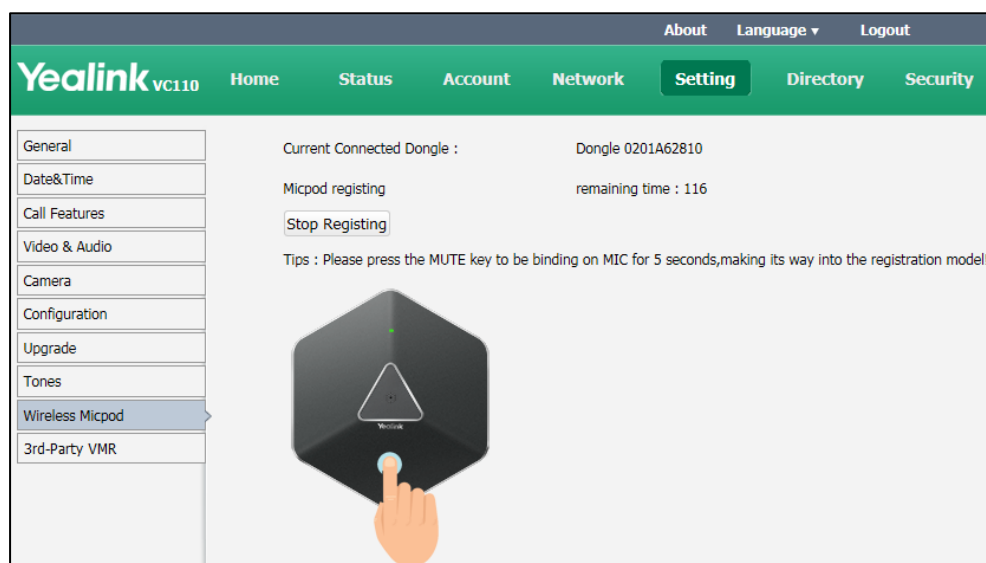
3. Click **Confirm** to deregister the video conferencing wireless microphone.  
The paired information will be cleared. The VCM60 video conferencing wireless microphone will enter offline standby mode and the mute indicator LED slowly flashes orange.

**To register the VCM60 via web user interface:**

1. Click on **Setting->Wireless Micpod**.
2. Click **Search Mic**.




The web user interface starts 120-second countdown for pairing the dongle and video conferencing wireless microphone.



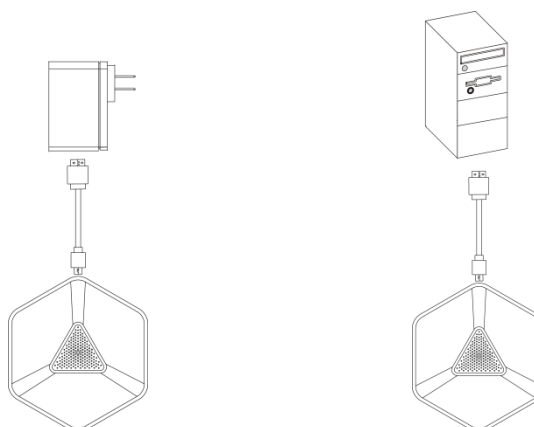
3. Tap and hold the mute button on the VCM60 video conferencing wireless microphone for 5 seconds until the mute indicator LED flashes orange.


The VCM60 video conferencing wireless microphone and the dongle will be paired automatically. If this fails, the VCM60 will exit registration mode in 2 minutes.

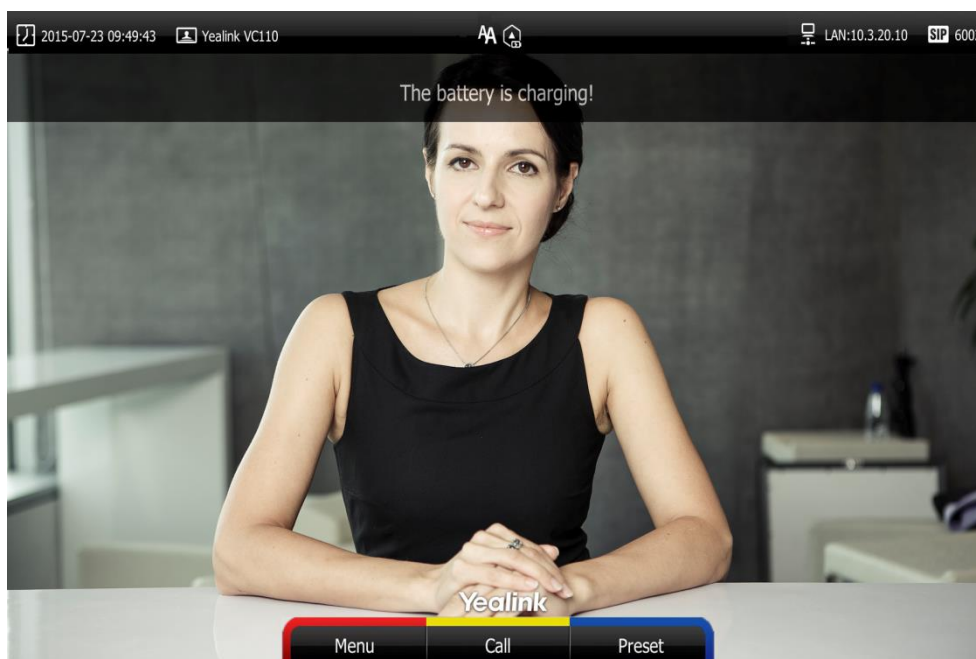
## Charging the VCM60

When the standby time of the VCM60 is less than 1 hour (the battery indicator LED flashes red), the  icon appears on the status bar, and the display device prompts "The battery of wireless micpod is too low, please charge it in time!" every 15 minutes.

To charge the VCM60, connect it to a power adapter or a computer using the supplied USB cable.



The VPM60 can work normally during charging. If you charge the VCM60 when it is working, the display device prompts “The battery is charging!”, and the  (charging) icon appears on the status bar.



During charging, the battery LED indicator will flash green. And it will illuminate solid green when the battery capacity reaches 100%.

### VCM60 Working Frequency

For reference, the Frequency/Channels of VCM60 used in each Region are tabulated below:

Freq (MHz)	RF Carrier Index (DECT tester Numbering)						
	EU	Taiwan	US	LA	Korea	Brazil	Japan
1881.792	9	9					
1883.520	8	8					
1885.248	7	7					
1886.976	6	6					
1888.704	5	5					
1890.432	4	4					
1892.160	3	3					
1893.888	2	2					
1895.616	1						4(F1)
1897.344	0						3(F2)
1899.072							2(F3)

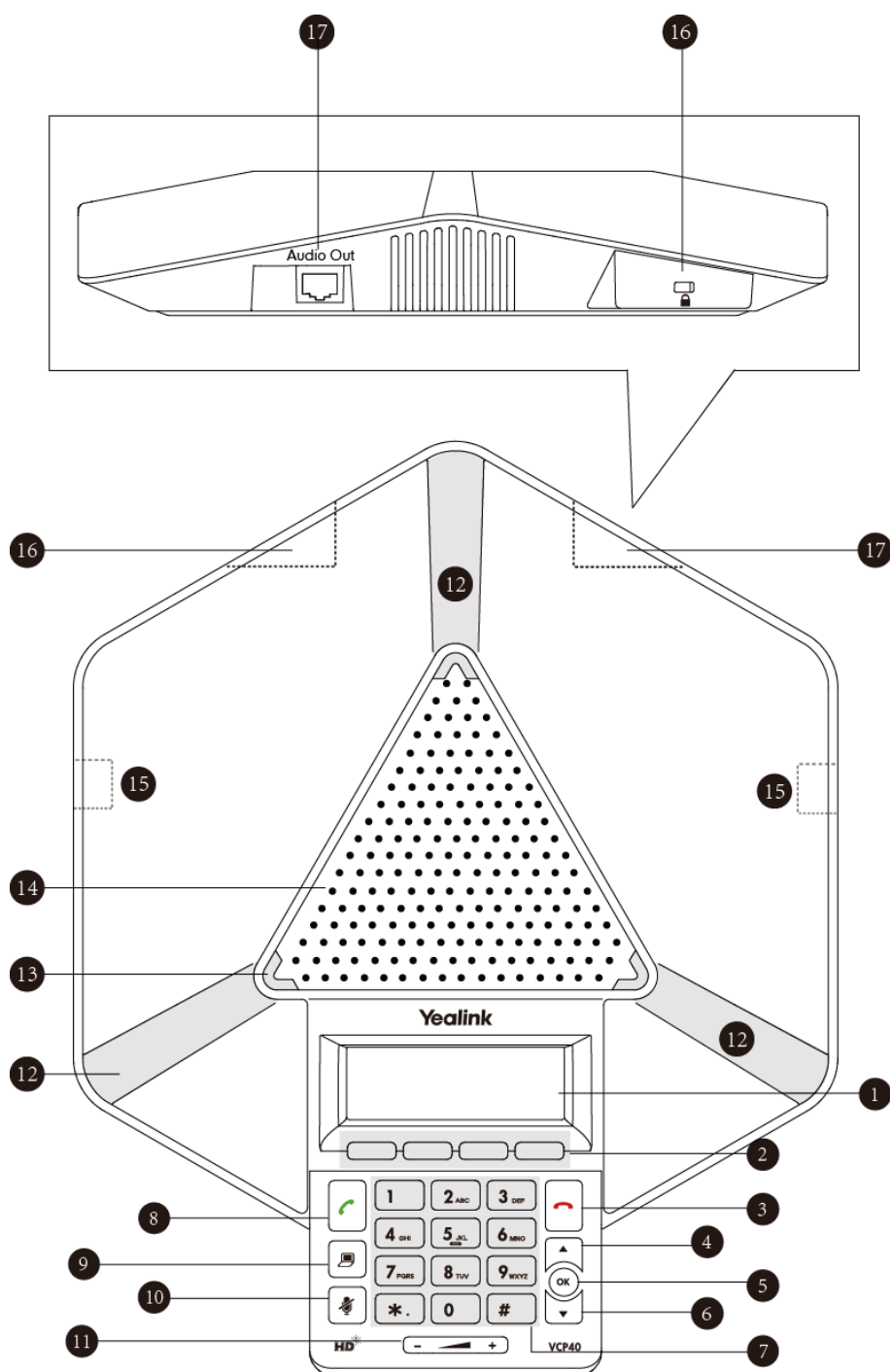
Freq (MHz)	RF Carrier Index (DECT tester Numbering)						
	EU	Taiwan	US	LA	Korea	Brazil	Japan
1900.800							1(F4)
1902.528							0(F5)
1904.256							
1905.984							
1907.712							
1909.440							
1911.168						4	
1912.896				9		3	
1914.624				8		2	
1916.352				7		1	
1918.080				6		0	
1919.808				5			
1921.536			4	4			
1923.264			3	3			
1924.992			2	2			
1926.720			1	1			
1928.448			0	0			
1787.616					8		
1789.344					7		
1791.072					6		

## Video Conferencing Phone


### VCP40 Video Conferencing Phone




The VCP40 video conferencing phone supports 360-degree audio pickup to achieve ultra-HD voice.

Connect the VCP40 video conferencing phone to the cable hub. It can work as an audio device for the VC110. You can also place calls, answer calls or view directory and history on the VCP40 video conferencing phone.



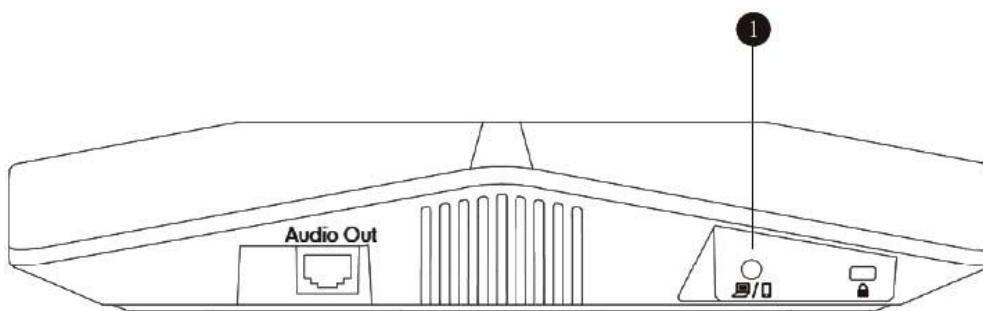
Component instructions of the VCP40 video conferencing phone are:

	Item	Description
①	LCD Screen	Shows information about calls, messages, soft keys, time, date and other relevant data: <ul style="list-style-type: none"> <li>• Call information—call duration</li> <li>• Icons (for example, )</li> </ul>

	Item	Description
		<ul style="list-style-type: none"> <li>• Missed call information</li> <li>• Time and date</li> </ul>
②	Soft Keys	Label automatically to identify their context-sensitive features.
③	On-hook Key	Rejects or ends a call or returns to the previous screen.
④		Scrolls upwards through the displayed information.
⑤		Enters list or answers incoming calls.
⑥		Scrolls downwards through the displayed information.
⑦	Keypad	Generates the digits and special characters ". " "*" "##".
⑧	Off-hook Key	Initiates a call or answers a call.
⑨	Presentation Key	Enables or disables presentation.
⑩	Mute Key	Toggles the mute feature.
⑪	Volume Key	Adjusts the volume of the speakerphone and ringer.
⑫	Microphone	Picks up voice.
⑬	LED Indicators	Indicate phone and call statuses.
⑭	Speakerphone	Provides ringer and hands-free (speakerphone) audio output.
⑮	MIC Port	Connects a CPE80 expansion microphone to one of two MIC ports.
⑯	Security Slot	Allows you to connect a universal security cable to lock down your phone. The phone cannot be removed when locked.
⑰	Audio Out Port	<p>Connects to the video conferencing phone using the 7.5m Ethernet cable labeled Audio in.</p> <p>Provides the power supply for the video conferencing phone.</p>

## VCP41 Video Conferencing Phone

The features of VCP41 video conferencing phone are similar to VCP40. For more information, refer to [VCP40 Video Conferencing Phone](#) on page 22. The only difference is that the back of VCP41 has a PC/Mobile port, which allows you to connect an optional PC or Mobile Device to your phone, so that VCP41 can work as the audio input/output device of your PC or mobile device.



	Item	Description
①	PC/Mobile Port	Allows you to connect an optional PC or Mobile Device to your phone so that you can listen to the PC or mobile audio using your VCP41 video conferencing phone.

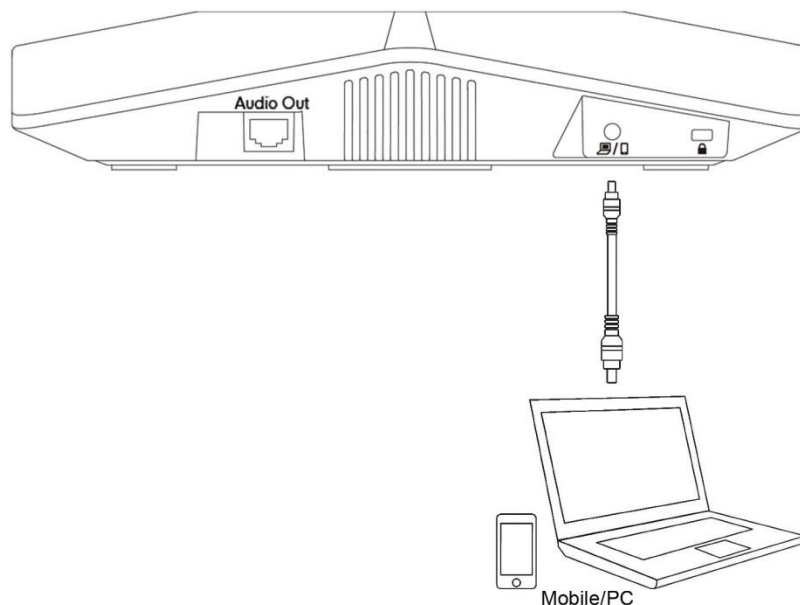
### Connecting a PC or Mobile Device to the VCP41



You can connect a PC or mobile device to the VCP41 when your VC110 video conferencing endpoint is idle, is placing a call or during a call.



**To connect a PC or mobile device to your VCP41:**

1. Connect one end of the 3.5mm audio cable to the PC/mobile port on the VCP41 phone, and connect the other end to the headset jack on the mobile device or the AUX/MIC jack on the PC.



The  icon will appear on the display device, and the icon  will appear on the video conferencing phone.




As a result, VCP41 will work as the audio input/output device of your PC or mobile device. For example, when the PC or mobile device is playing a video or music, you can listen to the audio on your VCP41. If your PC or mobile device receives an incoming call, you can use VCP41 to listen and speak.

**Adjusting the Volume of the PC or Mobile Audio**

When your PC or mobile device is during a call, you can adjust the output volume of the PC/mobile device via your VCP41.

**To adjust the volume of the PC or mobile device:**

1. When your PC or mobile device is during a call, press  on the VCP41 to adjust the volume.

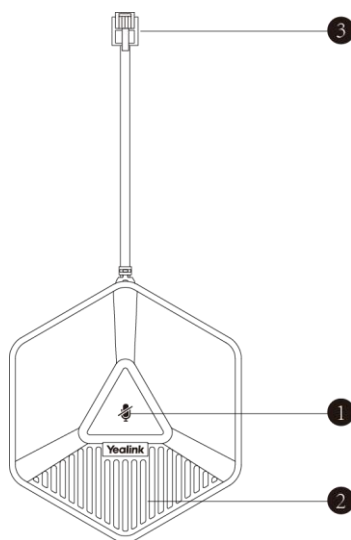
**Removing the PC or Mobile Audio**

To remove the PC or mobile device, disconnect the 3.5mm audio cable from the VCP41.

## CPE80 Expansion Microphone

If your video conferencing room is large, you can add extra CPE80 expansion microphones to the MIC ports on the video conferencing phone to expand the audio range.

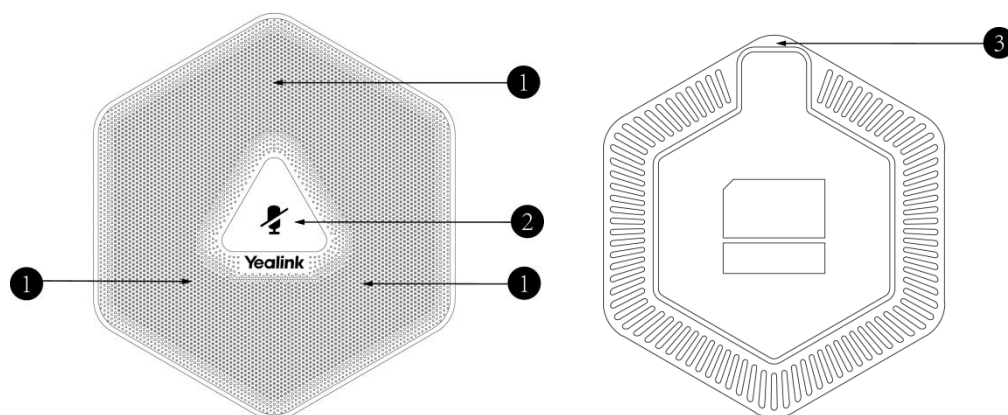
Video conferencing phone has two MIC ports. Up to two expansion microphones can be connected to a video conferencing phone. CPE80 is a directional microphone. Its coverage range is a 120 degree. Always ensure that the speaker faces the expansion microphone.



	Item	Description
①	Mute Indicator LED	Toggles and indicates mute feature.
②	Microphone	Transmits sound to other phones.
③	MIC Connector	Allows you to connect to the MIC port on the video conferencing phone.

## VCM30 Video Conferencing Microphone Array

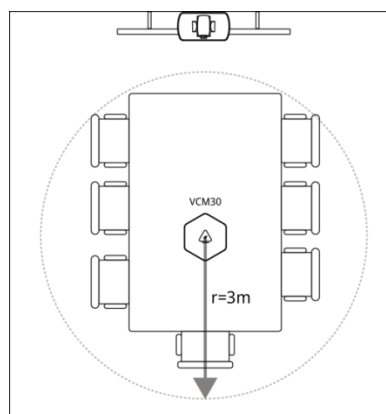
The VCM30 is a video conferencing microphone array which can work as the audio input device for VC110 video conferencing endpoint. It has 3 built-in microphones which support 360-degree audio pickup at a radius of up to 3 meters. There is a mute button on its top. You can mute or unmute the VCM30 by tapping the mute button during a call.



	Name	Description
①	Built-in Microphones	Support 360-degree audio pickup at a radius of up to 3 meters.
②	Mute Button	Mutes or unmutes the VCM30. For more information on the mute indicator LED, refer to <a href="#">LED Instructions</a> on page 36.
③	Audio Out Port	Connects to the Audio In port of cable hub using the 7.5m Ethernet cable labeled Audio In. Provides the power supply for the VCM30.

### Placing the VCM30

The VCM30 has a rubber pads on its base to prevent it from sliding. You can place the VCM30 on a stable surface and keep it away from obstacles so that it can effectively pick up sounds.





## Muting or Unmuting the VCM30

There is a mute button at the top of the VCM30. You can mute or unmute it in the following scenarios:


- If you do not want to have your voice broadcast during a conference, you can tap the mute button to mute the VCM30.
- If you want to speak again during a conference, you can tap mute button to unmute the VCM30.


### To mute the VCM30 during a call:

1. Tap  to mute the call.

The mute indicator LED illuminates solid red. And the  mute icon appears on the local video image.

### To un-mute the VCM30 during a call:

1. Tap  again to un-mute the call.

The mute indicator LED illuminates solid green. And the  mute icon disappears from the local video image.

## Viewing VCM30 Information

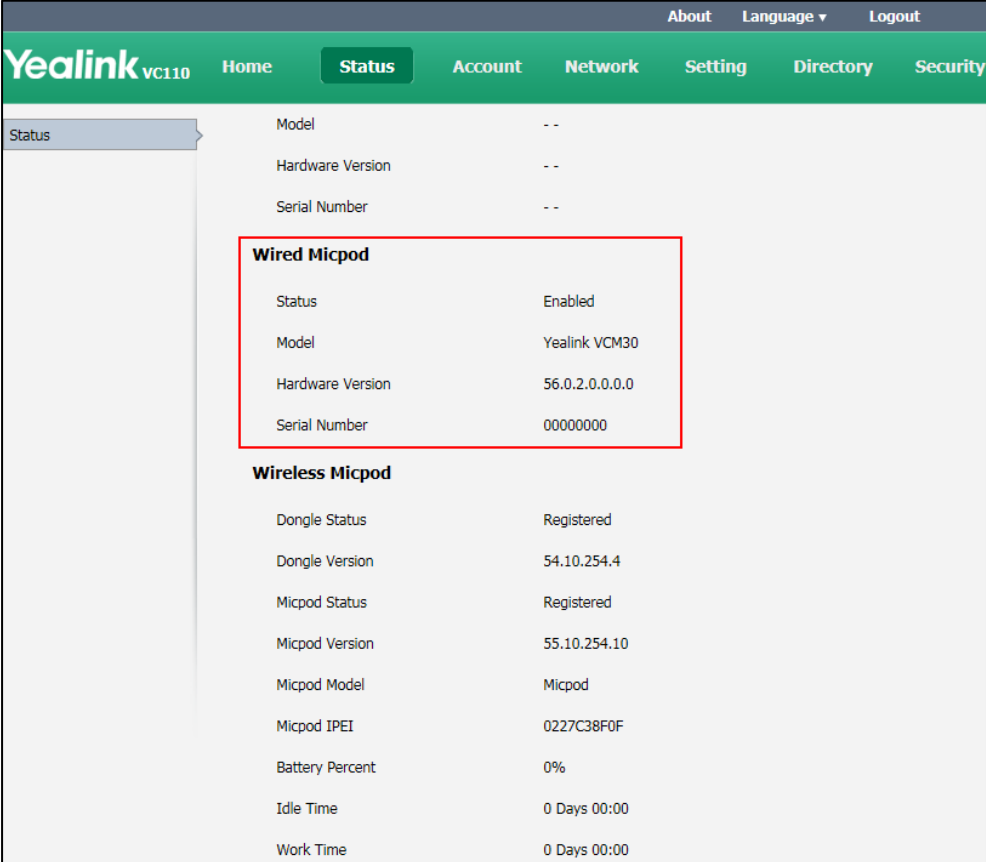
When the VCM30 is connected to the Audio In port of cable hub, you can view VCM30 status via the remote control or web user interface.

Available information of VCM30 includes:

- Status
- Model
- Hardware Version
- Serial Number

**To view the VCM30 information via web user interface**

1. Click **Status**.



The screenshot displays the Yealink VC110 web interface. The top navigation bar includes links for About, Language, and Logout. The main menu has tabs for Home, Status (selected), Account, Network, Setting, Directory, and Security. The left sidebar shows the Status menu item. The main content area displays the following information:

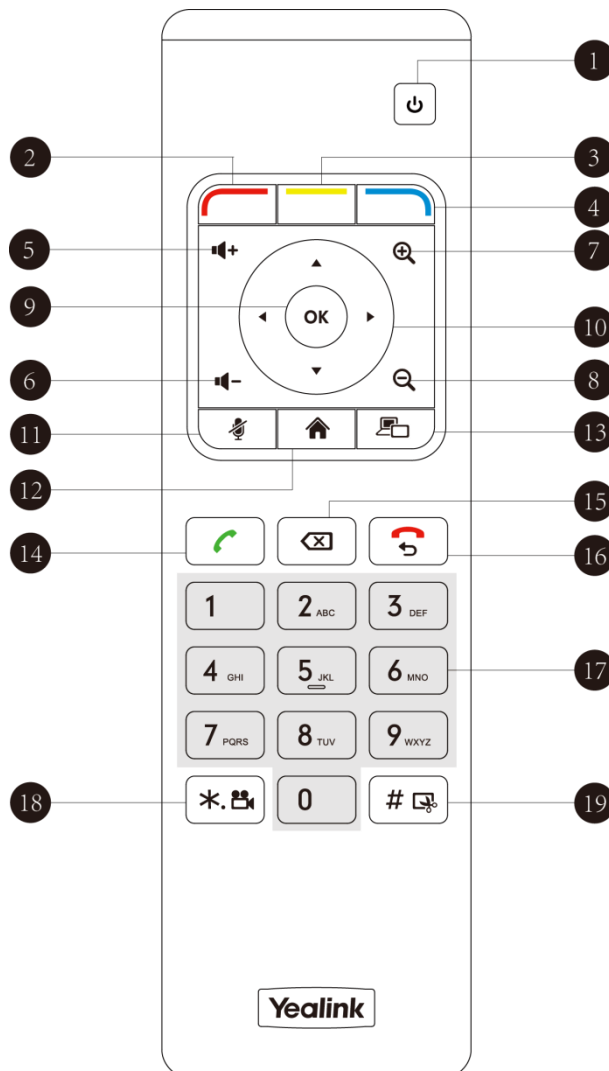
Status	
Model	--
Hardware Version	--
Serial Number	--
<b>Wired Micpod</b>	
Status	Enabled
Model	Yealink VCM30
Hardware Version	56.0.2.0.0.0.0
Serial Number	00000000
<b>Wireless Micpod</b>	
Dongle Status	Registered
Dongle Version	54.10.254.4
Micpod Status	Registered
Micpod Version	55.10.254.10
Micpod Model	Micpod
Micpod IPEI	0227C38F0F
Battery Percent	0%
Idle Time	0 Days 00:00
Work Time	0 Days 00:00

**To view the VCM30 information via the remote control:**

1. Select **Menu->Status->Wired Micpod**.

## VCR10 Remote Control






VCR10 remote control is compact, and has definite function zoning. Users can organize conferences easily using infrared signals.



Hardware components of the remote control:

	Item	Description
①	Sleep Key	Puts the endpoint to sleep or wakes the endpoint up.
②	Red Shortcut Key	Located at the bottom left of the screen. Label automatically identifies context-sensitive features. In the idle screen, this is used to enter the main menu screen and corresponds to the Menu soft key.
③	Yellow Shortcut Key	Located at the bottom center of the screen. Label automatically identifies context-sensitive features. In the idle screen, this is used to enter the pre-dialing screen, and corresponds to the Call soft key.







	Item	Description
④	Blue Shortcut Key	Located at the bottom right of the screen. Label identifies context-sensitive features. In the idle screen, this is used to save and check the camera preset position, and corresponds to the Preset soft key.
⑤	Vol+	Increases the endpoint volume.
⑥	Vol-	Decreases the endpoint volume.
⑦	Zoom in Key	<ul style="list-style-type: none"> <li>• Increase the camera zoom or the captured image magnifications.</li> <li>• Behaves as page up in a multiple page list.</li> </ul>
⑧	Zoom out Key	<ul style="list-style-type: none"> <li>• Decreases the camera zoom or the captured image magnifications.</li> <li>• Behaves as page down in a multiple page list.</li> </ul>
⑨	OK Key	Confirms actions or answers incoming calls.
⑩	Navigation Key	<ul style="list-style-type: none"> <li>• In the menu screen, press ◀ or ▶ to change menus, press ▲ or ▼ to select items.</li> <li>• In the idle screen, pan and tilt the camera to adjust the viewing angle.</li> </ul>
⑪	Mute Key	Toggles the mute feature.
⑫	Home Key	<ul style="list-style-type: none"> <li>• Returns to the idle screen when in the menu screen.</li> <li>• Enters the pre-dialing screen during a call.</li> </ul>
⑬	Video Source Key	Switches the input source between Camera, Camera-PC, or PC.
⑭	Off-hook Key	<ul style="list-style-type: none"> <li>• Enters the pre-dialing screen.</li> <li>• Places a call.</li> <li>• Answers a call.</li> </ul>
⑮	Delete key	<ul style="list-style-type: none"> <li>• Deletes one character at a time.</li> <li>• Long press to delete all characters in the input field.</li> <li>• On the idle screen or during a call, long press it for 2 seconds to start capturing packets and long press it for 2 seconds again to stop capturing packets.</li> </ul>
⑯	On-hook Key	<ul style="list-style-type: none"> <li>• Ends a call or exits from a conference call.</li> <li>• Returns to the previous screen when not in a call.</li> </ul>

	Item	Description
⑰	Keypad	<ul style="list-style-type: none"> <li>Enters digits.</li> <li>Long press  to generate a special character "@" in the input field.</li> <li>Enters the pre-dialing screen.</li> <li>Stores the preset position of the camera.</li> </ul>
⑱	Video Recording Key	<ul style="list-style-type: none"> <li>Generates a special characters ".".</li> <li>On the idle screen, press  to start/stop recording video.</li> <li>During a call, long press  to start/stop recording video.</li> </ul>
⑲	Snapshot Key	<ul style="list-style-type: none"> <li>Generates a pound key (#).</li> <li>Captures the image from the camera.</li> <li>On the idle screen, press  to capture the image from the camera.</li> <li>During a call, long press  to capture the image from the camera.</li> </ul>






















## Icon Instructions












### Icons on Display Device

Icons appearing on the display device are described in the following table:

Icon	Description
 (flashing)	Network is disconnected
	Network is available
	Packet loss
	SIP account is registered
	H.323 account is registered
	Log into the Yealink VC Cloud Management Service/Yealink Meeting Server
























Icon	Description
	Log into the StarLeaf/Zoom/Pexip/BlueJeans/ Mind platform
	Auto answer
	Missed calls (this icon displays on the status bar)
	Volume is 0
	Do not disturb
	Do not disturb during a call
	PC/Mobile mode (when a PC or mobile device is connected to the VCP41)
	Dongle is connected, while the VCM60 is unregistered
	Dongle is connected, and the VCM60 is registered
	The VCM60 is charging
	The standby time of VCM60 is less than one hour
	Dual screen mode
	Dual video sources (when a PC is connected to the PC port on the cable hub)
	A USB flash drive is inserted to the USB port of the VC110 all-in-one unit
	VPN is enabled
	Call mute
	Call encryption
	Call Hold
	Output volume is 0 during a call
	Camera that being controlled
	Indicates the content displayed on the second display device

Icon	Description
	Camera position
	Record a video
	Dialed calls (H.323 account/SIP account/IP Call)
	Dialed calls (Cloud platform)
	Received calls (H.323 account/SIP account/IP Call)
	Received calls (Cloud platform)
	Missed calls (H.323 account/SIP account/IP Call)
	Missed calls (Cloud platform)
	Local contact
	Yealink Cloud contact or YMS contact
	Permanent Virtual Meeting Room

## Icons on Video Conferencing Phone

Icons appearing on the video conferencing phone are described in the following table:

Icon	Description
 (Flashing)	Network is unavailable
	SIP account is registered (the icon flashes when it is not registered successfully)
	H.323 account is registered (the icon flashes when it is not registered successfully)
	Log into the Yealink VC Cloud Management Service/Yealink Meeting Server
	Log into the StarLeaf/Zoom/Pexip/BlueJeans/ Mind platform
	Auto answer

Icon	Description
	Do not disturb
	Call is muted
	Volume is 0
	A USB flash drive is inserted to the port of the VC110 all-in-one unit
	Record a video
	Local contact
	Yealink Cloud contact or YMS contact
	Permanent Virtual Meeting Room
	Dialed calls (H.323 account/SIP account/IP Call)
	Dialed calls (Cloud platform)
	Received calls (H.323 account/SIP account/IP Call)
	Received calls (Cloud platform)
	Missed calls (H.323 account/SIP account/IP Call)
	Missed calls (Cloud platform)
	PC/Mobile mode (when a PC or mobile device is connected to the VCP41)

## LED Instructions

### Indicator LED on the VC110 all-in-one unit:

LED Status	Description
Solid green	The VC110 is powered on.
Solid red	The VC110 is in sleep mode.

LED Status	Description
Solid orange	The VC110 is abnormal (e.g., network unavailable, update failure).
Flashing green	Press the key on the remote control.
Off	The VC110 is powered off.

**Indicator LED on the video conferencing phone:**

LED Status	Description
Solid red	The phone is initializing. The video conferencing phone is muted when the VC110 is during a call.
Flashing red	The phone is ringing.
Solid green	The phone is placing a call. There is an active call on the phone.
Off	The phone is not connected to the cable hub. The phone is idle.

**Battery indicator LED on the VCM60 video conferencing wireless microphone:**

LED Status	Description
Solid green	The VCM60 is turned on within the first 5 seconds. The battery capacity reaches 100% during charging.
Flashing red	The battery capacity can maintain less than 1 hour.
Flashing green	The VCM60 is charging.
Off	Other status.

**Mute indicator LED on the VCM60 video conferencing wireless microphone:**

LED Status	Description
Fast flashing green	The VCM60 is searching for the dongle.
Green and in breathing state	The VCM60 registers with the dongle, and then enters the online standby mode.
Solid green	The VC110 is placing a call. The VC110 is in a call.
Solid red	The VC110 is muted during a call.
Fast flashing orange	The VCM60 enters registration mode.
Slowly flashing orange	The VCM60 fails to search for the dongle, and then enters the offline standby mode.
Off	The VCM60 is turned off. The VCM60 runs out of battery.

**Mute Indicator LED on the VCM30 video conferencing microphone array**

LED Status	Description
Solid red	The VCM30 is muted when the VC110 is during a call.
Flashing red	The VC110 is ringing.
Solid green	The VCM30 is connected to the cable hub within the first 5 seconds. The VC110 is placing a call. The VCM30 is unmuted when the VC110 is during a call.
Off	The VCM30 is not connected to the cable hub. The VCM30 is idle.

## User Interfaces

There are two ways to customize the configurations of your endpoint:

- [Web User Interface](#)
- [Remote Control](#)

The following describes how to configure the VC110 video conferencing endpoint via the two methods above.

Detailed operation steps will be introduced in the feature section.

## Web User Interface

You can customize your endpoint via web user interface. To access the web user interface, you need to know the user name and the administrator's password. The default user name is "admin" (case-sensitive), and the default password is "0000". You can also access the web user interface with user credential, which is disabled by default. For more information on how to enable the user credential, refer to [User Mode](#) on page 249.

The endpoint uses the HTTPS protocol to access the web user interface by default. For more information on the access protocol for web user interface access, refer to [Web Server Type](#) on page 251.

### Log into the web user interface of the endpoint:

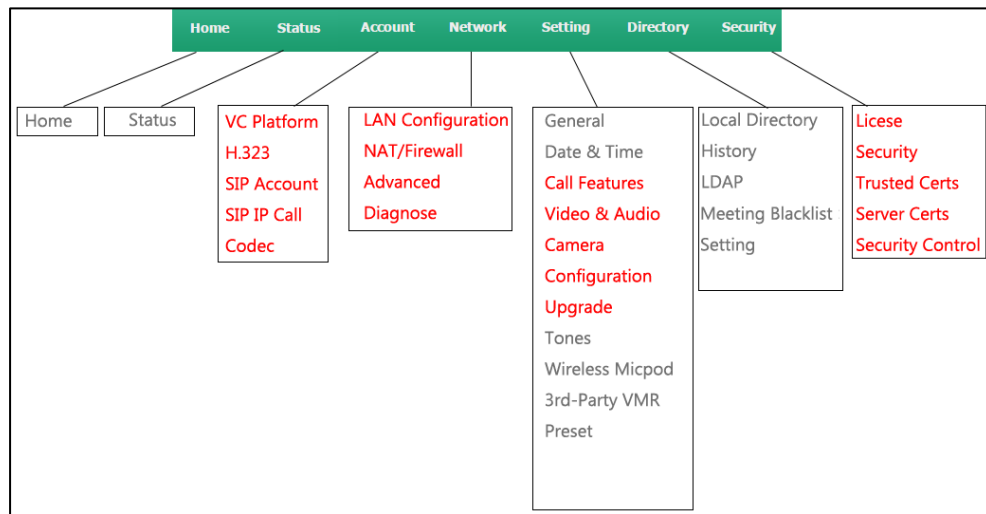
1. Enter the IP address (e.g., 192.168.0.10) in the address bar of a web browser on your computer, and then press the **Enter** key.
2. Enter the administrator user name and password.
3. Click **Login**.

After you log into the web user interface successfully, you can click **Logout** on the top right corner of the web interface to log out.

Administrator has full permission to access every menu in the web user interface. User can log

into the web user interface with user credentials.

The web structure tree of VC110 is shown as below, (the red highlight is hidden for users with user credentials):



You can monitor or place calls via web user interface. You can do the following in the **Home** page.

- Placing or ending calls
- Viewing remote and nearby sites
- Enabling the mute mode or the DND mode for a call
- Changing the video input source
- Adjusting the position and focus of the camera
- Saving the camera preset
- Capturing the video images
- Control the video conferencing endpoint remotely via the virtual remote control

#### Note

Although the web user interface is used to initiate the call, it is the video conferencing endpoint that is used for the call. It is not the PC running the web user interface.

## Remote Control

You can use the remote control and display device to configure and use the VC110 video conferencing endpoint.

For more information on the function of each key on the remote control, refer to [VCR10 Remote Control](#) on page 31. The **Advanced** option is only accessible to the user with the administrator's permission. The default administrator password is "0000".

You can also use virtual remote control on the web user interface to configure the VC110 video conferencing endpoint. For more information, refer to [Virtual Remote Control](#) on page 171



# Getting Started

This chapter provides basic information and installation instructions for Yealink VC110 endpoints in the following sections:

- [Endpoint Connection and Installation](#)
- [Powering the Endpoint On or Off](#)
- [Endpoint Initialization](#)
- [Endpoint Startup](#)
- [Setup Wizard](#)
- [Enabling Communication with Other Endpoints](#)
- [Placing a Test Call from the Yealink VC110 endpoint](#)

## Endpoint Connection and Installation

### Placing the Endpoint

Do not place the camera facing a window or other bright light. Ensure sufficient space to connect the cables. Ensure all participants are facing both the display device and the camera at the same time by putting camera and display device together.

### Endpoint Components Installation

This section introduces the following:

- Connecting the VC110 video conferencing endpoint
- Installing the VC110 video conferencing endpoint
- Installing batteries in the remote control

#### Note

Up to two display devices can be connected to the VC110 all-in-one unit. Because the display device is not included in the package, you need to purchase it separately if required. Ensure that the purchased display device supports HDMI input.

When connecting only one display device to the VC110 all-in-one unit, Display1 port is the only available port. If dual screen mode is required, you can connect secondary display device to the Display2 port.

Because DVI cable is tailor-made, please use the Yealink-supplied DVI cable.

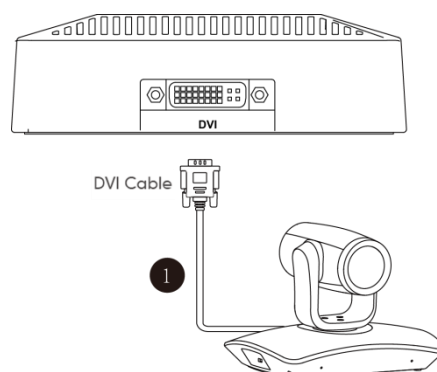
To prevent shock, do not connect the power adapter and turn on the power before connecting all endpoint components.



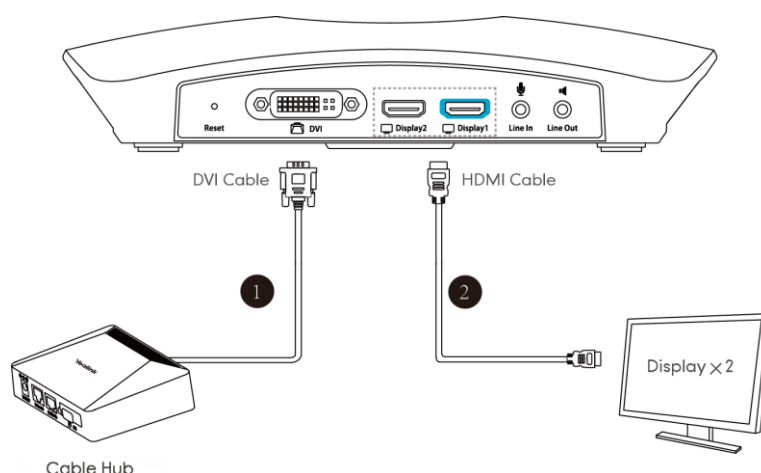
## Connecting the VC110 Video Conferencing Endpoint

### Do the following:

1. Locate the **DVI** port on the back of the VC110 all-in-one unit, and connect it to the **DVI** port of the cable hub with the supplied DVI cable.



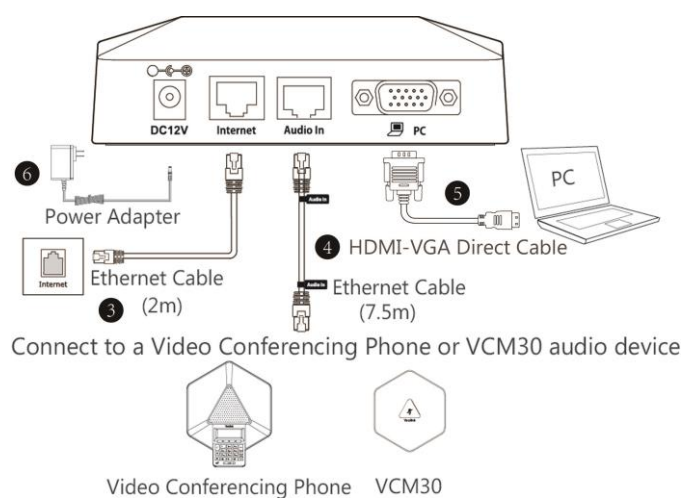
2. Locate the **Display1** port of the VC110 all-in-one unit, and connect it to the HDMI port on the display device with the supplied HDMI cable (Make sure the display device is powered on).



3. Locate the **Internet** port on the cable hub, and connect it to the port on the in-line power switch/hub with the supplied 2m Ethernet cable.
4. (Optional.) Locate the **Audio In** port of the cable hub, and do one of the following:
  - Connect it to the **Audio Out** port on the video conferencing phone with the 7.5m Ethernet cable that labeled Audio In, and then connect the free end of the expansion microphone cables to MIC ports on the video conferencing phone.
  - Connect it to the **Audio Out** port of the VCM30 video conferencing microphone array with the 7.5m Ethernet cable labeled Audio In.
5. (Optional.) Locate the PC port of the cable hub and connect it to the HDMI port on the PC with the supplied HDMI-VGA direct cable for sharing content.
6. Locate the **DC19V** port of the VC110 all-in-one unit, and connect it to an AC power outlet

with the supplied power adapter and power cord.

The cable hub also can be powered from a PoE-compliant switch or hub. For more information, refer to on [Power over Ethernet](#) on page 47.



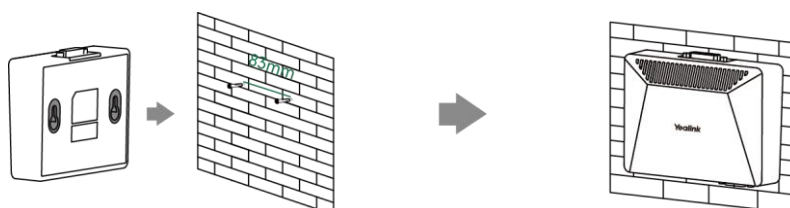
You can fasten all cables with cable ties after all devices are connected.



## Installing the VC110 Video Conferencing Endpoint

### Installing the Cable Hub

You can hang the cable hub on the wall. To use this method, you need to purchase the screws (specification: T4×30) separately.

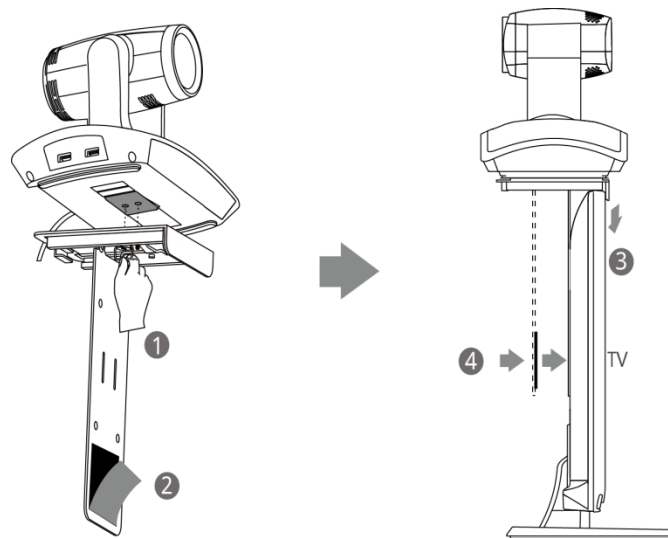


### Installing the VC110 All-in-one Unit

You can choose to mount the VC110 all-in-one unit on your TV or a wall, depending on your actual needs.

### a) Mounting the VC110 all-in-one unit on a TV

When the thickness of your TV is between 35-120 mm, you can mount the VC110 all-in-one unit on your TV.



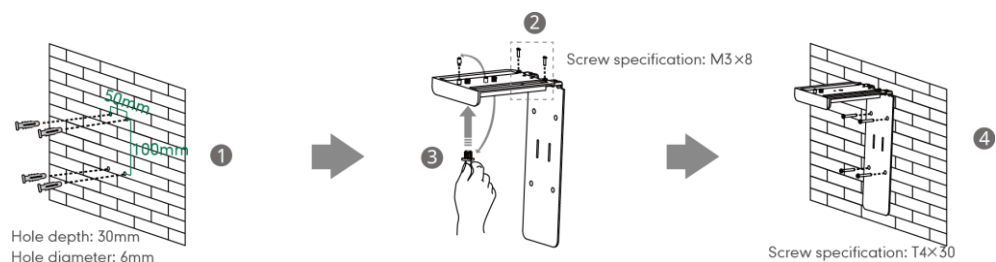
#### Do the following:

1. Lock the VC110 all-in-one unit to the L-bracket.
2. Remove the protection of the Velcro.
3. Put the L-bracket on the top of the TV.
4. Make sure the back of the TV is clean, and then adjust the bracket to ensure close adhesion to the back of the TV with Velcro.

### b) Mounting the VC110 all-in-one unit on a wall

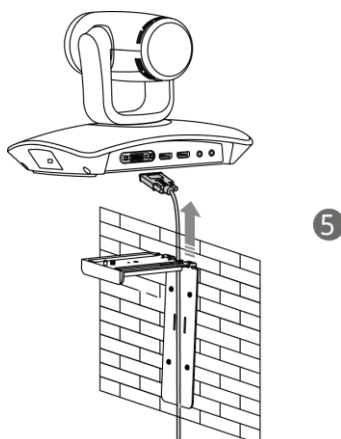
You can also mount the VC110 all-in-one unit on a wall. The recommended height for VC110 all-in-one unit positioning is 1.5m-1.8m above the ground.

#### Do the following:

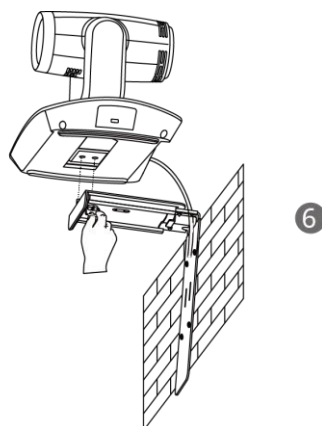


1. Punch holes into the wall and then insert the expansion bolts.  
Installation location for the expansion bolts and punching requirement are shown above.
2. Lock the L-bracket with the M3×8 screws.
3. Move the setscrews on the L-bracket to the left holes.
4. Lock the L-bracket to the wall with T4×30 screws.

5. Connect one end of the DVI cable to the VC110 all-in-one unit and put the other end of the DVI cable through the L-bracket.



6. Lock the VC110 all-in-one unit to the L-bracket, and then connect the other end of the DVI cable to the cable hub.

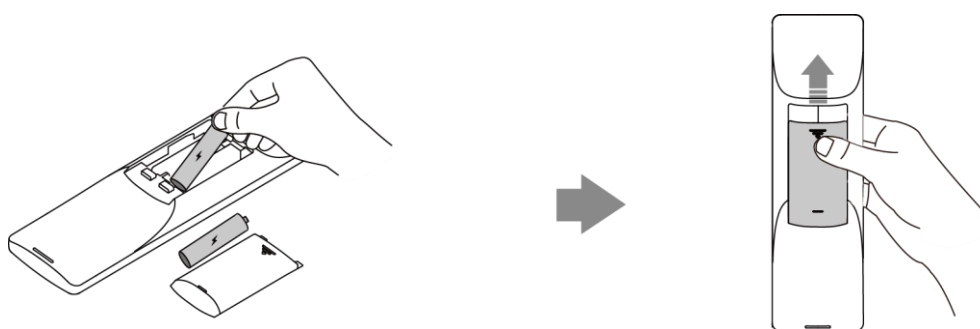


## Installing Batteries in the Remote Control

### Do the following:

1. Open the battery cover on the back of the remote control.
2. Insert the batteries with the correct polarity.

3. Replace the battery cover.



### Remote Control Battery Safety Information

- Never make wrong polarity connection when charging and discharging battery packs.
- Avoid crushing, puncturing, or putting a high degree of pressure on any battery, as this can cause an internal short-circuit, resulting in overheating.
- Remove the batteries if they are not in use for long period of time. Battery leakage and corrosion can damage the remote control, dispose batteries safely.
- Do not dispose used batteries in domestic waste. Dispose batteries at special collection points or return to stores if applies.
- Do not dispose batteries in a fire.

## Powering the Endpoint On or Off

You have two options for power and network connections. Your system administrator will advise you which one to use.

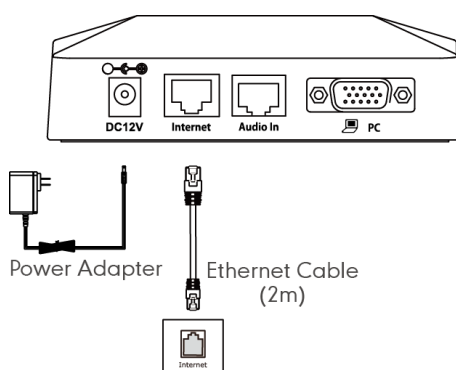
- AC power (Optional)
- Power over Ethernet (PoE)

### AC Power (Optional)

#### To connect the AC power:

1. Locate the DV12V port on the cable hub, and connect it to the electrical power outlet with the supplied power adapter.

2. Locate the Internet port on the cable hub, and connect it to the Internet port on the wall or on the switch/hub device with the supplied 2m Ethernet cable.



### Note

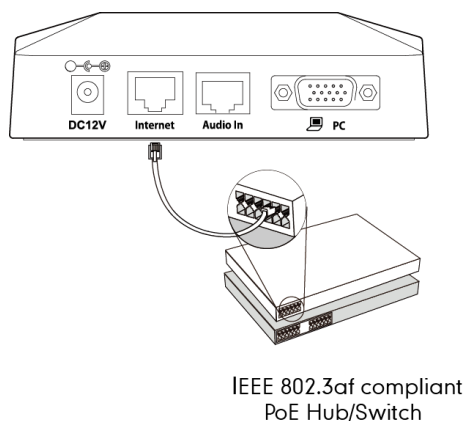
The VC110 video conferencing endpoint should be used with Yealink original power adapter (12V/2A) only.

## Power over Ethernet

With the included or a regular Ethernet cable, the VC110 video conferencing endpoint can be powered from a PoE-compliant switch or hub.

### To connect the PoE:

1. Locate the Internet port on the cable hub, and connect it to the port on the in-line power switch/hub with the Ethernet cable.



### Note

If in-line power is provided, you don't need to connect the cable hub to the power adapter. Make sure the switch/hub is PoE-compliant.

**Important!** Do not remove power from the cable hub while it is updating firmware and configurations.

Remove power to power off the endpoint if long time no use.

## Endpoint Initialization

Once you have power on the endpoint, it will begin its initialization process.

During the initialization process, the following events take place:

### Loading the ROM file

The ROM file sits in the flash memory of the endpoint. Endpoints come from the factory with a ROM file preloaded. During initialization, endpoints run a bootstrap loader that loads and executes the ROM file.

### Configuring the VLAN

If the endpoint is connected to a switch, the switch will notify the endpoint about the VLAN information defined on the switch.

### Querying the DHCP (Dynamic Host Configuration Protocol) Server

The endpoint is capable of querying a DHCP server. DHCP is enabled on the endpoint by default. The following network settings can be obtained from the DHCP server during initialization:

- IP Address
- Subnet Mask
- Gateway
- Primary DNS (Domain Name Server)
- Secondary DNS

You need to configure the network settings of the endpoint manually if any of them are not provided by the DHCP server. For more information on configuring network settings manually, refer to [Configuring Network Settings Manually](#) on page 61.

## Endpoint Startup

After the initializing process, the endpoint will complete startup by cycling the following steps:

1. The LED indicator on the VC110 all-in-one unit illuminates solid green.
2. The display device displays the boot up screen.
3. The camera pans to the middle position automatically.
4. The display device displays the setup wizard (when you first start up, or reset the endpoint, the display device will display the setup wizard)

For more information on how to complete the setup wizard, refer to [Setup Wizard](#) on page 49.

5. After completing the setup wizard, the display device displays the main screen.

The main screen displays the following:

- Time and date

- Endpoint IP address and site name
  - Status icon
  - Soft key labels
  - Video image
6. The video conferencing phone starts up normally. The phone's LCD screen displays the site name, status icon, soft keys, time and date.

If the endpoint has successfully passed through these steps, it starts up correctly and is ready for use.

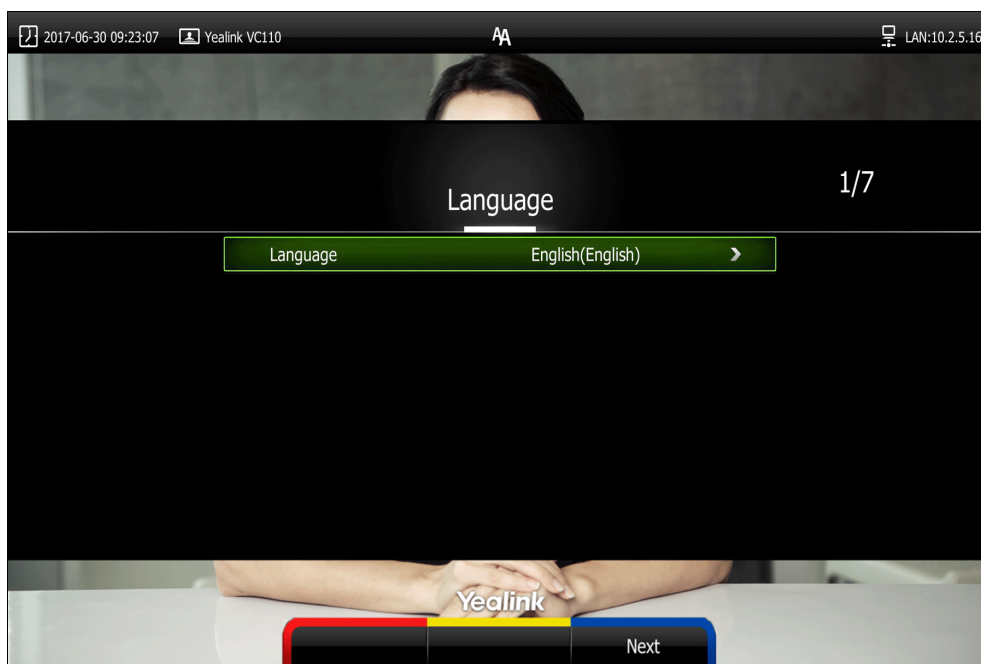
## Setup Wizard


When you first start up or reset the endpoint, the display device will display the setup wizard.

### To complete the setup wizard via the remote control:

1. Set the language displayed on the display device.

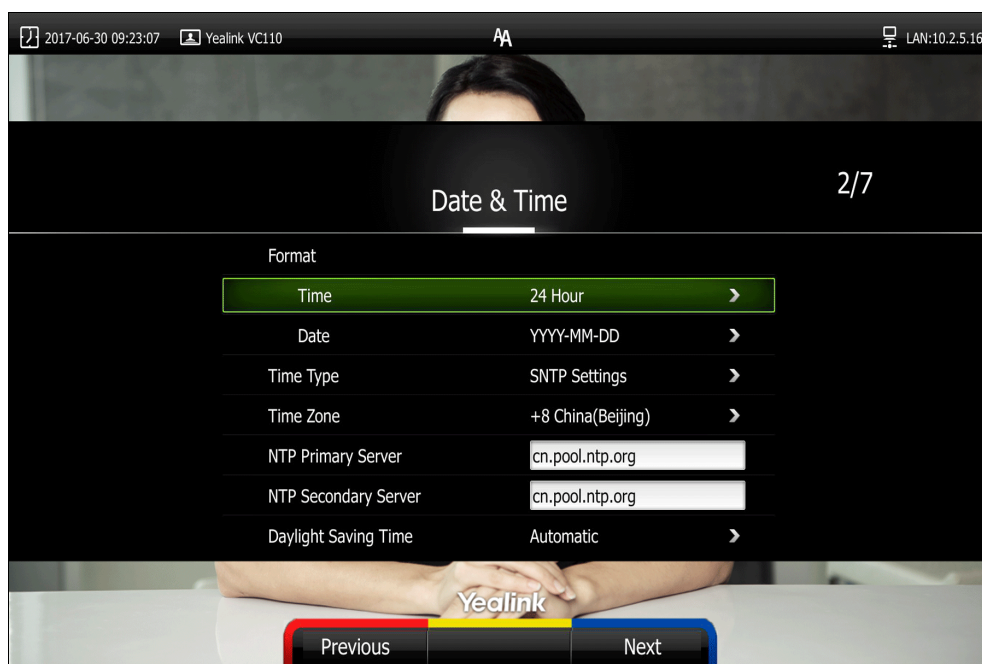
The default language is English.





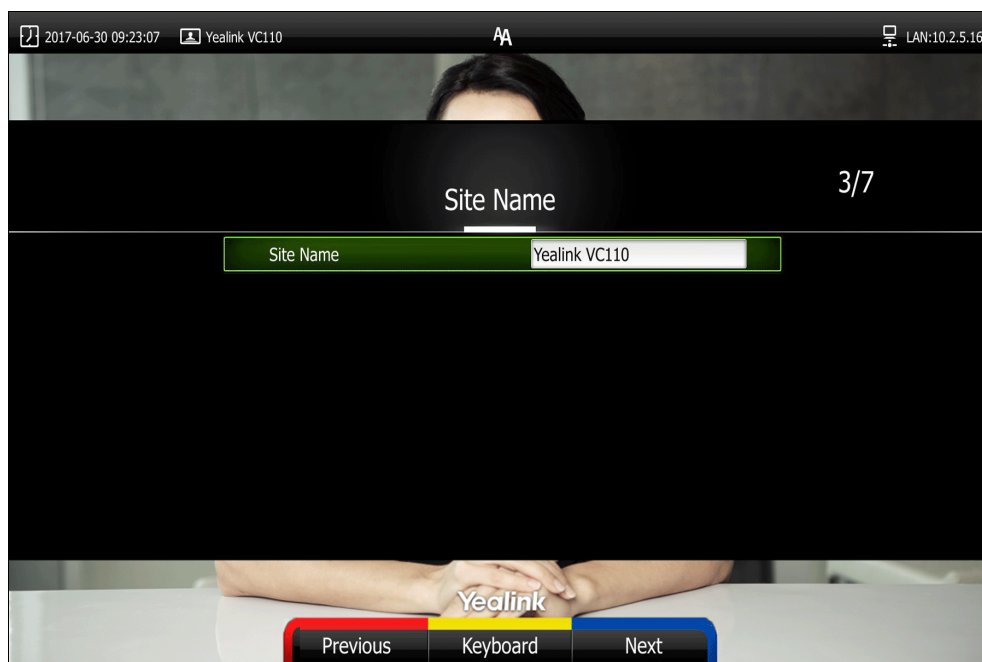
2. Press  (Next soft key) to continue.
3. Set the date and time (e.g., set the time zone, time format, date format and the type of the daylight saving time).





The endpoint obtains the time and date from the NTP server automatically by default. You can also configure the time and date manually. For more information, refer to on [Date & Time](#) page 176.

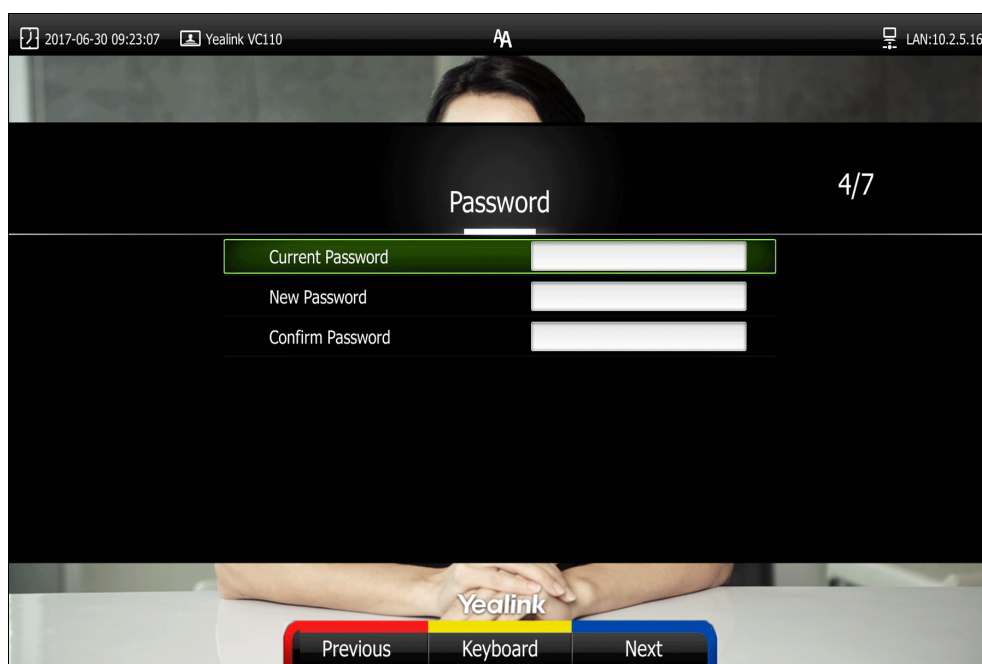


4. Press  (**Next** soft key) to continue or press  (**Previous** soft key) to return to the previous screen.
5. Edit the site name.  
The default site name is "Yealink VC110".



6. Press  (**Next** soft key) to continue or press  (**Previous** soft key) to return to the previous screen.
7. Change the administrator password.



The default administrator password is "0000". For security reasons, the administrator should change the default administrator password as soon as possible.



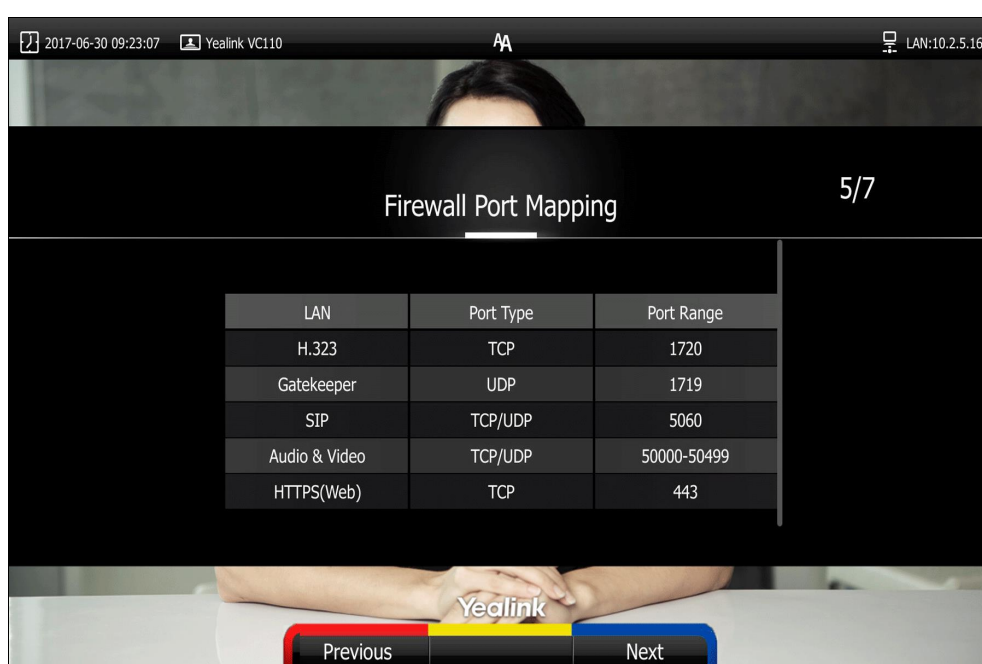
#### Note



Do remember the new administrator password or keep a copy of the password in a safe place. If you forget the password, you will need to reset the endpoint to the factory settings, and then reset the password or use the default password "0000".

For more information, refer to [Resetting to Factory](#) on page 273.

8. Press  (**Next** soft key) to continue or press  (**Previous** soft key) to return to the previous screen.

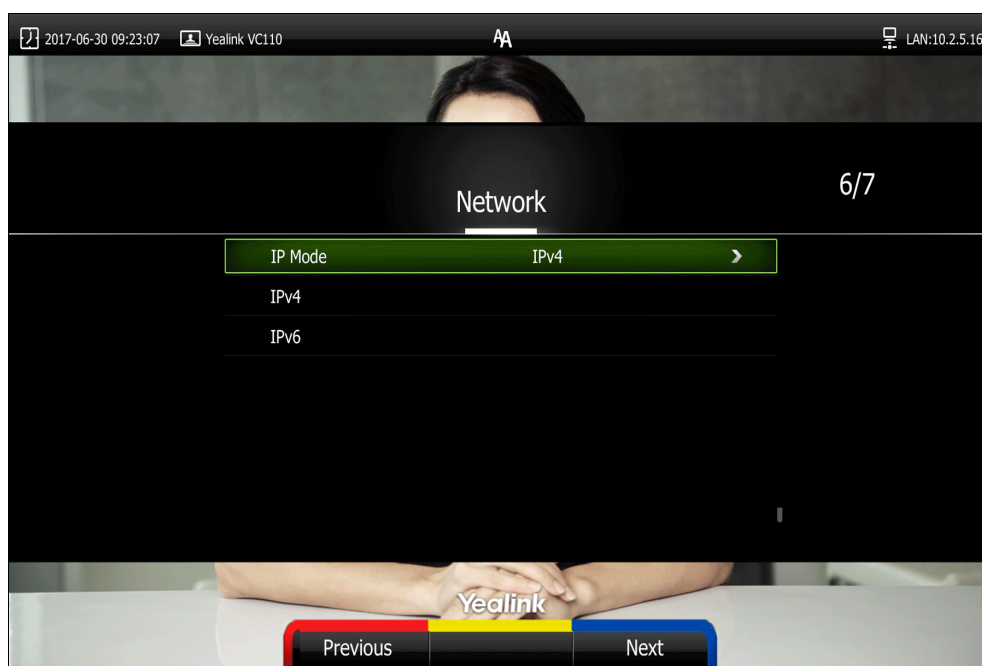
The display device displays firewall port mapping information.





9. Press  (**Next** soft key) to continue or press  (**Previous** soft key) to return to the previous screen.

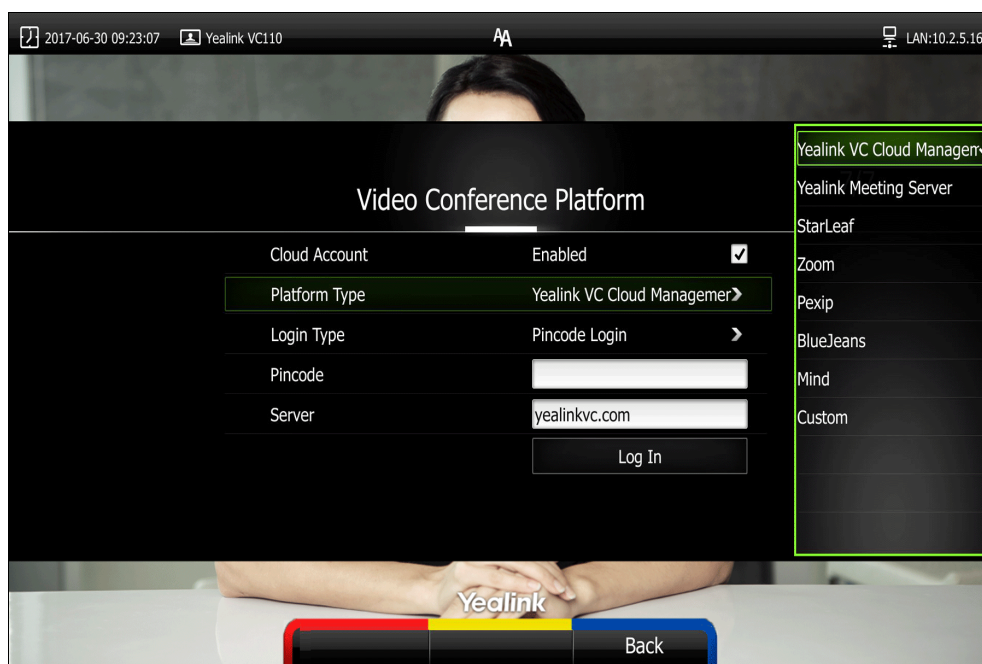
10. Configure network settings.


The phone will try to contact a DHCP server in your network to obtain network parameters by default. If you uncheck the DHCP checkbox, you will need to configure IPv4 or IPv6 network manually. y. For more information, refer to [Configuring LAN Properties](#) on page 56.



11. Press  (**Next** soft key) to continue or press  (**Previous** soft key) to return to the previous screen.
12. (Optional.) Log into the Cloud platform.

Yealink video conferencing endpoint supports Yealink VC Cloud Management Service/Yealink Meeting Server/StarLeaf/Zoom/Pexip/BlueJeans/Mind/Custom platform. For more information, refer to [Configuring Video Conference Platform](#) on page 107.



13. Press  (Complete soft key) to complete the setup wizard.

## Enabling Communication with Other Endpoints

Depending on your environment, you may need to make the following additional adjustments to the configuration of your video conferencing endpoint.

Static NAT	If you choose to place your video conferencing endpoints in a private LAN, you must use Network Address Translation (NAT) to communicate with outside endpoints. This may include enabling static NAT on your endpoint. For more information, refer to <a href="#">Static NAT</a> on page 90.
Firewall	If your endpoint communicates with other devices through a firewall, you must configure your firewall to allow incoming and outgoing traffic to the endpoint through reserve ports. Users placing calls through a firewall to endpoints with IP addresses may experience one-way audio or video if the firewall is not properly configured to allow video and audio traffic. For more information, refer to <a href="#">Configuring the Endpoint for Use with a Firewall or NAT</a> on page 86.
Cloud	If you are using Cloud server in your environment and want to place calls using Cloud account, refer to <a href="#">Configuring Video Conference Platform</a> on page 107.
H.323	If you are using H.323 gatekeepers in your environment and want to place calls using a name or extension with the H.323 protocol, refer to <a href="#">Configuring H.323 Settings</a> on page 138.
SIP	If you are using Session Initiation Protocol (SIP) servers in your environment to place calls using the SIP protocol, refer to <a href="#">Configuring SIP Settings</a> on

## Placing a Test Call from the Yealink VC110 endpoint

Yealink Demo1 to Yealink Demo3 are three default contacts stored in the local directory.

You can place a test call to the default contact, and the test call will be routed to the Yealink demo video conferencing endpoint. Yealink demo contacts can help users to test quickly whether the endpoint is normal after installation.

## Configuring Network

This chapter provides information on how to configure network settings for the endpoint. Proper network settings allow the endpoint work efficiently in your network environment.

This chapter provides the following sections:

- [Preparing the Network](#)
- [Configuring LAN Properties](#)
- [Configuring Network Speed and Duplex Mode](#)
- [VLAN](#)
- [802.1X Authentication](#)
- [H.323 Tunneling](#)
- [Configuring the Endpoint for Use with a Firewall or NAT](#)
- [Intelligent Firewall Traversal](#)
- [Quality of Service](#)
- [VPN](#)

## Preparing the Network

Before you begin configuring the network options, you must make sure your network is ready for video conferencing.

The following table lists the network information you need to obtain from the network administrator when preparing your network.

Type	Network Information
Type of system	DHCP
	Static IP Address <ul style="list-style-type: none"><li>• IP address</li><li>• Subnet mask</li><li>• Gateway</li></ul>
DNS Server	IP address of DNS server
Call Protocol	Register information of SIP account
	Register information of H.323 account
Cloud Server	Register information of Cloud platform

Type	Network Information
802.1X	Authentication information

## Configuring LAN Properties

### DHCP

DHCP (Dynamic Host Configuration Protocol) is a network protocol used to dynamically allocate network parameters to network hosts. The automatic allocation of network parameters to hosts eases the administrative burden of maintaining an IP network. The endpoint complies with the DHCP specifications documented in RFC 2131. DHCP by default, which allows the endpoint connected to the network to become operational by obtaining IP addresses and additional network parameters from the DHCP server.

#### DHCP Option

DHCP provides a framework for passing information to TCP/IP network devices. Network and other control information are carried in tagged data items that are stored in the options field of the DHCP message. The data items themselves are also called options.

DHCP can be initiated by simply connecting the endpoint to the network. The endpoint broadcasts DISCOVER messages to request network information carried in DHCP options. The DHCP server responds with the specific values in the corresponding options.

The following table lists the common DHCP options supported by the endpoint.

Parameter	DHCP Option	Description
Subnet Mask	1	Specifies the client's subnet mask.
Time Offset	2	Specifies the offset of the client's subnet in seconds from Coordinated Universal Time (UTC).
Router	3	Specifies a list of IP addresses for routers on the client's subnet.
Time Server	4	Specifies a list of time servers available to the client.
Domain Name Server	6	Specifies a list of domain name servers available to the client.
Log Server	7	Specifies a list of MIT-LCS UDP servers available to the client.
Host Name	12	Specifies the name of the client.
Domain Server	15	Specifies the domain name that client should use

Parameter	DHCP Option	Description
		when resolving hostnames via DNS.
<b>Broadcast Address</b>	28	Specifies the broadcast address in use on the client's subnet.
<b>Network Time Protocol Servers</b>	42	Specifies a list of the NTP servers available to the client by IP address.
<b>Vendor-Specific Information</b>	43	Identifies the vendor-specific information.
<b>Vendor Class Identifier</b>	60	Identifies the vendor type.
<b>TFTP Server Name</b>	66	Identifies a TFTP server when the 'name' field in the DHCP header has been used for DHCP options.
<b>Bootfile Name</b>	67	Identifies a bootfile when the 'file' field in the DHCP header has been used for DHCP options.

For more information on DHCP options, refer to  
<http://www.ietf.org/rfc/rfc2131.txt?number=2131> or  
<http://www.ietf.org/rfc/rfc2132.txt?number=2132>.

To make the endpoint gather network settings via DHCP options, you need to contact your network administrator to configure the DHCP server properly.

DHCP feature parameters on the endpoint are described below:

Parameter	Description	Configuration Method
<b>DHCP</b>	Enables or disables the endpoint to obtain network settings from the DHCP server. <b>Default:</b> Enabled <b>Note:</b> If you change this parameter, the endpoint will reboot to make the change take effect.	Remote Control Web User Interface
<b>Host Name</b>	Configures the host name of the endpoint. <b>Default:</b> Blank <b>Note:</b> When the endpoint broadcasts DHCP DISCOVER messages, it will report the configured host name to the DHCP	Web User Interface



Parameter	Description	Configuration Method
	<p>server via DHCP option 12. Host name is optional, so it is not a mandatory configuration item. For more information, contact your network administrator.</p> <p>If you change this parameter, the endpoint will reboot to make the change take effect.</p>	

**To configure DHCP via web user interface:**

1. Click on **Network**->**LAN Configuration**.
2. In the **IPv4 Config** block, mark the **DHCP** radio box.
3. (Optional.) Enter the host name of the endpoint in the **Host Name** field.

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes 'About', 'Language', and 'Logout'. The main menu has 'Home', 'Status', 'Account', 'Network' (highlighted), 'Setting', 'Directory', and 'Security'. On the left, the 'LAN Configuration' menu is expanded, showing 'NAT/Firewall', 'Advanced', and 'Diagnose'. The main content area is titled 'Internet Port' and shows 'IPv4/IPv6' set to 'IPv4'. Below this is the 'IPv4 Config' section. The 'DHCP' radio button is selected and highlighted with a red box. Below it are fields for 'IP Address', 'Subnet Mask', 'Gateway', 'Static DNS' (with 'On' and 'Off' radio buttons), 'Primary DNS', and 'Secondary DNS'. At the bottom, the 'Host Name' field is highlighted with a red box and contains the text 'VC110'.

4. Click **Confirm** to accept the change.  
A dialog box pops up to prompt that settings will take effect after a reboot.
5. Click **Confirm** to reboot the endpoint immediately.

**To configure DHCP via the remote control:**

1. Select **Menu->Advanced** (default password: 0000) ->**Internet Configuration->IPv4**.
2. Check the **DHCP** checkbox.
3. Press the **Save** soft key to accept the change.  
The display device prompts "Reboot now?".
4. Select **OK** to reboot the endpoint immediately.

**Static DNS**

Even though DHCP is enabled, you can manually configure the static DNS address(es).

Parameters of static DNS on the endpoint are described below:

Parameter	Description	Configuration Method
<b>Static DNS</b>	<p>Triggers the static DNS feature to on or off.</p> <p><b>Default:</b> Off</p> <p><b>Note:</b> If it is set to Off, the endpoint will use the IPv4 DNS obtained from DHCP.</p> <p>If it is set to On, the endpoint will use manually configured static IPv4 DNS.</p> <p>It only works if the value of the "IPv4 Config" is set to DHCP. If you change this parameter, the endpoint will reboot to make the change take effect.</p>	<p>Remote Control</p> <p>Web User Interface</p>
<b>Primary DNS</b>	<p>Configures the primary IPv4 DNS server.</p> <p><b>Default:</b> Blank</p> <p><b>Note:</b> It only works if the value of the "Static IPv4 DNS" is set to On. If you change this parameter, the endpoint will reboot to make the change take effect.</p>	<p>Remote Control</p> <p>Web User Interface</p>
<b>Secondary DNS</b>	<p>Configures the secondary IPv4 DNS server.</p> <p><b>Default:</b> Blank</p> <p><b>Note:</b> It only works if the value of the "Static IPv4 DNS" is set to On. If</p>	<p>Remote Control</p> <p>Web User Interface</p>

Parameter	Description	Configuration Method
	you change this parameter, the endpoint will reboot to make the change take effect.	

**To configure static DNS address when DHCP is used via web user interface:**

1. Click on **Network->LAN Configuration**.
2. In the **IPv4 Config** block, mark the **DHCP** radio box.
3. In the **Static DNS** block, mark the **On** radio box.
4. Enter the desired values in the **Primary DNS** and **Secondary DNS** fields.

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes 'About', 'Language', and 'Logout'. The main menu has 'Home', 'Status', 'Account', 'Network' (selected), 'Setting', 'Directory', and 'Security'. On the left, a sidebar shows 'LAN Configuration' (selected), 'NAT/Firewall', 'Advanced', and 'Diagnose'. The main content area is titled 'IPv4 Config'. Under 'IPv4 Config', the 'DHCP' radio button is selected. Below this, there are input fields for 'IP Address', 'Subnet Mask', and 'Gateway'. The 'Static DNS' section is highlighted with a red box; it contains a radio button set with 'On' selected, and two input fields: 'Primary DNS' with the value '192.168.1.166' and 'Secondary DNS' with the value '192.168.1.167'. Below this is a 'Host Name' field with the value 'VC110'. The 'IPv6 Config' section is also visible, with 'DHCP' selected and input fields for 'IP Address' and 'IPv6 prefix(0~128)' with the value '64'.

5. Click **Confirm** to accept the change.  
A dialog box pops up to prompt that settings will take effect after a reboot.
6. Click **Confirm** to reboot the phone.

**To configure static DNS when DHCP is used via the remote control:**

1. Select **Menu->Advanced** (default password: 0000) ->**Internet Configuration->IPv4**.
2. Check the **DHCP** checkbox.
3. Check the **Static DNS** checkbox.
4. Enter the desired values in the **DNS Primary Server** and **DNS Secondary Server** fields respectively.
5. Press the **Save** soft key to accept the change.  
The display device prompts "Reboot now?".

6. Select **OK** to reboot the endpoint immediately.

## Configuring Network Settings Manually

If DHCP is disabled or the endpoint cannot obtain network settings from the DHCP server, you need to configure them manually.

The following parameters should be configured for endpoints to establish network connectivity:

- **IP Address:** Configure the endpoint to use the assigned IP address.
- **Subnet Mask:** Enter the subnet mask address when the endpoint does not automatically obtain the subnet mask.
- **Gateway:** A gateway is a network point that works as an entrance to another network.
- **Primary DNS /Secondary DNS:** Domain Name System (DNS) servers translates domain names (for example: www.example.com), which can be easily memorized by humans, to the numerical IP addresses (192.168.1.15) needed for the purpose of computer services and devices worldwide.

Network parameters need to be configured manually on the endpoint are described below.

Parameter	Description	Configuration Method
<b>Mode (IPv4/IPv6)</b>	Configures the IP address mode. <b>Default:</b> IPv4 <b>Note:</b> If you change this parameter, the IP phone will reboot to make the change take effect.	Remote Control Web User Interface
<b>Static IP</b>	Enables or disables the endpoint to use manually configured network settings. <b>Default:</b> Disabled <b>Note:</b> If you change this parameter, the endpoint will reboot to make the change take effect.	Web User Interface
<b>IP Address</b>	Configures the IP address assigned to the endpoint. <b>Default:</b> Blank <b>Note:</b> If you change this parameter, the endpoint will reboot to make the change take effect.	Remote Control Web User Interface
<b>Subnet Mask</b>	Configures the subnet mask assigned to the endpoint. <b>Default:</b> Blank	Remote Control Web User Interface

Parameter	Description	Configuration Method
	<b>Note:</b> If you change this parameter, the endpoint will reboot to make the change take effect.	
<b>Gateway</b>	Configures the gateway assigned to the endpoint. <b>Default:</b> Blank <b>Note:</b> If you change this parameter, the endpoint will reboot to make the change take effect.	Remote Control Web User Interface
<b>Static DNS</b>	Triggers the static DNS feature to on or off. <b>Default:</b> Off <b>Note:</b> If you change this parameter, the endpoint will reboot to make the change take effect.	Remote Control Web User Interface
<b>Primary DNS</b>	Configures the primary DNS server assigned to the endpoint. <b>Default:</b> Blank <b>Note:</b> If you change this parameter, the endpoint will reboot to make the change take effect.	Remote Control Web User Interface
<b>Secondary DNS</b>	Configures the secondary DNS server assigned to the endpoint. <b>Default:</b> Blank <b>Note:</b> If you change this parameter, the endpoint will reboot to make the change take effect.	Remote Control Web User Interface

**To configure the IP address mode via web user interface:**

1. Click on **Network->LAN Configuration**.

2. Select desired value from the pull-down list of **IPv4/IPv6**.

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes 'About', 'Language', and 'Logout'. The main menu has 'Home', 'Status', 'Account', 'Network' (highlighted), 'Setting', 'Directory', and 'Security'. On the left, the 'LAN Configuration' menu is expanded, showing 'NAT/Firewall', 'Advanced', and 'Diagnose'. The main content area is titled 'Internet Port'. It features a dropdown menu for 'IPv4/IPv6' with 'IPv4' selected, highlighted by a red box. Below this is the 'IPv4 Config' section, which includes radio buttons for 'DHCP' (selected) and 'Static IP'. The 'Static IP' section contains input fields for 'IP Address', 'Subnet Mask', 'Gateway', 'Static DNS' (with 'On' selected), 'Primary DNS' (192.168.1.166), 'Secondary DNS' (192.168.1.167), and 'Host Name' (VC110).

3. Click **Confirm** to accept the change.

A dialog box pops up to prompt that settings will take effect after a reboot.

4. Click **OK** to reboot the phone.

#### To configure a static IPv4 address via web user interface:

1. Click on **Network->LAN Configuration**.
2. In the **IPv4 Config** block, mark the **Static IP** radio box.
3. Enter the desired values in the **IP Address**, **Subnet Mask**, **Gateway**, **Primary DNS** and **Secondary DNS** fields.

This screenshot shows the same Yealink VC110 web interface as the previous one, but with the 'Static IP' radio button selected in the 'IPv4 Config' section. A red box highlights the 'Static IP' section, which includes the 'IP Address' (192.168.1.10), 'Subnet Mask' (255.255.255.0), 'Gateway' (192.168.1.254), 'Static DNS' (with 'On' selected), 'Primary DNS' (192.168.1.166), 'Secondary DNS' (192.168.1.167), and 'Host Name' (VC110).

4. Click **Confirm** to accept the change.  
A dialog box pops up to prompt that settings will take effect after a reboot.
5. Click **Confirm** to reboot the endpoint immediately.

**To configure the IP address mode via phone user interface:**

1. Select **Menu->Advanced** (default password: 0000) ->**Internet Configuration**.
2. Select **IPv4** or **IPv4 & IPv6** from the **IP Mode** field.
3. Press the **Save** soft key to accept the change.  
The IP phone reboots automatically to make settings effective after a period of time.

**To configure a static IPv4 address via phone user interface:**

1. Select **Menu->Advanced** (default password: 0000) ->**Internet Configuration->IPv4**.
2. Uncheck the **DHCP** checkbox.
3. Enter the desired values in the **IP Address**, **Subnet Mask**, **Gateway**, **DNS Primary Server** and **DNS Secondary Server** fields respectively.
4. Press the **Save** soft key to accept the change.  
The display device prompts "Reboot now?".
5. Select **OK** to reboot the endpoint immediately.

## IPv6 Support

Because Internet Protocol version 4 (IPv4) uses a 32-bit address, it cannot meet the increased demands for unique IP addresses for all devices that connect to the Internet. Therefore, Internet Protocol version 6 (IPv6) is the next generation network layer protocol, which designed as a replacement for the current IPv4 protocol.

IPv6 is developed by the Internet Engineering Task Force (IETF) to deal with the long-anticipated problem of IPv4 address exhaustion. Yealink IP Phone supports IPv4 addressing mode, IPv6 addressing mode, as well as an IPv4&IPv6 dual stack addressing mode. IPv4 uses a 32-bit address, consisting of four groups of three decimal digits separated by dots; for example, 192.168.1.100. IPv6 uses a 128-bit address, consisting of eight groups of four hexadecimal digits separated by colons; for example, 2026:1234:1:1:215:65ff:fe1f:caa.

VoIP network based on IPv6 can provide end-to-end security capabilities, enhanced Quality of Service (QoS), a set of service requirements to deliver performance guarantee while transporting traffic over the network.

If you configure the network settings on the phone for an IPv6 network, you can set up an IP address for the phone either by using SLAAC (ICMPv6), DHCPv6 or by manually entering an IP address. Ensure that your network environment supports IPv6. Contact your ISP for more information.

## IPv6 Address Assignment Method

Supported IPv6 address assignment methods:

- **Manual Assignment:** An IPv6 address and other configuration parameters (e.g., DNS server) for the IP phone can be statically configured by an administrator.
- **Stateful DHCPv6:** The Dynamic Host Configuration Protocol for IPv6 (DHCPv6) has been standardized by the IETF through RFC 3315. DHCPv6 enables DHCP servers to pass configuration parameters such as IPv6 network addresses to IPv6 nodes. It offers the capability of automatic allocation of reusable network addresses and additional configuration flexibility. This protocol is a stateful counterpart to "IPv6 Stateless Address Autoconfiguration" ([RFC 2462](#)), and can be used separately or concurrently with the latter to obtain configuration parameters.

## How the IP phone obtains the IPv6 address and network settings?

The following table lists where the IP phone obtains the IPv6 address and other network settings:

DHCPv6	How the IP phone obtains the IPv6 address and network settings?
Disabled	You have to manually configure the static IPv6 address and other network settings.
Enabled	The IP phone can obtain the IPv6 address and the other network settings via DHCPv6.

IPv6 Network parameters need to be configured manually on the endpoints are described below.

Parameter	Description	Configuration Method
<b>Mode (IPv4/IPv6)</b>	Configures the IP address mode. <b>Default:</b> IPv4 <b>Note:</b> If you change this parameter, the IP phone will reboot to make the change take effect.	Remote Control Web User Interface
<b>Static IP</b>	Enables or disables the endpoint to use manually configured IPv6 network settings. <b>Default:</b> Disabled <b>Note:</b> If you change this parameter, the endpoint will reboot to make the change take effect.	Remote Control Web User Interface
<b>IP Address</b>	Configures the IPv6 address assigned to the endpoint.	Remote Control Web User Interface



Parameter	Description	Configuration Method
	<b>Default:</b> Blank <b>Note:</b> If you change this parameter, the endpoint will reboot to make the change take effect.	
<b>IPv6 prefix((0~128)</b>	Configures the IPv6 prefix. <b>Default:</b> Blank <b>Note:</b> If you change this parameter, the endpoint will reboot to make the change take effect.	Remote Control Web User Interface
<b>Gateway</b>	Configures the IPv6 default gateway. <b>Default:</b> Blank <b>Note:</b> If you change this parameter, the endpoint will reboot to make the change take effect.	Remote Control Web User Interface
<b>Static DNS/Static IPv6 DNS</b>	Triggers the static IPv6 DNS feature to on or off. <b>Default:</b> Off <b>Note:</b> If you change this parameter, the endpoint will reboot to make the change take effect.	Remote Control Web User Interface
<b>DNS Primary Server/Primary DNS</b>	Configures the primary IPv6 DNS server. <b>Default:</b> Blank <b>Note:</b> If you change this parameter, the endpoint will reboot to make the change take effect.	Remote Control Web User Interface
<b>DNS Secondary Server/Secondary DNS</b>	Configures the secondary IPv6 DNS server. <b>Default:</b> Blank <b>Note:</b> If you change this parameter, the endpoint will reboot to make the change take effect.	Remote Control Web User Interface

**To configure IPv6 address assignment method via web user interface:**

1. Click on **Network->LAN Configuration**.
2. Select the desired IP mode (**IPv6** or **IPv4 & IPv6**) from the pull-down list of **IPv4/IPv6**.
3. In the **IPv6 Config** block, mark the **DHCP** or the **Static IP** radio box.

- If you mark the **Static IP** radio box, configure the IPv6 address and other configuration parameters in the corresponding fields.

The screenshot shows the Yealink VC110 Network Configuration page. The 'Network' tab is selected. Under 'IPv6 Config', the 'Static IP' radio button is selected and highlighted with a red box. The configuration fields within the red box are:

IP Address	2026:1234:1:1:215:65ff:fe
IPv6 prefix((0~128)	64
Gateway	3036:1:1:c3c7:c11c:5447:
Static IPv6 DNS	<input checked="" type="radio"/> On <input type="radio"/> Off
Primary DNS	3036:1:1:c3c7:c11c:5447:
Secondary DNS	2026:1234:1:1:c3c7:c11c:

- (Optional.) If you mark the **DHCP** radio box, you can configure the static DNS address in the corresponding fields.

The screenshot shows the Yealink VC110 Network Configuration page. Under 'IPv6 Config', the 'DHCP' radio button is selected. The 'Static IPv6 DNS' section is highlighted with a red box, showing the following configuration:


Static IPv6 DNS	<input checked="" type="radio"/> On <input type="radio"/> Off
Primary DNS	3036:1:1:c3c7:c11c:5447:
Secondary DNS	2026:1234:1:1:c3c7:c11c:

4. Click **Confirm** to accept the change.

A dialog box pops up to prompt that the settings will take effect after a reboot.

5. Click **OK** to reboot the phone.

**To configure IPv6 address assignment method via phone user interface:**

1. Select **Menu->Advanced** (default password: 0000) ->**Internet Configuration**.
2. Select **IPv4 & IPv6** or **IPv6** from the **IP Mode** field.
3. Press **▲** or **▼** to highlight **IPv6** and press  .
4. Select the desired IPv6 address assignment method.

If you uncheck the **DHCP** checkbox, configure the IPv6 address and other network parameters in the corresponding fields.

5. Press the **Save** soft key to accept the change.

The IP phone reboots automatically to make settings effective after a period of time.

**To configure static DNS when DHCP is used via phone user interface:**

1. Select **Menu->Advanced** (default password: 0000) ->**Internet Configuration->IPv6**.
2. Check the **DHCP** checkbox.
3. Check the **Static DNS** checkbox.
4. Enter the desired values in the **DNS Primary Server** and **DNS Secondary Server** fields respectively.
5. Press the **Save** soft key to accept the change.
6. The display device prompts "Reboot now?".
7. Select **OK** to reboot the endpoint immediately.

## Configuring Network Speed and Duplex Mode

You can configure the network speed and duplex mode the endpoint uses. The network speed and duplex mode you select for the endpoint must be supported by the switch. The network speeds and duplex modes supported by the endpoint are:

- Auto
- 10 Mbps Full Duplex
- 100 Mbps Full Duplex
- 10 Mbps Half Duplex
- 100 Mbps Half Duplex

Auto is configured on the endpoint by default.

### Auto

Auto means that the switch will negotiate the network speed and duplex mode for the endpoints to transmit voice or data over Ethernet. This process entails devices first sharing transmission capabilities and then selecting the highest performance transmission mode

supported by both endpoints.

### Half-duplex

Half-duplex transmission refers to transmitting voice or data in both directions, but in one direction at a time; this means one endpoint can send data on the line, but not receive data simultaneously.

### Full-duplex

Full-duplex transmission refers to transmitting voice or data in both directions at the same time; this means one endpoint can send data on the line while also receiving data.

Parameter of network speed feature on the endpoint is described below:

Parameter	Description	Configuration Method
<b>Network Speed</b>	<p>Specifies the network speed and duplex mode for the endpoint to use.</p> <p><b>Default:</b> Auto</p> <p><b>Note:</b> If <b>Auto</b> is selected, the network speed and duplex mode will be negotiated by the switch automatically.</p> <p>The network speed and duplex mode you select must be supported by the switch.</p> <p>If you change this parameter, the endpoint will reboot to make the change take effect.</p>	Web User Interface

**To configure the network speed via web user interface:**

1. Click on **Network->Advanced**.

2. Select the desired value from the pull-down list of **Network Speed**.

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes 'About', 'Language', and 'Logout'. The main navigation bar has 'Home', 'Status', 'Account', 'Network' (selected), 'Setting', 'Directory', and 'Security'. The left sidebar shows 'LAN Configuration' with sub-items 'NAT/Firewall', 'Advanced' (selected), and 'Diagnose'. The main content area is titled 'Web Server' and contains the following settings:

- Web Server**
  - HTTP: Enabled (dropdown)
  - HTTP Port: 80 (text input)
  - HTTPS: Enabled (dropdown)
  - HTTPS Port: 443 (text input)
- 802.1x**
  - 802.1x Mode: Disabled (dropdown)
  - Identity: (text input)
  - MD5 Password: (password input)
  - CA Certificates: (text input) with 'Browse...' and 'Upload' buttons
  - Device Certificates: (text input) with 'Browse...' and 'Upload' buttons
- VPN**
  - Active: Disabled (dropdown)
  - Upload VPN Config: (text input) with 'Browse...' and 'Upload' buttons
- Speed**
  - Network Speed: Auto (dropdown, highlighted with a red box)

3. Click **Confirm** to accept the change.

A dialog box pops up to prompt that settings will take effect after a reboot.

4. Click **Confirm** to reboot the endpoint immediately.

## VLAN

VLAN (Virtual Local Area Network) is used to divide a physical network logically into several broadcast domains. VLAN membership can be configured through software instead of physically relocating devices or connections. Grouping devices with a common set of requirements regardless of their physical location can greatly simplify network design. VLANs can address issues such as scalability, security, and network management.

The purpose of VLAN configurations on the endpoint is to insert a tag with VLAN information to the packets generated by the endpoint. When VLAN is configured on the endpoint properly, the endpoint will tag all packets with the VLAN ID. The switch receives and forwards the tagged packets to the corresponding VLAN according to the tag's VLAN ID, as described in IEEE Std 802.3.

In addition to manual configuration, the endpoint also supports automatic VLAN discovery via LLDP or DHCP. The assignment takes effect in the following order: assignment via LLDP, manual configuration, then assignment via DHCP.

For more information on VLAN, refer to [VLAN Feature on Yealink IP Phones](#).

## LLDP

LLDP (Linker Layer Discovery Protocol) is a vendor-neutral Link Layer protocol, which allows the endpoint to receive and/or transmit device-related information from/to directly connected devices on the network that are also using the protocol, and store the information about other devices. LLDP transmits information as packets called LLDP Data Units (LLDPDUs). An LLDPDU consists of a set of Type-Length-Value (TLV) elements, each of which contains a particular type of information about the device or port transmitting it.

### LLDP-MED (Media Endpoint Discovery)

LLDP-MED is published by the Telecommunications Industry Association (TIA). It is an extension to LLDP that operates between endpoint devices and network connectivity devices. LLDP-MED provides the following capabilities for the endpoint:

- Capabilities Discovery -- allows LLDP-MED endpoint to determine the capabilities that the connected switch supports and has enabled.
- Network Policy -- provides voice VLAN configuration to notify the endpoint which VLAN to use and QoS-related configuration for voice data. It provides a "plug and play" network environment.
- Power Management -- provides information related to how the endpoint is powered, power priority, and how much power the endpoint needs.
- Inventory Management -- provides a means to effectively manage the endpoint and its attributes, such as model number, serial number and software revision.

TLVs supported by the endpoint are summarized in the following table:

TLV Type	TLV Name	Description
<b>Mandatory TLVs</b>	Chassis ID	The network address of the endpoint.
	Port ID	The MAC address of the endpoint.
	Time To Live	Seconds until data unit expires. The default value is 180s.
	End of LLDPDU	Marks end of LLDPDU.
<b>Optional TLVs</b>	System Name	Name assigned to the endpoint. The default value is "VC110".
	System Description	Description of the endpoint. Description includes firmware version of the endpoint.
	System Capabilities	The supported and enabled endpoint capabilities. The Telephone capability is supported and

TLV Type	TLV Name	Description
		enabled by default.
	Port Description	Description of port that sends data unit. The default value is "WAN PORT".
<b>IEEE Std 802.3 Organizationally Specific TLV</b>	MAC/PHY Configuration/Status	Duplex mode and network speed settings of the endpoint.  The Auto Negotiation is supported and enabled by default.  The advertised capabilities of PMD.  Auto-Negotiation is: 100BASE-TX (full duplex mode) 100BASE-TX (half duplex mode) 10BASE-T (full duplex mode) 10BASE-T (half duplex mode)
<b>TIA Organizationally Specific TLVs</b>	Media Capabilities	The MED device type of the endpoint and the supported LLDP-MED TLV type can be encapsulated in LLDPDU.  The supported LLDP-MED TLV types are: LLDP-MED Capabilities, Network Policy, Extended Power via MDI-PD, Inventory.
	Network Policy	Port VLAN ID, application type, L2 priority and DSCP value.
	Extended Power-via-MDI	Power type, source, priority and value.
	Inventory - Hardware Revision	Hardware revision of the endpoint.
	Inventory - Firmware Revision	Firmware revision of the endpoint.
	Inventory - Software Revision	Software revision of the endpoint.
	Inventory - Serial Number	Serial number of the endpoint.
	Inventory - Manufacturer Name	Manufacturer name of the endpoint. The default value is "IP_Phone".
	Inventory - Model Name	Model name of the endpoint. The default value is "VC110".

TLV Type	TLV Name	Description
	Asset ID	Assertion identifier of the endpoint.

Parameters of LLDP feature on the endpoint are described below.

Parameter	Description	Configuration Method
<b>LLDP-&gt;Active</b>	Enables or disables LLDP feature on the endpoint. <b>Default:</b> Enabled <b>Note:</b> If you change this parameter, the endpoint will reboot to make the change take effect.	Remote Control Web User Interface
<b>Packet Interval(1-3600s)</b>	Configures the interval (in seconds) for the endpoint to send LLDP requests. <b>Default:</b> 60 <b>Note:</b> If you change this parameter, the endpoint will reboot to make the change take effect.	Remote Control Web User Interface

**To configure LLDP via web user interface:**

1. Click on **Network->Advanced**.
2. In the **LLDP** block, select the desired value from the pull-down list of **Active**.
3. Enter the desired time interval in the **Packet Interval (1-3600s)** field.

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes 'About', 'Language', and 'Logout'. The main menu has 'Home', 'Status', 'Account', 'Network' (selected), 'Setting', 'Directory', and 'Security'. On the left, a sidebar shows 'LAN Configuration', 'NAT/Firewall', 'Advanced' (selected), and 'Diagnose'. The main content area displays the 'LLDP' configuration section, which is highlighted with a red box. It contains two fields: 'Active' with a dropdown menu set to 'Enabled', and 'Packet Interval(1-3600s)' with a text input field containing '60'. Below the LLDP section is the 'VLAN' section, which includes 'Internet Port' (dropdown set to 'Disabled'), 'VID(1-4094)' (text input set to '1'), and 'Priority' (dropdown set to '0').

4. Click **Confirm** to accept the change.  
A dialog box pops up to prompt that the settings will take effect after a reboot.
5. Click **Confirm** to reboot the endpoint immediately.



**To configure LLDP via the remote control:**

1. Select **Menu->Advanced** (default password: 0000) -> **Advanced Network**.
2. In the **LLDP** block, check the **Active** checkbox.
3. Enter the desired value in the **Packet Interval (1-3600s)** field.
4. Press the **Save** soft key to accept the change.  
The display device prompts "Reboot now?".
5. Select **OK** to reboot the endpoint immediately.

## Manual Configuration for VLAN

VLAN is disabled on endpoints by default. You can configure VLAN manually. Before configuring VLAN on the endpoints, you need to obtain the VLAN ID from your network administrator.

Parameters of manual VLAN on the endpoint are described below.

Parameter	Description	Configuration Method
<b>Internet Port-&gt;Active</b>	Enables or disables VLAN for the Internet (WAN) port. <b>Default:</b> Disabled <b>Note:</b> If you change this parameter, the endpoint will reboot to make the change take effect.	Remote Control Web User Interface
<b>VID(1-4094)</b>	Configures VLAN ID for the Internet (WAN) port. <b>Default:</b> 1 <b>Note:</b> If you change this parameter, the endpoint will reboot to make the change take effect.	Remote Control Web User Interface
<b>Priority</b>	Configures VLAN priority for the Internet (WAN) port. <b>Valid values:</b> 0-7 7 is the highest priority, 0 is the lowest priority. <b>Default:</b> 0 <b>Note:</b> If you change this parameter, the endpoint will reboot to make the change take effect.	Remote Control Web User Interface

**To configure VLAN for Internet port via web user interface:**

1. Click on **Network->Advanced**.

2. In the **VLAN** block, select the desired value from the pull-down list of **Internet Port Active**.
3. Enter the VLAN ID in the **VID (1-4094)** field.
4. Select the desired value (0-7) from the pull-down list of **Priority**.

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes 'About', 'Language', and 'Logout'. The main menu has 'Home', 'Status', 'Account', 'Network' (selected), 'Setting', 'Directory', and 'Security'. On the left, a sidebar lists 'LAN Configuration', 'NAT/Firewall', 'Advanced' (selected), and 'Diagnose'. The main content area is divided into sections: 'LLDP' with 'Active' (Enabled) and 'Packet Interval(1-3600s)' (60); 'VLAN' with 'Internet Port' settings (Active: Enabled, VID(1-4094): 1, Priority: 0); and 'DHCP VLAN' with 'Active' (Enabled) and 'Option' (132). The 'VLAN' section is highlighted with a red box.

5. Click **Confirm** to accept the change.  
A dialog box pops up to prompt that the settings will take effect after a reboot.
6. Click **OK** to reboot the phone.

#### To configure VLAN via the remote control:

1. Select **Menu->Advanced** (default password: 0000) -> **Advanced Network**.
2. In the **VLAN** block, check the **Active** checkbox.
3. Enter the VLAN ID in the **VID(1-4094)** field.
4. Enter the priority value (0-7) in the **Priority** field.
5. Press the **Save** soft key to accept the change.  
The display device prompts "Reboot now?".
6. Select **OK** to reboot the endpoint immediately.

## DHCP VLAN

The endpoint supports VLAN discovery via DHCP. When the VLAN Discovery method is set to DHCP, the endpoint will examine the DHCP option for a valid VLAN ID. The predefined option 132 is used to supply the VLAN ID by default. You can customize the DHCP option used to request the VLAN ID.

Parameters of VLAN feature on the endpoint are described below.

Parameter	Description	Configuration Method
<b>DHCP VLAN-&gt;Active</b>	<p>Enables or disables the DHCP VLAN discovery feature on the endpoint.</p> <p><b>Default:</b> Enabled</p> <p><b>Note:</b> If you change this parameter, the endpoint will reboot to make the change take effect.</p>	Web User Interface
<b>Option</b>	<p>Configures the DHCP option from which the endpoint obtains the VLAN settings.</p> <p>You can configure at most five DHCP options and separate them by commas.</p> <p><b>Valid Values:</b> 128-254</p> <p><b>Default:</b> 132</p> <p><b>Note:</b> If you change this parameter, the endpoint will reboot to make the change take effect.</p>	Web User Interface

**To configure DHCP VLAN discovery via web user interface:**

1. Click on **Network->Advanced**.
2. In the **VLAN** block, select the desired value from the pull-down list of **DHCP VLAN Active**.
3. Enter the desired option in the **Option** field.

The default option is 132.

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes 'About', 'Language', and 'Logout'. The main menu has 'Home', 'Status', 'Account', 'Network' (selected), 'Setting', 'Directory', and 'Security'. On the left, under 'LAN Configuration', the 'Advanced' tab is selected. The main content area shows the following settings:

- LLDP**
  - Active: Enabled
  - Packet Interval(1-3600s): 60
- VLAN**
  - Internet Port
    - Active: Disabled
    - VID(1-4094): 1
    - Priority: 0
  - DHCP VLAN** (highlighted with a red box)
    - Active: Enabled
    - Option: 132
- QoS**
  - Audio Priority: 63
  - Video Priority: 34
  - Data Priority: 63

4. Click **Confirm** to accept the change.  
A dialog box pops up to prompt that the settings will take effect after a reboot.
5. Click **Confirm** to reboot the endpoint immediately.

## 802.1X Authentication

IEEE 802.1X authentication is an IEEE standard for Port-based Network Access Control (PNAC), part of the IEEE 802.1 group of networking protocols. It offers an authentication mechanism for devices to connect to a LAN or WLAN. The 802.1X authentication involves three parties: a supplicant, an authenticator and an authentication server. The supplicant is the endpoint that wishes to attach to the LAN or WLAN. With 802.1X port-based authentication, the endpoint provides credentials, such as user name and default password, for the authenticator. The authenticator then forwards the credentials to the authentication server for verification. If the authentication server determines the credentials are valid, the endpoint is allowed to access resources located on the protected side of the network.

The endpoint supports the authentication protocols EAP-MD5, EAP-TLS, PEAP-MSCHAPv2 and EAP-TTLS/EAP-MSCHAPv2 for 802.1X authentication.

For more information on 802.1X authentication, refer to [Yealink 802.1X Authentication](#).

802.1X feature parameters on the endpoint are described below:

Parameter	Description	Configuration Method
<b>802.1x Mode</b>	<p>Specifies the 802.1x authentication mode.</p> <ul style="list-style-type: none"> <li>Disabled</li> <li>EAP-MD5</li> <li>EAP-TLS</li> <li>PEAP-MSCHAPv2</li> <li>EAP-TTLS/EAP-MSCHAPv2</li> </ul> <p><b>Default:</b> Disabled</p> <p><b>Note:</b> If you change this parameter, the endpoint will reboot to make the change take effect.</p>	<p>Remote Control</p> <p>Web User Interface</p>
<b>Identity</b>	<p>Configures the user name for 802.1x authentication.</p> <p><b>Note:</b> If you change this parameter, the endpoint will reboot to make the change take effect.</p>	Web User Interface
<b>MD5 Password</b>	<p>Configures the password for 802.1x authentication.</p> <p><b>Note:</b> If you change this parameter, the endpoint will reboot to make the change take effect.</p>	Web User Interface
<b>CA Certificates</b>	<p>Configures the access URL of the CA certificate when the 802.1x authentication mode is configured as EAP-TLS, PEAP-MSCHAPV2 or EAP-TTLS/EAP-MSCHAPV2.</p> <p><b>Note:</b> If you change this parameter, the endpoint will reboot to make the change take effect.</p>	Web User Interface
<b>Device Certificates</b>	<p>Configures the access URL of the device certificate when the 802.1x authentication mode is configured as EAP-TLS.</p> <p><b>Note:</b> If you change this parameter, the endpoint will reboot to make the change take effect.</p>	Web User Interface

**To configure 802.1X via web user interface:**

1. Click on **Network->Advanced**.
2. In the **802.1x** block, select the desired protocol from the pull-down list of **Mode 802.1x**.
  - a) If you select **EAP-MD5**:
    - 1) Enter the user name for authentication in the **Identity** field.
    - 2) Enter the password for authentication in the **MD5 Password** field.

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes 'About', 'Language', and 'Logout'. The main navigation bar has 'Home', 'Status', 'Account', 'Network' (selected), 'Setting', 'Directory', and 'Security'. The left sidebar shows 'LAN Configuration', 'NAT/Firewall', 'Advanced' (selected), and 'Diagnose'. The main content area is divided into sections: 'SNMP' (Active: Disabled, Port: 161, Trusted Address: empty), 'Web Server' (HTTP: Enabled, HTTP Port: 80, HTTPS: Enabled, HTTPS Port: 443), and '802.1x'. The '802.1x' section is highlighted with a red box and contains: '802.1x Mode' (EAP-MD5), 'Identity' (yealink), and 'MD5 Password' (masked with dots). Below this are 'CA Certificates' and 'Device Certificates' fields, each with a 'Browse...' button and an 'Upload' button.

- b) If you select **EAP-TLS**:
  - 1) Enter the user name for authentication in the **Identity** field.
  - 2) Leave the **MD5 Password** field blank.
  - 3) In the **CA Certificates** field, click **Browse** to locate the desired CA certificate (\*.pem, \*.crt, \*.cer or \*.der) from your local endpoint.
  - 4) In the **Device Certificates** field, click **Browse** to locate the desired client certificate (\*.pem or \*.cer) from your local endpoint.

- 5) Click **Upload** to upload the certificates.

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes 'About', 'Language', and 'Logout'. The main navigation bar has 'Home', 'Status', 'Account', 'Network' (selected), 'Setting', 'Directory', and 'Security'. On the left, a sidebar menu shows 'LAN Configuration', 'NAT/Firewall', 'Advanced' (selected), and 'Diagnose'. The main content area is titled 'Network' and contains sections for 'SNMP' and 'Web Server'. The '802.1x' section is highlighted with a red box and contains the following fields:

802.1x	
802.1x Mode	EAP-TLS
Identity	yealink
MD5 Password	••••••••
CA Certificates	C:\fakepath\ca.crt <input type="button" value="Browse..."/> <input type="button" value="Upload"/>
Device Certificates	C:\fakepath\client.pem <input type="button" value="Browse..."/> <input type="button" value="Upload"/>

- c) If you select **PEAP-MSCHAPv2**:
  - 1) Enter the user name for authentication in the **Identity** field.
  - 2) Enter the password for authentication in the **MD5 Password** field.
  - 3) In the **CA Certificates** field, click **Browse** to locate the desired certificate (\*.pem, \*.crt, \*.cer or \*.der) from your local endpoint.

- 4) Click **Upload** to upload the certificate.

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes 'About', 'Language', and 'Logout'. The main menu has 'Home', 'Status', 'Account', 'Network' (selected), 'Setting', 'Directory', and 'Security'. The left sidebar shows 'LAN Configuration', 'NAT/Firewall', 'Advanced' (selected), and 'Diagnose'. The main content area is divided into 'SNMP' and 'Web Server' sections. The '802.1x' section is highlighted with a red box and contains the following fields:

- 802.1x Mode:** PEAP-MSCHAPv2 (dropdown)
- Identity:** yealink (text input)
- MD5 Password:** masked with dots (password input)
- CA Certificates:** C:\fakepath\ca.crt (text input) with 'Browse...' and 'Upload' buttons.
- Device Certificates:** empty (text input) with 'Browse...' and 'Upload' buttons.

- d) If you select **EAP-TTLS/EAP-MSCHAPv2**:

- 1) Enter the user name for authentication in the **Identity** field.
- 2) Enter the password for authentication in the **MD5 Password** field.
- 3) In the **CA Certificates** field, click **Browse** to locate the desired certificate (\*.pem, \*.crt, \*.cer or \*.der) from your local endpoint.



- 4) Click **Upload** to upload the certificate.

3. Click **Confirm** to accept the change.  
A dialog box pops up to prompt that the settings will take effect after a reboot.
4. Click **Confirm** to reboot the endpoint immediately.

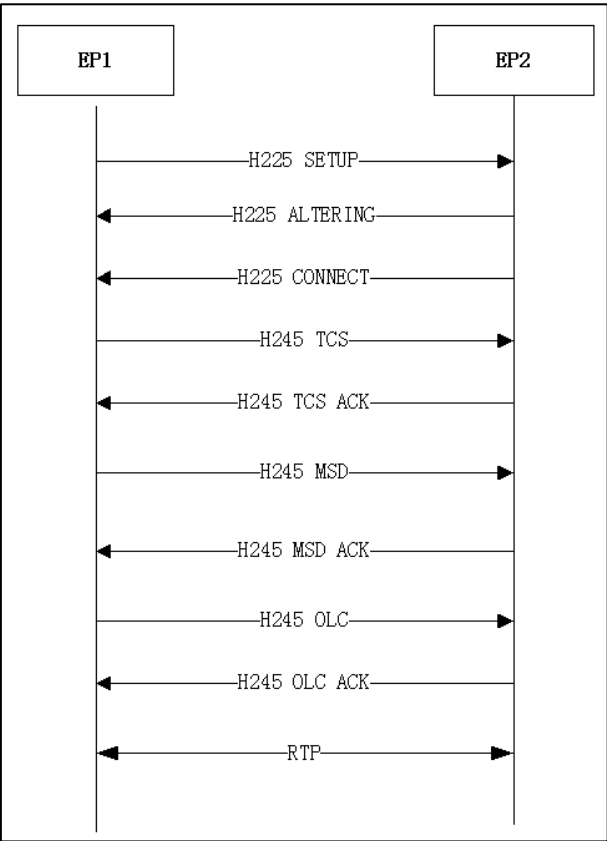
**To configure the 802.1X via the remote control:**

1. Select **Menu->Advanced** (default password: 0000) -> **Advanced Network**.
2. Select the desired mode from the pull-down list of **802.1x Mode**.
3. Press the **Save** soft key to accept the change.  
The display device prompts "Reboot now?".
4. Select **OK** to reboot the endpoint immediately.

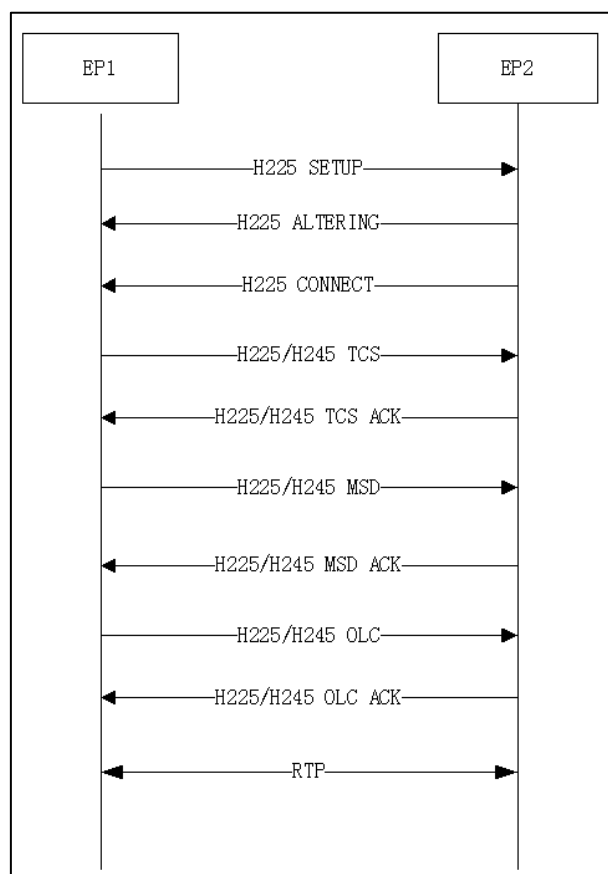
## H.323 Tunneling

The H.245 protocol is a control protocol that manages the media sessions. It is a part of the H.323 protocol suite. The H.245 protocol is used primarily to negotiate the master-slave relationship between communicating endpoints. The H.245 messages can be encapsulated and carried between H.225 controlled endpoints within H.225 messages. This way of "piggy-backing" an H.245 message to the H.225 message is referred to as H.323 Tunneling. The tunneling feature relies on H.225 endpoint-to-endpoint connectivity (via TCP) to pass H.245 messages, and uses the H.225 communication channel without creating a separate TCP socket connection (per H.323 call) for media control.

If H.323 tunneling feature is disabled, the setup processes of an H.323 call are shown below:



If H.323 tunneling feature is enabled on both sites, the setup processes of an H.323 call are shown below:



The parameter of the H.323 tunneling feature on the endpoint is described below:

Parameter	Description	Configuration Method
<b>H.323 Tunneling</b>	Enables or disables the H.323 tunneling on the endpoint. You can configure it for the StarLeaf Cloud platform or H.323 call separately. <b>Default:</b> Disabled	Remote Control Web User Interface

**To configure the H.323 tunneling for StarLeaf Cloud platform via web user interface:**

1. Click on **Account->VC Platform**.
2. Select **StarLeaf** from the pull-down list of **Platform Type**.

3. Select the desired value from the pull-down list of **H.323 Tunneling**.

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes 'About', 'Language', and 'Logout'. The main menu has 'Home', 'Status', 'Account' (selected), 'Network', 'Setting', 'Directory', and 'Security'. On the left, a sidebar lists 'VC Platform', 'H.323', 'SIP Account', 'SIP IP Call', and 'Codec'. The main content area is titled 'Video Conference Platform' and shows the following settings:

Status	Registered
Cloud Account	Enabled
Platform Type	StarLeaf
QCP Code	36703222222

Below the 'Video Conference Platform' section is the 'Advanced Setting' section. The 'H.323 Tunneling' dropdown is highlighted with a red box and is currently set to 'Disabled'. Other settings in this section include:

H.323 Tunneling	Disabled
H.235	Disabled
Protocol Monitor Port	1720
DTMF Type	Auto
Local Early Media	Disabled
H.239	Enabled
FECC(H.323)	Enabled
Log Out Account	Log Out

4. Click **Confirm** to accept the change.

**To configure H.323 tunneling for H.323 via web user interface:**

1. Click on **Account**->**H.323**.
2. Select the desired value from the pull-down list of **H.323 Tunneling**.

The screenshot shows the Yealink VC110 web interface with the 'H.323' configuration page selected. The top navigation bar and main menu are the same as in the previous screenshot. The left sidebar now highlights 'H.323'. The main content area shows the following settings:

Register Status	Registered	
H.323 Protocol	Enabled	
H.323 Account	Enabled	
H.323 Name	9000	
H.323 Extension	9000	
Gatekeeper Mode	Manual	
Gatekeeper IP Address 1	10.2.1.42	Port 1719
Gatekeeper IP Address 2		Port 1719
Gatekeeper Authentication	Disabled	
Gatekeeper Username		
Gatekeeper Password	*****	
H.460 Active	Disabled	
H.323 Tunneling	Enabled	
H.235	Disabled	
Protocol Monitor Port	1720	
DTMF Type	Auto	

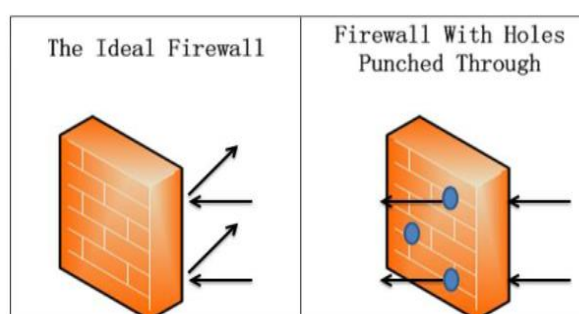
3. Click **Confirm** to accept the change.

**To configure H.323 tunneling via the remote control:**

1. Select **Menu->Advanced** (default password: 0000) -> **H.323**.
2. Check the **H.323 Tunneling** checkbox.
3. Press the **Save** soft key to accept the change.

## Configuring the Endpoint for Use with a Firewall or NAT

A firewall protects an organization's IP network by controlling data traffic from outside the network. Unless the firewall is designed to work with video conferencing equipment, you must configure the firewall to allow incoming and outgoing traffic to the VC110 endpoint through the reserved ports. Users placing calls through a firewall to endpoints may experience one-way audio or video if the firewall is not properly configured.



## Call Setup and Media Ports

To place calls to other endpoints through the firewall, you must configure your firewall to allow incoming and outgoing traffic to the system through the following:

Description	Port Range	Port Type
Gatekeeper	1719	UDP
H.323 signal port	1720	TCP
SIP (default transport protocol)	5060	UDP
SIP (when selecting the TCP transport protocol)	5060	TCP
SIP (when selecting the TLS transport protocol)	5061	TCP
Reserved ports of the endpoint.	50000-50499	TCP/UDP

Description	Port Range	Port Type
For more information, refer to <a href="#">Restricting Reserved Ports</a> on page 87.	(default range)	
Web management port (optional)	443	TCP

## Restricting Reserved Ports

By default, the endpoint communicates through TCP and UDP ports in the 50000 - 54999 range for video, voice, presentations, and camera control. The endpoint uses only a small number of these ports during a call. The exact number depends on the number of participants in the call, the protocol used, and the number of ports required for the type of call: video or voice.

To minimize the number of UDP and TCP ports that are available for communication, you can restrict the ports range

The following tables identify the number of ports required per connection by protocol and the type of call.

### Required ports for an H.323 two-way call:

Call Type	Number of Required Ports
Video	8 UDP ports (6 if presentation is disabled) 2 TCP ports
Voice	2 UDP ports 2 TCP ports
Each additional video participant requires 8 UDP ports and 2 TCP ports.	
Each additional audio participant requires 2 UDP ports and 2 TCP ports.	

### Required ports for a SIP two-way call:

Call Type	Number of Required Ports
Video	8 UDP ports (5 if presentation is disabled)
Voice	2 UDP ports
Each additional video participant requires 8 UDP ports.	
Each additional audio participant requires 2 UDP ports.	

Make sure at least 200 TCP ports and 200 UDP ports are reserved for VC110. Use the following information as a guide when determining the range of port numbers.

Endpoint	Maximum Connections	Required Ports for an H.323 Call		Required Ports for a SIP Call	
VC110	Two-way video call with a presentation and an audio call	10 UDP 4 TCP	50000-50009 50000-50003	10 UDP	50000-50009

Parameters for reserved ports on the endpoint are described below:

Parameter	Description	Configuration Method
<b>UDP Port Scope</b>	Configures the range of the UDP ports. <b>Valid values:</b> 1-65535 <b>Default range:</b> 50000-50499 <b>Note:</b> SIP and H.323 calls share the configured ports. If you change this parameter, the endpoint will reboot to make the change take effect.	Remote Control Web User Interface
<b>TCP Port Scope</b>	Configures the range of the TCP ports. <b>Valid values:</b> 1-65535 <b>Default range:</b> 50000-50499 <b>Note:</b> SIP and H.323 calls share the configured ports. If you change this parameter, the endpoint will reboot to make the change take effect.	Remote Control Web User Interface

**To configure reserved ports via web user interface:**

1. Click on **Network->NAT/Firewall**.
2. In the **Reserve Port** block, configure the UDP port range in the **UDP Port Scope** field.

3. In the **Reserved Port** block, configure the TCP port range in the **TCP Port Scope** field.

The screenshot shows the Yealink VC110 web interface. The 'Network' tab is selected. In the left sidebar, 'NAT/Firewall' is chosen. The main area shows 'NAT Configuration' with 'Static NAT' set to 'Disabled'. Below that, 'STUN Config' has 'Active' set to 'Disabled'. At the bottom, the 'Reserved Port' section is highlighted with a red box, showing 'UDP Port Scope' and 'TCP Port Scope' both set to '50000 ~ 50499'.

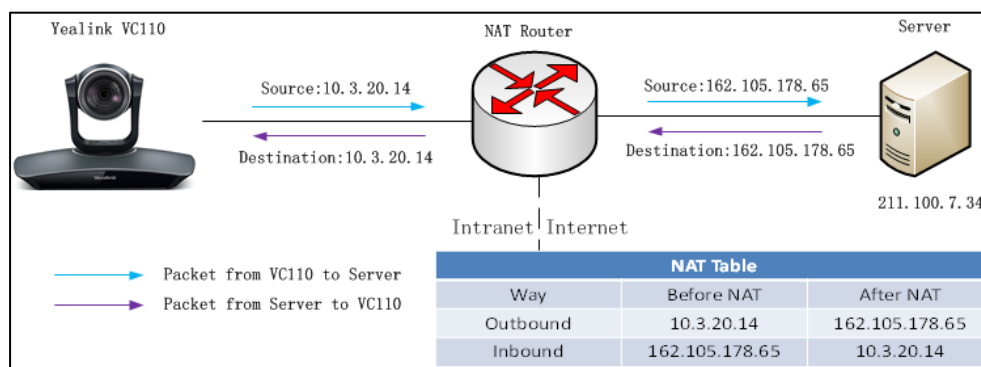
4. Click **Confirm** to accept the change.  
A dialog box pops up to prompt that the settings will be implemented after a reboot.
5. Click **Confirm** to reboot the endpoint immediately.

**To configure reserved ports via the remote control:**

1. Select **Menu**->**Advanced** (default password: 0000) ->**NAT/Firewall**.
2. In the **Reserved** block, configure the range of the UDP ports and TCP ports.
3. Press the **Save** soft key to accept the change.  
The display device prompts "Reboot now?".
4. Select **OK** to reboot the endpoint immediately.

## Network Address Translation

If you choose to place your video conferencing endpoints in a private LAN, you must use NAT to communicate with outside endpoints. This may include enabling static NAT on your endpoint.





## Static NAT

NAT enables communication between devices on your LAN that have private IP addresses and devices that are accessed through a public IP network. Static NAT ensures that the same public IP address always maps to an endpoint's private IP address so that data from the public network intended for the private endpoint can be routed to the endpoint reliably. If you are using static NAT to associate a public IP address with the private IP address of your endpoint, you must configure your endpoint to work with your static NAT server.

### Note

If H.460 firewall traversal is enabled on the endpoint, the endpoint will automatically ignore the static NAT settings for H.323 calls. For more information on H.460 firewall traversal, refer to on [Enabling H.460 Support for H.323 Calls](#) on page 142.

Static NAT feature parameters on the endpoint are described below:

Parameter	Description	Configuration Method
<b>Static NAT</b>	<p>Specifies the static NAT type.</p> <ul style="list-style-type: none"> <li>• <b>Disabled</b>—the endpoint does not use the NAT feature.</li> <li>• <b>Manual</b>—the endpoint uses the manually configured NAT public address.</li> <li>• <b>Auto</b>—the endpoint obtains the NAT public address from the Yealink-supplied server.</li> </ul> <p><b>Default:</b> Disabled</p>	<p>Remote Control</p> <p>Web User Interface</p>
<b>NAT Public IP Address</b>	<ul style="list-style-type: none"> <li>• Displays the NAT public address automatically obtained from the Yealink-supplied server if the static NAT is set to <b>Auto</b>.</li> <li>• Configures the NAT public address for the endpoint if the static NAT is set to <b>Manual</b>.</li> </ul>	<p>Remote Control</p> <p>Web User Interface</p>
<b>Route Traversal</b>	<p>Configures the route traversal type.</p> <ul style="list-style-type: none"> <li>• <b>Auto</b>—NAT works only when making a call to public network or receiving a call from the public network.</li> <li>• <b>Compulsory</b>—NAT works when</li> </ul>	<p>Web User Interface</p>

Parameter	Description	Configuration Method
	<p>you are in multi-level intranet network to solve the one-way audio or video problem.</p> <p><b>Default:</b> Auto</p>	
<b>NAT Traversal</b>	<p>Configures the NAT traversal type. You can configure it for the SIP account or SIP IP call separately.</p> <ul style="list-style-type: none"> <li>• <b>Disabled</b></li> <li>• <b>STUN</b></li> <li>• <b>StaticNat</b></li> </ul> <p><b>Default:</b> Disabled</p> <p><b>Note:</b> Static NAT works only if this parameter is set to StaticNat.</p>	Web User Interface

**To configure static NAT via web user interface:**

1. Click on **Network->NAT/Firewall**.
2. Select the desired value from the pull-down list of **Static NAT**.
3. Configure the NAT public address in the **NAT Public IP Address** field if **Manual** is selected from the pull-down list of **Static NAT**.
4. If multi-level intranet network has deployed in your environment, and you experience the one-way audio or video problem, select **Compulsory** from the pull-down list of **Route Traversal** to solve this problem.

The screenshot displays the Yealink VC110 web interface. The top navigation bar includes links for About, Language, and Logout. The main menu has options for Home, Status, Account, Network (selected), Setting, Directory, and Security. On the left sidebar, there are links for LAN Configuration, NAT/Firewall (selected), Advanced, and Diagnose. The main content area is titled 'NAT Configuration'. It features three sections: 'Static NAT' with a dropdown menu set to 'Manual', 'NAT Public IP Address' with a text input field containing '117.28.234.34', and 'Route Traversal' with a dropdown menu set to 'Auto'. Below this is the 'STUN Config' section, which includes 'Active' (dropdown set to 'Disabled'), 'STUN Server' (empty text input), and 'STUN Port' (text input with '3478'). The final section is 'Reserved Port', containing 'UDP Port Scope' and 'TCP Port Scope', both with text inputs showing '50000 ~ 50499'.

5. Click **Confirm** to accept the change.

**To configure Static NAT for SIP account via web user interface:**

1. Click on **Account->SIP Account**.
2. Select **StaticNat** from the pull-down list of **NAT Traversal**.

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes 'About', 'Language', and 'Logout'. The main menu has 'Home', 'Status', 'Account' (selected), 'Network', 'Setting', 'Directory', and 'Security'. On the left, a sidebar lists 'VC Platform', 'H.323', 'SIP Account' (selected), 'SIP IP Call', and 'Codec'. The main content area displays the 'SIP Account' configuration form. The 'NAT Traversal' dropdown menu is highlighted with a red box and set to 'StaticNat'. Other fields include Username (8081), Register Name (8081), Password (masked), Server Host (10.2.1.48), Port (5060), Enable Outbound Proxy Server (Disabled), Outbound Proxy Server (empty), Transport (UDP), Server Expires (3600), SRTP (Disabled), DTMF Type (RFC2833), DTMF Info Type (DTMF-Relay), DTMF Payload Type (96~127) (101), and Keep Alive Interval (30).

3. Click **Confirm** to accept the change.

**To configure Static NAT for SIP IP call via web user interface:**

1. Click on **Account->SIP IP Call**.
2. Select **StaticNat** from the pull-down list of **NAT Traversal**.

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes 'About', 'Language', and 'Logout'. The main menu has 'Home', 'Status', 'Account' (selected), 'Network', 'Setting', 'Directory', and 'Security'. On the left, a sidebar lists 'VC Platform', 'H.323', 'SIP Account', 'SIP IP Call' (selected), and 'Codec'. The main content area displays the 'SIP IP Call' configuration form. The 'NAT Traversal' dropdown menu is highlighted with a red box and set to 'StaticNat'. Other fields include SIP IP Call (Enabled), Transport (TCP), SRTP (Disabled), DTMF Type (RFC2833), DTMF Info Type (DTMF-Relay), DTMF Payload Type (96~127) (101), RPort (Disabled), BFCP (Enabled), and FECC(SIP) (Enabled).

3. Click **Confirm** to accept the change.

**To configure static NAT via the remote control:**

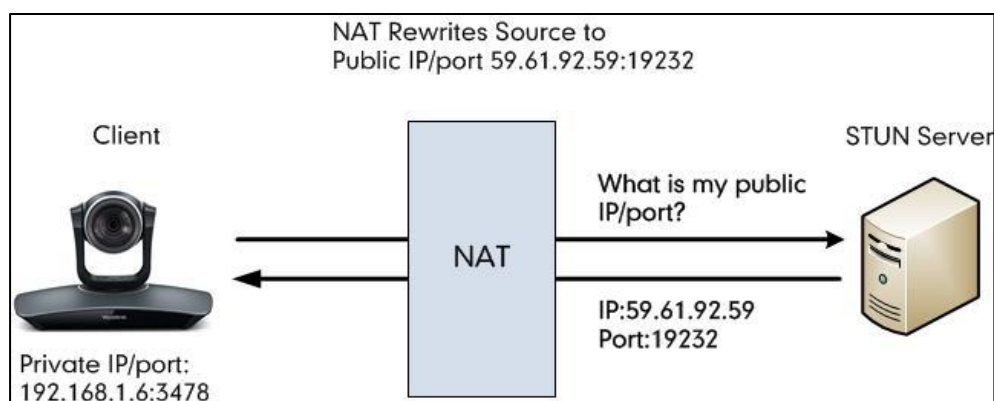
1. Select **Menu->Advanced** (default password: 0000) -> **NAT/Firewall**.
2. Select the desired value from the pull-down list of **Type**.
3. Configure the NAT public address in the **Public IP Address** field if **Manual Settings** is selected from the pull-down list of **Type**.
4. Press the **Save** soft key to accept the change.

**To configure static NAT for SIP IP call via the remote control:**

1. Select **Menu->Advanced** (default password: 0000) -> **SIP IP Call**.
2. Select **StaticNat** from the pull-down list of **NAT Traversal**.
3. Press the **Save** soft key to accept the change.

**STUN**

STUN is a network protocol, used in NAT traversal for applications of real-time voice, video, messaging, and other interactive IP communications. The STUN protocol allows entities behind a NAT to first discover the presence of a NAT and the type of NAT (for more information on the NAT types, refer to [NAT Types](#) on page 96.) and to obtain the mapped (public) IP address and port number that the NAT has allocated for the UDP connections to remote parties. The protocol requires assistance from a third-party network server (STUN server) usually located on public Internet. The IP phone can be configured to work as a STUN client, to send exploratory STUN messages to the STUN server. The STUN server uses those messages to determine the public IP address and port used, and then informs the client. For more information, refer to [RFC3489](#).



Capturing packets after you enable the STUN feature, you can find that the VC110 video conferencing endpoint sends Binding Request to the STUN server, and then mapped IP address and port is placed in the Binding Response: Binding Success Response MAPPED-ADDRESS: 59.61.92.59:19232.

No.	Time	Source	Destination	Protocol	Length	Info
444	18.537848	192.168.1.6	218.107.220.74	STUN	62	Binding Request
447	18.711349	218.107.220.74	192.168.1.6	STUN	98	Binding Success Response MAPPED-ADDRESS: 59.61.92.59:19232

STUN feature parameters on the endpoint are described below:

Parameter	Description	Configuration Method
<b>Active</b>	Enables or disables the STUN (Simple Traversal of UDP over NATs) feature on the endpoint. <b>Default:</b> Disabled	Remote Control Web User Interface
<b>STUN Server</b>	Configures the IP address or the domain name of the STUN (Simple Traversal of UDP over NATs) server. <b>Default:</b> Blank	Remote Control Web User Interface
<b>STUN Port</b>	Configures the port of the STUN (Simple Traversal of UDP over NATs) server. <b>Default:</b> 3478	Remote Control Web User Interface
<b>NAT Traversal</b>	Configures the NAT traversal type. You can configure it for the SIP account or SIP IP call separately. <ul style="list-style-type: none"><li>• <b>Disabled</b></li><li>• <b>STUN</b></li><li>• <b>StaticNat</b></li></ul> <b>Default:</b> Disabled <b>Note:</b> STUN works only if this parameter is set to STUN.	Web User Interface

**To configure STUN server via web user interface:**

1. Click on **Network->NAT/Firewall**.
2. In the **STUN Config** block, select the desired value from the pull-down list of **Active**.
3. Enter the IP address or the domain name of the STUN server in the **STUN Server** field.

- Enter the port of the STUN server in the **Port** field.

Yealink VC110 Home Status Account **Network** Setting Directory Security

LAN Configuration  
NAT/Firewall  
Advanced  
Diagnose

### NAT Configuration

Static NAT: Manual

NAT Public IP Address: 117.28.234.34

Route Traversal: Auto

### STUN Config

Active: Enabled

STUN Server: 218.107.220.201

STUN Port: 3478

### Reserved Port

UDP Port Scope: 50000 ~ 50499

TCP Port Scope: 50000 ~ 50499

- Click **Confirm** to accept the change.

**To configure STUN for SIP account via web user interface:**

- Click on **Account**->**SIP Account**.
- Select **STUN** from the pull-down list of **NAT Traversal**.

Yealink VC110 Home Status **Account** Network Setting Directory Security

VC Platform  
H.323  
SIP Account  
SIP IP Call  
Codec

Username: 8081

Register Name: 8081

Password: .....

Server Host: 10.2.1.48 Port: 5060

Enable Outbound Proxy Server: Disabled

Outbound Proxy Server: Port: 5060

Transport: UDP

Server Expires: 3600

SRTP: Disabled

DTMF Type: RFC2833

DTMF Info Type: DTMF-Relay

DTMF Payload Type (96~127): 101

NAT Traversal: STUN

Keep Alive Interval: 30

- Click **Confirm** to accept the change.

**To configure STUN for SIP IP call via web user interface:**

1. Click on **Account**->**SIP IP Call**.
2. Select **STUN** from the pull-down list of **NAT Traversal**.

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes 'About', 'Language', and 'Logout'. Below this is a green header with 'Yealink VC110' and a menu with 'Home', 'Status', 'Account' (selected), 'Network', 'Setting', 'Directory', and 'Security'. On the left, a sidebar lists 'VC Platform', 'H.323', 'SIP Account', 'SIP IP Call' (selected), and 'Codec'. The main content area displays various SIP IP Call settings: 'SIP IP Call' (Enabled), 'Transport' (TCP), 'SRTP' (Disabled), 'DTMF Type' (RFC2833), 'DTMF Info Type' (DTMF-Relay), 'DTMF Payload Type (96~127)' (101), 'NAT Traversal' (STUN, highlighted with a red box), 'RPort' (Disabled), 'BFCP' (Enabled), and 'FECC(SIP)' (Enabled).

3. Click **Confirm** to accept the change.

**To configure STUN server via the remote control:**

1. Select **Menu**->**Advanced** (default password: 0000) ->**NAT/Firewall**.  
Mark the **ON** radio box in the **STUN Active** field.
2. Enter the IP address or the domain name of the STUN server in the **STUN Server** field.
3. Enter the port of the STUN server in the **Port** field.
4. Press the **Save** soft key to accept the change.

**To configure STUN server for SIP IP call via the remote control:**

1. Select **Menu**->**Advanced** (default password: 0000) ->**SIP IP Call**.
2. Select **STUN** from the pull-down list of **NAT Traversal**.
3. Press the **Save** soft key to accept the change.

## NAT Types

**Full Cone:**

A full cone NAT is one where all requests from the same internal IP address and port are mapped to the same external IP address and port. Furthermore, any external host can send a packet to the internal host, by sending a packet to the mapped external address.

### Restricted Cone:

A restricted cone NAT is one where all requests from the same internal IP address and port are mapped to the same external IP address and port. Unlike a full cone NAT, an external host (with IP address X) can send a packet to the internal host only if the internal host had previously sent a packet to IP address X.

### Port Restricted Cone:

A port restricted cone NAT is like a restricted cone NAT, but the restriction includes port numbers. Specifically, an external host can send a packet, with source IP address X and source port P, to the internal host only if the internal host had previously sent a packet to IP address X and port P.

### Symmetric:

A symmetric NAT is one where all requests from the same internal IP address and port, to a specific destination IP address and port, are mapped to the same external IP address and port. If the same host sends a packet with the same source address and port, but to a different destination, a different mapping is used. Furthermore, only the external host that receives a packet can send a UDP packet back to the internal host.

## Rport

Rport in [RFC 3581](#), allows a client to request that the server sends the response back to the source port from which the request came. Rport feature depends on support from a SIP server.

The rport parameter on the endpoint is described below:

Parameter	Description	Configuration Method
<b>RPort</b>	Enables or disables NAT Rport feature. You can configure it for the SIP account or SIP IP call separately. <b>Default:</b> Enabled	Web User Interface

**To configure rport feature for SIP account via web user interface:**

1. Click on **Account**->**SIP Account**.



2. Select the desired value from the pull-down list of **RPort**.

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes 'About', 'Language', and 'Logout'. The main navigation bar has 'Home', 'Status', 'Account' (selected), 'Network', 'Setting', 'Directory', and 'Security'. On the left, a sidebar menu lists 'VC Platform', 'H.323', 'SIP Account' (selected), 'SIP IP Call', and 'Codec'. The main content area displays various settings for the SIP Account. The 'RPort' setting is highlighted with a red box, showing a dropdown menu with 'Enabled' selected. Other settings include Username (8081), Register Name (8081), Password (masked), Server Host (10.2.1.48), Port (5060), Enable Outbound Proxy Server (Disabled), Outbound Proxy Server (empty), Port (5060), Transport (UDP), Server Expires (3600), SRTP (Disabled), DTMF Type (RFC2833), DTMF Info Type (DTMF-Relay), DTMF Payload Type (96~127) (101), NAT Traversal (STUN), Keep Alive Interval (30), and BFCP (Disabled).

3. Click **Confirm** to accept the change.

**To configure rport feature for SIP IP call via web user interface:**

1. Click on **Account->SIP IP Call**.
2. Select the desired value from the pull-down list of **RPort**.

The screenshot shows the Yealink VC110 web interface with the 'SIP IP Call' settings page selected. The top navigation bar and main navigation bar are the same as in the previous screenshot. The sidebar menu now has 'SIP IP Call' selected. The main content area displays settings for SIP IP Call. The 'RPort' setting is highlighted with a red box, showing a dropdown menu with 'Enabled' selected. Other settings include SIP IP Call (Enabled), Transport (TCP), SRTP (Disabled), DTMF Type (RFC2833), DTMF Info Type (DTMF-Relay), DTMF Payload Type (96~127) (101), NAT Traversal (Disabled), BFCP (Enabled), and FECC(SIP) (Enabled).

3. Click **Confirm** to accept the change.

## Intelligent Firewall Traversal

The intelligent firewall traversal feature allows the VC110 endpoint to check the media source address and port of incoming RTP packets, and then send back RTP packets to the address where incoming RTP packet comes from, instead of the address provided in the Session Description Protocol (SDP).

**The following example illustrates a scenario for using intelligent firewall traversal:**

The device A is located in the Intranet and the router does not support the ALG feature. The device B is located in the public network. A calls B, and then A sends the RTP packets to the B.

- If B enables the intelligent traversal feature, B sends back RTP packets to the address where incoming RTP packet comes from. A and B can communicate normally.
- If B disables the intelligent traversal feature, B sends RTP data to the private IP address of A, causing the device display of A appears black screen. To solve this problem, you need to enable the static NAT feature on the A device and configure the port mapping on the router.

The intelligent firewall traversal parameter is described below:

Parameter	Description	Configuration Method
<b>Audio&amp;Video Intelligent Traversal</b>	Enables or disables the Audio&Video media stream to traverse firewall. <b>Default:</b> On	Web User Interface
<b>Data Intelligent Traversal</b>	Enables or disables the PC content and FECC protocol to traverse firewall. <b>Default:</b> On	Web User Interface

**To configure intelligent firewall traversal via web user interface:**

1. Click on **Network->NAT/Firewall**.
2. Select the desired value from the pull-down list of **Audio&Video Intelligent Traversal**.

3. Select the desired value from the pull-down list of **Data Intelligent Traversal**.

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes 'About', 'Language', and 'Logout'. Below it, a green bar contains 'Yealink VC110' and navigation links: 'Home', 'Status', 'Account', 'Network' (highlighted), 'Setting', 'Directory', and 'Security'. A left sidebar lists 'LAN Configuration', 'NAT/Firewall' (highlighted), 'Advanced', and 'Diagnose'. The main area is titled 'NAT Configuration' and contains sections for 'NAT Configuration', 'STUN Config', 'Reserved Port', and 'Intelligent Firewall Traversal'. The 'Data Intelligent Traversal' dropdown in the 'Intelligent Firewall Traversal' section is highlighted with a red box and set to 'On'.

4. Click **Confirm** to accept the change.

## Quality of Service

Quality of Service (QoS) is the ability to provide different priorities for different packets in the network. This allows the transport of traffic with special requirements. QoS guarantees are important for applications that require a fixed bit rate and are delay sensitive when the network capacity is insufficient. There are four major QoS factors to be considered when configuring a modern QoS implementation: bandwidth, delay, jitter and loss.

QoS provides a better network service through the following features:

- Supporting dedicated bandwidth
- Improving loss characteristics
- Avoiding and managing network congestion
- Shaping network traffic
- Setting traffic priorities across the network

The Best-Effort service is the default QoS model in the IP networks. It provides no guarantees for data delivery, which means delay, jitter, packet loss and bandwidth allocation are unpredictable. Differentiated Services (DiffServ or DS) is the most widely used QoS model. It provides a simple and scalable mechanism for classifying and managing network traffic and providing QoS on modern IP networks. Differentiated Services Code Point (DSCP) is used to define DiffServ classes and is stored in the first six bits of the ToS (Type of Service) field. Each router on the network can

provide QoS simply based on the DiffServ class. The DSCP value ranges from 0 to 63 with each DSCP specifying a particular per-hop behavior (PHB) applicable to a packet. A PHB refers to the packet scheduling, queuing, policing, or shaping behavior of a node on any given packet.

Four standard PHBs available to construct a DiffServ-enabled network and achieve QoS:

- **Class Selector PHB** – backwards compatible with IP precedence. Class Selector code points are of the form “xxx000”. The first three bits are the IP precedence bits. These class selector PHBs retain almost the same forwarding behavior as nodes that implement IP precedence-based classification and forwarding.
- **Expedited Forwarding PHB** – the key ingredient in DiffServ model for providing a low-loss, low-latency, low-jitter and assured bandwidth service.
- **Assured Forwarding PHB** – defines a method by which BAs (Bandwidth Allocations) can be given different forwarding assurances.
- **Default PHB** – specifies that a packet marked with a DSCP value of “000000” gets the traditional best effort service from a DS-compliant node.

VoIP is extremely bandwidth and delay-sensitive. QoS is a major issue in VoIP implementations, with regard to guaranteeing how that packet traffic is not delayed or dropped due to interference from other lower priority traffic. VoIP can guarantee high-quality QoS only if the voice, video and data packets are given priority over other kinds of network traffic. Yealink video conferencing endpoints support the DiffServ model of QoS. DSCPs for voice, video and data packets that can be specified respectively.

## Voice QoS

To make VoIP transmissions intelligible to receivers, voice packets should not be dropped, excessively delayed, or made to suffer varying delay. DiffServ model can guarantee high-quality voice transmission when the voice packets are configured to a higher DSCP value.

## Video QoS

To ensure acceptable visual quality for video, video packets emanated from the endpoint should be configured with a high transmission priority.

## Data QoS

To ensure good call quality, data packets (e.g., SIP signaling and H.225 call signaling) emanated from the endpoint should be configured with a high transmission priority.

QoS feature parameters on the endpoint are described below.

Parameter	Description	Configuration Method
<b>Audio Priority</b>	Specifies the DSCP value for voice packets. <b>Valid Values: 0-63</b> <b>Default: 63</b>	Remote Control Web User Interface

Parameter	Description	Configuration Method
	<b>Note:</b> If you change this parameter, the endpoint will reboot to make the change take effect.	
<b>Video Priority</b>	<p>Specifies the DSCP value for video packets.</p> <p><b>Valid Values: 0-63</b></p> <p><b>Default: 34</b></p> <p><b>Note:</b> If you change this parameter, the endpoint will reboot to make the change take effect.</p>	<p>Remote Control</p> <p>Web User Interface</p>
<b>Data Priority</b>	<p>Specifies the DSCP value for data packets.</p> <p><b>Valid Values: 0-63</b></p> <p><b>Default: 63</b></p> <p><b>Note:</b> If you change this parameter, the endpoint will reboot to make the change take effect.</p>	<p>Remote Control</p> <p>Web User Interface</p>

**To configure QoS via web user interface:**

1. Click on **Network->Advanced**.
2. In the **QoS** block, enter the desired values in the corresponding fields.

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes 'About', 'Language', and 'Logout'. The main navigation bar has 'Home', 'Status', 'Account', 'Network' (selected), 'Setting', 'Directory', and 'Security'. On the left, a sidebar menu shows 'LAN Configuration', 'NAT/Firewall', 'Advanced' (selected), and 'Diagnose'. The main content area displays various network settings. Under the 'QoS' section, three input fields are visible: 'Audio Priority' with value 63, 'Video Priority' with value 34, and 'Data Priority' with value 63. These three fields are enclosed in a red rectangular box. Below the QoS section is the 'MTU' section with a 'Video MTU' field set to 1500.

3. Click **Confirm** to accept the change.  
A dialog box pops up to prompt that the settings will take effect after a reboot.

4. Click **Confirm** to reboot the endpoint immediately.

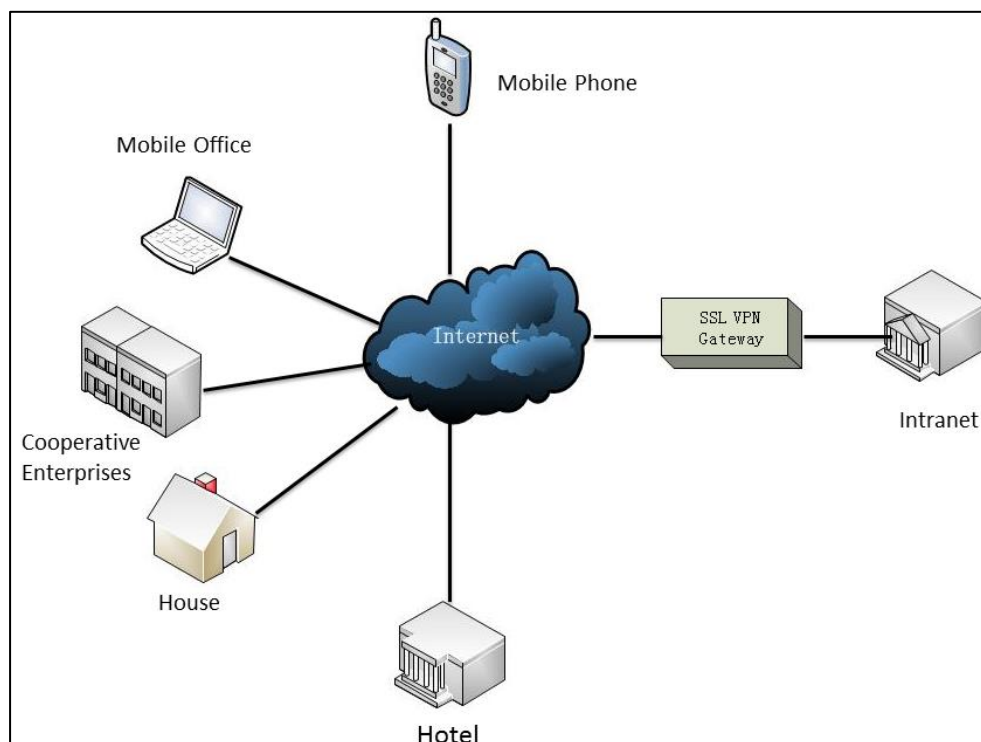
**To configure QoS via the remote control:**

1. Select **Menu->Advanced** (default password: 0000) -> **Advanced Network**.
2. In the **Diffserv QoS** block, enter the desired values in the corresponding fields.
3. Press the **Save** soft key to accept the change.  
The display device prompts "Reboot now?".
4. Select **OK** to reboot the endpoint immediately.

## VPN

VPN (Virtual Private Network) is a secured private network connection built on top of public telecommunication infrastructures, such as the Internet. VPN has become more prevalent due to the benefits of scalability, reliability, convenience and security. VPN provides remote offices or individual users with secure access to their organization's network. There are two types of VPN access: remote-access VPN (connecting an individual device to a network) and site-to-site VPN (connecting two networks together). Remote-access VPN allows employees to access their company's intranet from home or outside the office, and site-to-site VPN allows employees in geographically separated offices to share one cohesive virtual network. VPN can also be classified by the protocols used to tunnel the traffic. It provides security through tunneling protocols: IPSec, SSL, L2TP and PPTP.

The endpoint supports SSL VPN, which provides remote-access VPN capabilities through SSL. OpenVPN is a full featured SSL VPN software solution that creates secure connections in remote access facilities and is designed work with the TUN/TAP virtual networking interface. TUN and TAP are virtual network kernel devices. TAP simulates a link layer device and provides a virtual point-to-point connection, while TUN simulates a network layer device and provides a virtual network segment. The endpoint uses OpenVPN to achieve the VPN feature. To prevent disclosure of private information, tunnel endpoints must authenticate each other before secure VPN tunnel is established. After the VPN feature is configured properly on the endpoint, the endpoint works as a VPN client and uses the certificates to authenticate the VPN server.



To use VPN, the compressed package of VPN-related files should be uploaded to the endpoint in advance. The file format of the compressed package must be \*.tar. The VPN-related files are: certificates (ca.crt and client.crt), key (client.key) and the configuration file (vpn.cnf) of the VPN client. For more information, refer to [OpenVPN Feature on Yealink IP Phones](#).

VPN feature parameters on the endpoint are described below.

Parameter	Description	Configuration Method
<b>VPN-&gt;Active</b>	<p>Enables or disables VPN feature on the endpoint.</p> <p><b>Default:</b> Disabled</p> <p><b>Note:</b> You need to upload the compressed package of VPN-related files to the endpoint first before enabling the VPN feature. If you change this parameter, the endpoint</p>	<p>Remote Control</p> <p>Web User Interface</p>

Parameter	Description	Configuration Method
	will reboot to make the change take effect.	
<b>Upload VPN Config</b>	Uploads the compressed package of VPN-related files (*.tar) to the endpoint.	Web User Interface

**To configure VPN via web user interface:**

1. Click on **Network->Advanced**.
2. In the **VPN** block, click **Browse** to locate the VPN file (\*.tar) from your local endpoint.
3. Click **Upload** to upload the file to the endpoint.
4. Select the desired value from the pull-down list of **Active**.

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes 'About', 'Language', and 'Logout'. The main menu has 'Home', 'Status', 'Account', 'Network' (selected), 'Setting', 'Directory', and 'Security'. On the left, a sidebar shows 'LAN Configuration' with sub-items: 'NAT/Firewall', 'Advanced' (selected), and 'Diagnose'. The main content area is divided into sections: 'SNMP' (Active: Disabled, Port: 161, Trusted Address: empty), 'Web Server' (HTTP: Enabled, HTTP Port: 80, HTTPS: Enabled, HTTPS Port: 443), '802.1x' (802.1x Mode: Disabled, Identity: empty, MD5 Password: masked, CA Certificates: empty, Device Certificates: empty), and 'VPN' (Active: Enabled, Upload VPN Config: C:\fakepath\openvpn.tar). The 'VPN' section is highlighted with a red box.

5. Click **Confirm** to accept the change.  
A dialog box pops up to prompt that the settings will take effect after a reboot.
6. Click **Confirm** to reboot the endpoint immediately.



**To configure VPN via the remote control:**

1. Select **Menu->Advanced** (default password: 0000) -> **Advanced Network**.
2. Check the **VPN** checkbox.
3. Press the **Save** soft key to accept the change.  
The display device prompts "Reboot now?".
4. Select **OK** to reboot the endpoint immediately.

## Configuring Call Preferences

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This chapter provides information on how to configure endpoint's call preferences (e.g., call type and network bandwidth).

This chapter provides the following sections:

- [Configuring Video Conference Platform](#)
- [Configuring SIP Settings](#)
- [Configuring H.323 Settings](#)
- [DTMF](#)
- [Codecs](#)
- [Call Protocol](#)
- [Account Polling](#)
- [Do Not Disturb](#)
- [Auto Answer](#)
- [Auto Dialout Mute](#)
- [Call Match](#)
- [History Record](#)
- [Bandwidth](#)
- [Sharing Content](#)
- [Ringback Timeout](#)
- [Auto Refuse Timeout](#)
- [SIP IP Call by Proxy](#)
- [Default LayoutPublic Mode](#)

## Configuring Video Conference Platform

Yealink video conferencing endpoint can log into the Yealink VC Cloud Management Service/Yealink Meeting Server/StarLeaf/Zoom/Pexip/BlueJeans/Mind/Custom platform.

Users can access Virtual Meeting Rooms(VMR) using VC110 video conferencing endpoint, whilst benefiting from both the features provided by video conferencing endpoint, such as 1080p HD video and audio, and features provided by Yealink Meeting Server/StarLeaf/Zoom/BlueJeans/Pexip/Mind, including high end customization & interoperability.

You can obtain the account information from your administrator.

## Logging into the Yealink VC Cloud Management Service

### Platform

Yealink VC110 video conferencing endpoints support Yealink Cloud accounts. The administrator uses the Yealink VC Cloud management service to assign each user an individual Yealink Cloud account. For more information, refer to [Yealink VC Cloud Management Service Administrator Guide](#).

You can log into the Yealink VC Cloud Management Service platform, and dial other Yealink Cloud numbers to establish a conversation. If you want to place a call to a Yealink Cloud contact who is in the same Yealink Cloud directory as you, you can enter the 9-digit Cloud number or the extension (the last four Cloud number) to place a call. If you want to place a call to a Cloud contact who is in different Yealink Cloud directory from you, you should enter the 9-digit Cloud number to place a call.

Yealink VC Cloud Management Service platform parameters on the endpoint are described below:

Parameter	Description	Configuration Method
<b>Cloud Account</b>	Enables or disables the Cloud feature. <b>Default:</b> Enabled <b>Note:</b> If it is disabled, the endpoint cannot log into the Yealink VC Cloud Management Service Platform.	Remote Control Web User Interface
<b>Platform Type</b>	Configures the platform type. <ul style="list-style-type: none"> <li>• Yealink VC Cloud Management Service</li> <li>• Yealink Meeting Server</li> <li>• StarLeaf</li> <li>• Zoom</li> <li>• Pexip</li> <li>• BlueJeans</li> <li>• Mind</li> <li>• Custom</li> </ul> <b>Default:</b> Yealink VC Cloud Management Service	Remote Control Web User Interface
<b>Login Type</b>	Specifies the method to log into the Yealink VC Cloud Management Service platform.	Remote Control Web User Interface

Parameter	Description	Configuration Method
	<ul style="list-style-type: none"> <li>• <b>PIN Code Login:</b> This method uses the user's PIN code to log into the Yealink VC Cloud Management Service platform. The PIN code consists of 9 digits. You can only use the PIN code once and it will expire if unused for 7 days. Contact Cloud administrator when it expires.</li> <li>• <b>user/password:</b> This method uses the user's Yealink Cloud number and password to log into the Yealink VC Cloud Management Service platform.</li> <li>• <b>Build-in Cloud Number:</b> This method uses build-in Cloud number to log into the Yealink VC Cloud Management Service platform. The number consists of 7 digits that are generated according to MAC address, and it never expires.</li> </ul> <p><b>Default:</b> PIN Code Login</p>	
<b>Pincode/Pin Code</b>	<p>Specifies the PIN code to log into the Yealink VC Cloud Management Service platform.</p> <p><b>Default:</b> Blank</p> <p><b>Note:</b> It only works if the value of <b>Login Type</b> is set to <b>PIN Code Login</b>.</p>	<p>Remote Control</p> <p>Web User Interface</p>
<b>Username</b>	<p>Specifies the user name to log into the Yealink VC Cloud Management Service platform.</p> <p><b>Default:</b> Blank</p> <p><b>Note:</b> It only works if the value of <b>Login Type</b> is set to <b>user/password</b>.</p>	<p>Remote Control</p> <p>Web User Interface</p>
<b>Password</b>	<p>Specifies the password associated with the user name when signing into the Yealink VC Cloud Management Service platform.</p>	<p>Remote Control</p> <p>Web User Interface</p>

Parameter	Description	Configuration Method
	<b>Default:</b> Blank <b>Note:</b> It only works if the value of <b>Login Type</b> is set to <b>user/password</b> .	
<b>Server</b>	Configures the IP address or domain name of the Yealink VC Cloud Management Service platform. <b>Default:</b> yealinkvc.com	Remote Control Web User Interface
<b>Remember Me</b>	Enables or disables the endpoint to remember the registration information. <b>Default:</b> ON <b>Note:</b> If it is on, user name and password will be filled automatically next time. It only works if the value of <b>Login Type</b> is set to <b>Username/Password</b> .	Remote Control

**To configure Yealink VC Cloud Management Service platform via web user interface:**



1. Click on **Account->VC Platform**.
2. Select **Enabled** from the pull-down list of **Cloud Account**.
3. Select **Yealink VC Cloud Management Service** from the pull-down list of **Platform Type**.
4. Select the desired sign-in method from the pull-down list of **Login Type**.
  - Select **Build-in Cloud Number**.
  - If you select **PIN Code Login**, enter your PIN code in the **Pin Code** field.
  - If you select **user/password**, enter your Cloud number and password in the corresponding fields.

- Enter the IP address or domain name of the Yealink VC Cloud Management Service platform in the **Server** field.

- Click **Confirm** to accept the change.

**To configure Yealink VC Cloud Management Service platform via the remote control:**

- Select **Menu->Advanced** (default password: 0000)->**Video Conference Platform**.
- In the **Cloud Account** field, check the **Enabled** checkbox.
- Select **Yealink VC Cloud Management Service** from the pull-down list of **Platform Type**.
- Enter the IP address or domain name of the Yealink VC Cloud Management Service platform in the **Server** field.
- Select the desired sign-in method from the pull-down list of **Login Type**.
  - If you select **Build-in Cloud Number**:  
Press ▲ or ▼ to scroll to **Onekey Login**, and then press **OK**.
  - If you select **Pincode Login**:  
Enter your PIN code in the **Pincode** field, press ▲ or ▼ to scroll to **Log In**, and then press **OK**.
  - If you select **Username/Password**:  
Enter your Cloud number and password in the corresponding fields. You can also check the **Remember Me** checkbox to remember your username and password.  
Press ▲ or ▼ to scroll to **Log In**, and then press **OK**.

After successful registration, the display device displays , and the LCD screen of the video conferencing phone displays  .

### Note

A Yealink Cloud account can be used to log into five Cloud systems at most simultaneously.  
If you log into Yealink VC Cloud Management Service platform using the built-in Cloud number, your directory will not include the Yealink Cloud contacts, but you can dial other Yealink Cloud numbers to establish a conversation.

## Registering a YMS Account

Yealink VC110 video conferencing endpoints support YMS accounts. The administrator uses the Yealink Meeting Server (YMS) to assign each user an individual YMS account. For more information on how to add YMS accounts, refer to [Yealink Meeting Server Administrator Guide](#).

### When you are using the YMS account, you can:

- Dial the other YMS accounts to establish a conversation.
- View or join the scheduled conferences.
- Enter the permanent VMR.

For detailed introduction, refer to [VC110 Video Conferencing Endpoint User Guide](#).

Yealink Meeting Server parameters on the endpoint are described below:

Parameter	Description	Configuration Method
<b>Cloud Account</b>	Enables or disables the Cloud feature. <b>Default:</b> Enabled <b>Note:</b> If it is disabled, the endpoint cannot register the YMS account.	Remote Control Web User Interface
<b>Platform Type</b>	Configures the platform type. <ul style="list-style-type: none"> <li>• Yealink VC Cloud Management Service</li> <li>• Yealink Meeting Server</li> <li>• StarLeaf</li> <li>• Zoom</li> <li>• Pexip</li> <li>• BlueJeans</li> <li>• Mind</li> <li>• Custom</li> </ul> <b>Default:</b> Yealink VC Cloud Management Service	Remote Control Web User Interface

Parameter	Description	Configuration Method
<b>ID</b>	Specifies the ID when registering a YMS account. <b>Default:</b> Blank	Remote Control Web User Interface
<b>Password</b>	Specifies the password associated with the ID when registering a YMS account. <b>Default:</b> Blank	Remote Control Web User Interface
<b>Server Host</b>	Configures the IP address or domain name of the Yealink Meeting Server. <b>Default:</b> Blank	Remote Control Web User Interface
<b>Port</b>	Configures the port of the Yealink Meeting Server. <b>Default:</b> 0	Web User Interface
<b>Outbound Server/Outbound Proxy Server</b>	Configures the IP address or domain name of the outbound proxy server. <b>Default:</b> Blank	Remote Control Web User Interface
<b>Remember Password</b>	Enables or disables the endpoint to remember the registration information. <b>Default:</b> ON <b>Note:</b> If it is on, other registration information will be filled automatically when you enter the ID next time.	Remote Control

**To configure Yealink Meeting Server via web user interface:**

1. Click on **Account->VC Platform**.
2. Select **Enabled** from the pull-down list of **Cloud Account**.
3. Select **Yealink Meeting Server** from the pull-down list of **Platform Type**.






4. Configure the YMS account settings.

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes 'About', 'Language', and 'Logout'. The main menu has 'Home', 'Status', 'Account' (selected), 'Network', 'Setting', 'Directory', and 'Security'. On the left, a sidebar lists 'VC Platform', 'H.323', 'SIP Account', 'SIP IP Call', and 'Codec'. The main content area is titled 'Video Conference Platform'. It contains a 'Status' field set to 'Registered'. Below it, 'Cloud Account' is a dropdown menu set to 'Enabled'. 'Platform Type' is a dropdown menu set to 'Yealink Meeting Server'. 'ID' is a text field with '2226'. 'Password' is a masked text field with dots. 'Server Host' is a text field with 'server.leucs.com' and a 'Port' field with '0'. 'Outbound Proxy Server' is an empty text field. Below this is the 'Advanced Setting' section, which includes 'DTMF Type' (dropdown, 'RFC2833'), 'DTMF Info Type' (dropdown, 'DTMF-Relay'), and 'DTMF Payload Type (96~127)' (text field, '101'). At the bottom of the 'Advanced Setting' section is a 'Log Out Account' button.

5. Click **Confirm** to accept the change.

#### To configure Yealink Meeting Server via the remote control:

1. Select **Menu->Advanced** (default password: 0000)->**Video Conference Platform**.
2. In the **Cloud Account** field, check the **Enabled** checkbox.
3. Select **Yealink Meeting Server** from the pull-down list of **Platform Type**.
4. Configure the YMS account settings.
5. Check the **Remember Password** checkbox to remember your registration information.
6. Press ▲ or ▼ to scroll to **Register**, and then press .

After successful registration, the display device displays , and the LCD screen of the video conferencing phone displays .

#### Note

A YMS account can be used to log into five Cloud systems at most simultaneously.

If administrator enabled the **Device upgrade** feature on Yealink Meeting Server, video conferencing endpoints that log into the Yealink Meeting Server will upgrade firmware automatically once the current firmware version is different from the one on Yealink Meeting Server.

## Logging into the StarLeaf Cloud Platform

You can log into the StarLeaf Cloud platform.

#### When you place a call using the StarLeaf Cloud account, you can:

- Call the other StarLeaf Cloud account to establish a point to point call.

- Call the conference ID to join the Virtual Meeting Rooms.
- Call between StarLeaf Cloud account and Microsoft Skype for Business/Lync account.

StarLeaf platform parameters on the endpoint are described below:

Parameter	Description	Configuration Method
<b>Cloud Account</b>	Enables or disables the Cloud feature. <b>Default:</b> Enabled <b>Note:</b> If it is disabled, the endpoint cannot log into the StarLeaf Cloud platform.	Remote Control Web User Interface
<b>Platform Type</b>	Configures the platform type. <ul style="list-style-type: none"> <li>• Yealink VC Cloud Management Service</li> <li>• Yealink Meeting Server</li> <li>• StarLeaf</li> <li>• Zoom</li> <li>• Pexip</li> <li>• BlueJeans</li> <li>• Mind</li> <li>• Custom</li> </ul> <b>Default:</b> Yealink VC Cloud Management Service	Remote Control Web User Interface
<b>QCP Code</b>	Specifies the quick access code to log into the StarLeaf Cloud platform. <b>Default:</b> Blank	Remote Control Web User Interface

**To configure StarLeaf Cloud platform via web user interface:**



1. Click on **Account->VC Platform**.
2. Select **Enabled** from the pull-down list of **Cloud Account**.
3. Select **StarLeaf** from the pull-down list of **Platform Type**.

#### 4. Configure the StarLeaf Cloud platform.

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes 'About', 'Language', and 'Logout'. The main menu has 'Home', 'Status', 'Account' (selected), 'Network', 'Setting', 'Directory', and 'Security'. On the left, a sidebar lists 'VC Platform', 'H.323', 'SIP Account', 'SIP IP Call', and 'Codec'. The main content area is titled 'Video Conference Platform'. It shows the 'Status' as 'Registered'. A red box highlights the 'Cloud Account' field set to 'Enabled', 'Platform Type' set to 'StarLeaf', and 'QCP Code' set to '36703222222'. Below this is the 'Advanced Setting' section with various options: H.323 Tunneling (Disabled), H.235 (Disabled), Protocol Monitor Port (1720), DTMF Type (Auto), Local Early Media (Disabled), H.239 (Enabled), FECC(H.323) (Enabled), and a 'Log Out Account' button.

#### 5. Click **Confirm** to accept the change.

#### To configure StarLeaf Cloud platform via the remote control:

1. Select **Menu->Advanced** (default password: 0000)->**Video Conference Platform**.
2. In the **Cloud Account** field, check the **Enabled** checkbox.
3. Select **StarLeaf** from the pull-down list of **Platform Type**.
4. Enter the 12-digit quick access code in the **QCP Code** field.
5. Press **▲** or **▼** to scroll to **Log In**, and then press **OK**.  
After successful registration, the display device displays , and the LCD screen of the video conferencing phone displays .

#### Note

Endpoints that log into the StarLeaf Cloud platform will upgrade firmware automatically once the current firmware version is different from the one on StarLeaf Server.

## Logging into the Zoom Cloud Platform

You can log into the Zoom Cloud platform and join the VMR.

Zoom Cloud platform parameters on the endpoint are described below:

Parameter	Description	Configuration Method
<b>Cloud Account</b>	Enables or disables the Cloud feature.	Remote Control

Parameter	Description	Configuration Method
	<b>Default:</b> Enabled <b>Note:</b> If it is disabled, the endpoint cannot log into the Zoom Cloud platform.	Web User Interface
<b>Platform Type</b>	Configures the platform type. <ul style="list-style-type: none"> <li>• Yealink VC Cloud Management Service</li> <li>• Yealink Meeting Server</li> <li>• StarLeaf</li> <li>• Zoom</li> <li>• Pexip</li> <li>• BlueJeans</li> <li>• Mind</li> <li>• Custom</li> </ul> <b>Default:</b> Yealink VC Cloud Management Service	Remote Control Web User Interface
<b>Server/Server Host</b>	Configures the IP address or domain name of the Zoom Cloud server. <b>Default:</b> zoomcrc.com	Remote Control Web User Interface
<b>Transport</b>	Configures the type of transport protocol for the Zoom Cloud platform. <ul style="list-style-type: none"> <li>• <b>UDP</b>—provides best-effort transport via UDP for SIP signaling.</li> <li>• <b>TCP</b>—provides reliable transport via TCP for SIP signaling.</li> <li>• <b>TLS</b>—provides secure communication of SIP signaling.</li> <li>• <b>DNS-NAPTR</b>—performs the DNS NAPTR and SRV queries for the service type and port if no server port is given.</li> </ul> <b>Default:</b> TCP	Web User Interface
<b>Server Expires</b>	Configures the registration expiration time (in seconds) of the Cloud server. <b>Default:</b> 3600	Web User Interface

Parameter	Description	Configuration Method
<b>Keep Alive Interval</b>	Configures the interval (in seconds) that the endpoint sends keep-alive messages to the registry server. So that the registry server will keep the connection open with the client. <b>Default: 30</b>	Web User Interface

**To configure Zoom Cloud platform via web user interface:**



1. Click on **Account->VC Platform**.
2. Select **Enabled** from the pull-down list of **Cloud Account**.
3. Select **Zoom** from the pull-down list of **Platform Type**.
4. Configure the Zoom Cloud platform.

5. Click **Confirm** to accept the change.

**To configure Zoom Cloud platform via the remote control:**

1. Select **Menu->Advanced** (default password: 0000)->**Video Conference Platform**.
2. In the **Cloud Account** field, check the **Enabled** checkbox.
3. Select **Zoom** from the pull-down list of **Platform Type**.
4. Enter the domain name or IP address of Zoom server in the **Server** field.  
The default Zoom server is "zoomcrc.com".

5. Press ▲ or ▼ to scroll to **Log In**, and then press .

After successful registration, the display device displays , and the LCD screen of the video conferencing phone displays .

## Registering a Pexip Account

You can register the Pexip account.

**When you place a call using the Pexip account, you can:**

- Call the device alias to establish a point to point call.
- Call the aliases to join the Virtual Meeting Rooms, Virtual Auditoriums or Virtual Receptions.
- Call between Pexip account and Microsoft Skype for Business/Lync account.

Pexip platform parameters on the endpoint are described below:

Parameter	Description	Configuration Method
<b>Cloud Account</b>	Enables or disables the Cloud feature. <b>Default:</b> Enabled <b>Note:</b> If it is disabled, the endpoint cannot register the Pexip account.	Remote Control Web User Interface
<b>Platform Type</b>	Configures the platform type. <ul style="list-style-type: none"> <li>• Yealink VC Cloud Management Service</li> <li>• Yealink Meeting Server</li> <li>• StarLeaf</li> <li>• Zoom</li> <li>• Pexip</li> <li>• BlueJeans</li> <li>• Mind</li> <li>• Custom</li> </ul> <b>Default:</b> Yealink VC Cloud Management Service	Remote Control Web User Interface
<b>Alias</b>	Specifies the alias when registering a Pexip account. <b>Default:</b> Blank	Remote Control Web User Interface
<b>Username</b>	Specifies the user name when registering a Pexip account. <b>Default:</b> Blank	Remote Control Web User Interface

Parameter	Description	Configuration Method
<b>Password</b>	Specifies the password associated with the user name when registering a Pexip account. <b>Default:</b> Blank	Remote Control Web User Interface
<b>Server/Server Host</b>	Configures the IP address or domain name of the Pexip server. <b>Default:</b> Blank	Remote Control Web User Interface
<b>Port</b>	Configures the port of the Pexip server. <b>Default:</b> 0	Web User Interface
<b>Transport</b>	Configures the type of transport protocol for the Pexip platform. <ul style="list-style-type: none"> <li>• <b>UDP</b>—provides best-effort transport via UDP for SIP signaling.</li> <li>• <b>TCP</b>—provides reliable transport via TCP for SIP signaling.</li> <li>• <b>TLS</b>—provides secure communication of SIP signaling.</li> <li>• <b>DNS-NAPTR</b>—performs the DNS NAPTR and SRV queries for the service type and port if no server port is given.</li> </ul> <b>Default:</b> TCP	Web User Interface
<b>Server Expires</b>	Configures the registration expiration time (in seconds) of the Cloud server. <b>Default:</b> 3600	Web User Interface
<b>Remember Password</b>	Enables or disables the endpoint to remember the registration information. <b>Default:</b> ON <b>Note:</b> If it is on, other registration information will be filled automatically when you enter the alias next time.	Remote Control
<b>Keep Alive Interval</b>	Configures the interval (in seconds) that the endpoint sends keep-alive messages to the registry server. So	Web User Interface


Parameter	Description	Configuration Method
	that the registry server will keep the connection open with the client. <b>Default:</b> 30	

**To configure Pexip platform via web user interface:**



1. Click on **Account**->**VC Platform**.
2. Select **Enabled** from the pull-down list of **Cloud Account**.
3. Select **Pexip** from the pull-down list of **Platform Type**.
4. Configure the Pexip account settings.

5. Click **Confirm** to accept the change.

**To configure Pexip platform via the remote control:**

1. Select **Menu**->**Advanced** (default password: 0000)->**Video Conference Platform**.
2. In the **Cloud Account** field, check the **Enabled** checkbox.
3. Select **Pexip** from the pull-down list of **Platform Type**.
4. Configure the Pexip account settings.
5. Check the **Remember Password** checkbox to remember your registration information.
6. Press ▲ or ▼ to scroll to **Register**, and then press .



After successful registration, the display device displays , and the LCD screen of the video conferencing phone displays .

**Note**

You can also register the Pexip account using SIP or H.323 protocol. For more information, refer to [Configuring SIP Settings](#) on page 134 and [Configuring H.323 Settings](#) on page 138.

## Logging into the BlueJeans Cloud Platform

You can log into the BlueJeans Cloud platform and join the VMR.

BlueJeans Cloud platform parameters on the endpoint are described below:

Parameter	Description	Configuration Method
<b>Cloud Account</b>	Enables or disables the Cloud feature. <b>Default:</b> Enabled <b>Note:</b> If it is disabled, the endpoint cannot log into the BlueJeans Cloud platform.	Remote Control Web User Interface
<b>Platform Type</b>	Configures the platform type. <ul style="list-style-type: none"> <li>• Yealink VC Cloud Management Service</li> <li>• Yealink Meeting Server</li> <li>• StarLeaf</li> <li>• Zoom</li> <li>• Pexip</li> <li>• BlueJeans</li> <li>• Mind</li> <li>• Custom</li> </ul> <b>Default:</b> Yealink VC Cloud Management Service	Remote Control Web User Interface
<b>Server/Server Host</b>	Configures the IP address or domain name of the BlueJeans server. <b>Default:</b> bjn.vc	Remote Control Web User Interface
<b>Transport</b>	Configures the type of transport protocol for the BlueJeans Cloud platform. <ul style="list-style-type: none"> <li>• <b>UDP</b>—provides best-effort transport via UDP for SIP</li> </ul>	Web User Interface

Parameter	Description	Configuration Method
	<p>signaling.</p> <ul style="list-style-type: none"> <li>• <b>TCP</b>—provides reliable transport via TCP for SIP signaling.</li> <li>• <b>TLS</b>—provides secure communication of SIP signaling.</li> <li>• <b>DNS-NAPTR</b>—performs the DNS NAPTR and SRV queries for the service type and port if no server port is given.</li> </ul> <p><b>Default:</b> TCP</p>	
<b>Server Expires</b>	<p>Configures the registration expiration time (in seconds) of the Cloud server.</p> <p><b>Default:</b>3600</p>	Web User Interface
<b>Keep Alive Interval</b>	<p>Configures the interval (in seconds) that the endpoint sends keep-alive messages to the registry server. So that the registry server will keep the connection open with the client.</p> <p><b>Default:</b> 30</p>	Web User Interface




**To configure BlueJeans Cloud platform via web user interface:**

1. Click on **Account->VC Platform**.
2. Select **Enabled** from the pull-down list of **Cloud Account**.
3. Select **BlueJeans** from the pull-down list of **Platform Type**.

#### 4. Configure the BlueJeans Cloud platform.

#### 5. Click **Confirm** to accept the change.

#### To configure BlueJeans Cloud platform via the remote control:

1. Select **Menu->Advanced** (default password: 0000)->**Video Conference Platform**.
2. In the **Cloud Account** field, check the **Enabled** checkbox.
3. Select **BlueJeans** from the pull-down list of **Platform Type**.
4. Enter the domain name or IP address of BlueJeans server in the **Server** field.  
The default BlueJeans server is "bjn.vc".
5. Press ▲ or ▼ to scroll to **Log In**, and then press  .  
After successful registration, the display device displays  , and the LCD screen of the video conferencing phone displays  .

## Logging into the Mind Platform

You can log into the Mind platform and join the VMR.

Mind platform parameters on the endpoint are described below:

Parameter	Description	Configuration Method
<b>Cloud Account</b>	Enables or disables the Cloud feature. <b>Default:</b> Enabled <b>Note:</b> If it is disabled, the endpoint	Remote Control Web User Interface

Parameter	Description	Configuration Method
	cannot log into the Mind platform.	
<b>Platform Type</b>	<p>Configures the platform type.</p> <ul style="list-style-type: none"> <li>• Yealink VC Cloud Management Service</li> <li>• Yealink Meeting Server</li> <li>• StarLeaf</li> <li>• Zoom</li> <li>• Pexip</li> <li>• BlueJeans</li> <li>• Mind</li> <li>• Custom</li> </ul> <p><b>Default:</b> Yealink VC Cloud Management Service</p>	<p>Remote Control</p> <p>Web User Interface</p>
<b>Server/Server Host</b>	<p>Configures the IP address or domain name of the Mind server.</p> <p><b>Default:</b> Blank</p>	<p>Remote Control</p> <p>Web User Interface</p>
<b>Transport</b>	<p>Configures the type of transport protocol for the Mind platform.</p> <ul style="list-style-type: none"> <li>• <b>UDP</b>—provides best-effort transport via UDP for SIP signaling.</li> <li>• <b>TCP</b>—provides reliable transport via TCP for SIP signaling.</li> <li>• <b>TLS</b>—provides secure communication of SIP signaling.</li> <li>• <b>DNS-NAPTR</b>—performs the DNS NAPTR and SRV queries for the service type and port if no server port is given.</li> </ul> <p><b>Default:</b> TCP</p>	<p>Web User Interface</p>
<b>Server Expires</b>	<p>Configures the registration expiration time (in seconds) of the Cloud server.</p> <p><b>Default:</b> 3600</p>	<p>Web User Interface</p>
<b>Keep Alive Interval</b>	<p>Configures the interval (in seconds) that the endpoint sends keep-alive</p>	<p>Web User Interface</p>



Parameter	Description	Configuration Method
	messages to the registry server. So that the registry server will keep the connection open with the client. <b>Default: 30</b>	

**To configure Mind platform via web user interface:**

1. Click on **Account->VC Platform**.
2. Select **Enabled** from the pull-down list of **Cloud Account**.
3. Select **Mind** from the pull-down list of **Platform Type**.
4. Configure the Mind platform.

5. Click **Confirm** to accept the change.

**To configure Mind platform via the remote control:**

1. Select **Menu->Advanced** (default password: 0000)->**Video Conference Platform**.
2. In the **Cloud Account** field, check the **Enabled** checkbox.
3. Select **Mind** from the pull-down list of **Platform Type**.
4. Enter the domain name or IP address of Mind server in the **Server** field.
5. Press **▲** or **▼** to scroll to **Log In**, and then press **OK**.  
After successful registration, the display device displays , and the LCD screen of the video conferencing phone displays .

## Registering a Custom Account

You can register a custom account.

Custom account parameters on the endpoint are described below:

Parameter	Description	Configuration Method
<b>Cloud Account</b>	Enables or disables the Cloud feature. <b>Default:</b> Enabled <b>Note:</b> If it is disabled, the endpoint cannot register the custom account.	Remote Control Web User Interface
<b>Platform Type</b>	Configures the platform type. <ul style="list-style-type: none"><li>• Yealink VC Cloud Management Service</li><li>• Yealink Meeting Server</li><li>• StarLeaf</li><li>• Zoom</li><li>• Pexip</li><li>• BlueJeans</li><li>• Mind</li><li>• Custom</li></ul> <b>Default:</b> Yealink VC Cloud Management Service	Remote Control Web User Interface
<b>Label</b>	Configures the account label displayed on the display device when registering a custom account. <b>Default:</b> Blank	Remote Control Web User Interface
<b>Username</b>	Specifies the user name when registering a custom account. <b>Default:</b> Blank	Remote Control Web User Interface
<b>Register Name</b>	Configures the register name when registering a custom account. <b>Default:</b> Blank	Remote Control Web User Interface
<b>Password</b>	Specifies the password associated with the user name when registering a custom account. <b>Default:</b> Blank	Remote Control Web User Interface

Parameter	Description	Configuration Method
<b>Server/Server Host</b>	Configures the IP address or domain name of the custom server. <b>Default:</b> Blank	Remote Control Web User Interface
<b>Port</b>	Configures the port of the custom server. <b>Default:</b> 0	Web User Interface
<b>Transport</b>	Configures the type of transport protocol for the custom platform. <ul style="list-style-type: none"> <li>• <b>UDP</b>—provides best-effort transport via UDP for SIP signaling.</li> <li>• <b>TCP</b>—provides reliable transport via TCP for SIP signaling.</li> <li>• <b>TLS</b>—provides secure communication of SIP signaling.</li> <li>• <b>DNS-NAPTR</b>—performs the DNS NAPTR and SRV queries for the service type and port if no server port is given.</li> </ul> <b>Default:</b> TCP	Web User Interface
<b>Server Expires</b>	Configures the registration expiration time (in seconds) of the custom server. <b>Default:</b> 3600	Web User Interface
<b>Remember password</b>	Enables or disables the endpoint to remember the registration information. <b>Default:</b> ON <b>Note:</b> If it is on, other registration information will be filled automatically when you enter the user name next time.	Remote Control
<b>Keep Alive Interval</b>	Configures the interval (in seconds) that the endpoint sends keep-alive messages to the registry server. So that the registry server will keep the connection open with the client. <b>Default:</b> 30	Web User Interface

**To configure custom account via web user interface:**

1. Click on **Account->VC Platform**.
2. Select **Enabled** from the pull-down list of **Cloud Account**.
3. Select **Custom** from the pull-down list of **Platform Type**.
4. Configure the custom account settings.

**Yealink VC110** Home Status **Account** Network Setting Directory Security

VC Platform

H.323

SIP Account

SIP IP Call

Codec

**Video Conference Platform**

Register Status: Unregistered

Cloud Account: Enabled

Platform Type: Custom

Label: 584921002

Username: 584921002

Register Name: 584921002

Password: .....

Server Host: yealinkvc.com Port: 0

**Advanced Setting**

Transport: TCP

Server Expires: 3600

SRTP: Disabled

DTMF Type: RFC2833

DTMF Info Type: DTMF-Relay

DTMF Payload Type (96~127): 101

Keep Alive Interval: 30

5. Click **Confirm** to accept the change.

**To configure custom account via the remote control:**

1. Select **Menu->Advanced** (default password: 0000)->**Video Conference Platform**.
2. In the **Cloud Account** field, check the **Enabled** checkbox.
3. Select **Custom** from the pull-down list of **Platform Type**.
4. Configure the custom account settings.
5. Check the **Remember Password** checkbox to remember your registration information.
6. Press ▲ or ▼ to scroll to **Log In**, and then press **OK**.



## Logging out of the Cloud Platform

To log out of the Cloud platform via web user interface:

1. Click on **Account->VC Platform**.
2. Select the desired Cloud platform from the pull-down list of **Platform Type**.
3. Click **Log Out**.

The web user interface prompts the message "Are you sure to exit the account?".

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes 'About', 'Language', and 'Logout'. The main menu has 'Home', 'Status', 'Account', 'Network', 'Setting', 'Directory', and 'Security'. The 'Account' menu is expanded, showing 'VC Platform', 'H.323', 'SIP Account', 'SIP IP Call', and 'Codec'. The 'VC Platform' sub-menu is selected, displaying the 'Video Conference Platform' settings. The 'Status' is 'Registered'. The 'Cloud Account' is 'Enabled'. The 'Platform Type' is 'Zoom'. The 'Server Host' is 'zoomcrc.com'. Under 'Advanced Setting', 'Transport' is 'TCP', 'Server Expires' is '3600', 'SRTP' is 'Disabled', 'DTMF Type' is 'RFC2833', 'DTMF Info Type' is 'DTMF-Relay', 'DTMF Payload Type (96~127)' is '101', 'Keep Alive Interval' is '30', 'BFCP' is 'Enabled', and 'FECC(SIP)' is 'Enabled'. At the bottom, the 'Log Out Account' button is highlighted with a red box.

4. Click **Confirm** to accept the change.

To log out of the Cloud platform via the remote control:

1. Select **Menu->Advanced** (default password: 0000)->**Video Conference Platform**.
2. Press ▲ or ▼ to scroll to **Log Out**, and then press **OK**.  
The display device prompts "Log out the account?"
3. Press ▲ or ▼ to scroll to **OK**, and then press **OK**.

## Configuring the Third-party Virtual Meeting Room

A Virtual Meeting Room (VMR) is an online space, typically hosted by a Cloud-service provider, where multiple participants can join. Participants usually join by dialing a specific number or an address with a simple name like zoomcrc.com.

If you do not register a Cloud account, or you have registered a Yealink Cloud account or YMS account, you can configure a third-party VMR in advance, so that you can quickly join a VMR without registering a third-party Cloud account.

Up to 5 third-party VMRs can be configured. Third-party VMR is configurable via web user interface only.

3rd-VMR parameters on the endpoint are described below:

Parameter	Description	Configuration Method
<b>VMR Name 1</b>	Configures the VMR name. <b>Default:</b> Zoom <b>Note:</b> It only works when you do not log into a Cloud platform, or you only register a Yealink Cloud account/YMS account.	Web User Interface
<b>VMR Server1</b>	Configures the VMR server address. <b>Default:</b> zoomcrc.com <b>Note:</b> It only works when you do not log into a Cloud platform, or you only register a Yealink Cloud account/YMS account.	Web User Interface
<b>VMR Name 2</b>	Configures the VMR name. <b>Default:</b> Blue Jeans <b>Note:</b> It only works when you do not log into a Cloud platform, or you only register a Yealink Cloud account/YMS account.	Web User Interface
<b>VMR Server 2</b>	Configures the VMR server address. <b>Default:</b> bjn.vc <b>Note:</b> It only works when you do not log into a Cloud platform, or you only register a Yealink Cloud account/YMS account.	Web User Interface
<b>VMR Name 3</b>	Configures the VMR name. <b>Default:</b> Blank <b>Note:</b> It only works when you do not log into a Cloud platform, or you only register a Yealink Cloud account/YMS account.	Web User Interface
<b>VMR Server 3</b>	Configures the VMR server address.	Web User Interface

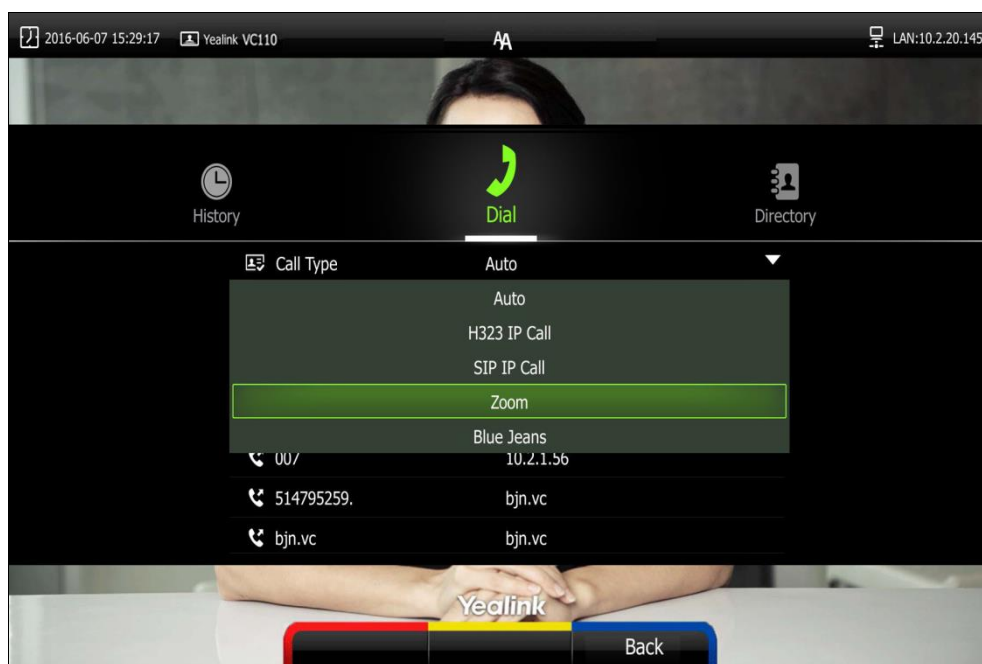
Parameter	Description	Configuration Method
	<b>Default:</b> Blank <b>Note:</b> It only works when you do not log into a Cloud platform, or you only register a Yealink Cloud account/YMS account.	
<b>VMR Name 4</b>	Configures the VMR name. <b>Default:</b> Blank <b>Note:</b> It only works when you do not log into a Cloud platform, or you only register a Yealink Cloud account/YMS account.	Web User Interface
<b>VMR Server 4</b>	Configures the VMR server address. <b>Default:</b> Blank <b>Note:</b> It only works when you do not log into a Cloud platform, or you only register a Yealink Cloud account/YMS account.	Web User Interface
<b>VMR Name 5</b>	Configures the VMR name. <b>Default:</b> Blank <b>Note:</b> It only works when you do not log into a Cloud platform, or you only register a Yealink Cloud account/YMS account.	Web User Interface
<b>VMR Server 5</b>	Configures the VMR server address. <b>Default:</b> Blank <b>Note:</b> It only works when you do not log into a Cloud platform, or you only register a Yealink Cloud account/YMS account.	Web User Interface

**To configure the third-party VMR via web user interface:**

1. Click on **Setting**->**3rd-VMR**.
2. Enter VMR name and server address in the corresponding fields respectively.

3. Click **Confirm** to accept the change.

The VMRs will appear at the pull-down list of **Call Type** on your dialing screen. You can select the desired third-party platform to call corresponding VMRs quickly.



For more information on how to use refer to [VC110 Video Conferencing Endpoint User Guide](#).

## Configuring SIP Settings

Yealink VC110 video conferencing endpoint support Session Initiation Protocol (SIP). If your server supports SIP, you can use SIP to establish calls.

### SIP Account

To establish calls using SIP, you can configure a SIP account for the endpoint.

SIP account parameters on the endpoint are described below:

Parameter	Description	Configuration Method
<b>SIP Account</b>	Enables or disables the SIP account. <b>Default:</b> Enabled	Remote Control Web User Interface
<b>Register Name</b>	Configures the user name of the SIP account for register authentication. <b>Default:</b> Blank	Remote Control Web User Interface
<b>User Name</b>	Specifies the user name to use for authentication when registering with a SIP server. <b>Default:</b> Blank	Remote Control Web User Interface
<b>Password</b>	Specifies the password associated with the user name used to authenticate the endpoint to the SIP server. <b>Default:</b> Blank	Remote Control Web User Interface
<b>Server/Server Host</b>	Configures the IP address or domain name of the SIP server for the SIP account. <b>Default:</b> Blank	Remote Control Web User Interface
<b>SIP Server Port/Port</b>	Configures the port of the SIP server. <b>Valid values:</b> Integer from 0 to 65535. <b>Default:</b> 5060	Remote Control Web User Interface
<b>Outbound/Enable Outbound Proxy Server</b>	Enables or disables the endpoint to send requests of the SIP account to the outbound proxy server.	Remote Control Web User Interface

Parameter	Description	Configuration Method
	<b>Default:</b> Disabled	
<b>Outbound Server/Outbound Proxy Server</b>	Configures the IP address or domain name of the outbound proxy server for the SIP account. <b>Default:</b> it is configurable only when the Outbound Proxy Server is enabled.	Remote Control Web User Interface
<b>Outbound Port/Port</b>	Configures the port of the outbound proxy server. <b>Valid values:</b> Integer from 0 to 65535. <b>Default:</b> 5060	Remote Control Web User Interface
<b>Transport</b>	Configures the type of transport protocol for the SIP account. <ul style="list-style-type: none"> <li>• <b>UDP</b>—provides best-effort transport via UDP for SIP signaling.</li> <li>• <b>TCP</b>—provides reliable transport via TCP for SIP signaling.</li> <li>• <b>TLS</b>—provides secure communication of SIP signaling.</li> <li>• <b>DNS-NAPTR</b>—performs the DNS NAPTR and SRV queries for the service type and port if no server port is given.</li> </ul> <b>Default:</b> UDP <b>Note:</b> TLS is available only when the endpoint is registered with a SIP server that supports TLS.	Remote Control Web User Interface
<b>Server Expires</b>	Configures the registration expiration time (in seconds) of the SIP server for SIP account. <b>Default:</b> 3600	Remote Control Web User Interface
<b>Keep Alive Interval</b>	Configures the interval (in seconds) that the endpoint sends keep-alive messages to the registry server. So	Web User Interface

Parameter	Description	Configuration Method
	that the registry server will keep the connection open with the client. <b>Default: 30</b>	

**To configure SIP account via web user interface:**

1. Click on **Account->SIP Account**.
2. Configure the SIP account settings.

3. Click **Confirm** to accept the change.

After successful registration, the display device displays **SIP**, and the LCD screen of the video conferencing phone displays **SIP**.

**To configure SIP account via the remote control:**

1. Select **Menu->Advanced** (default password: 0000) -> **SIP Account**.
2. Configure the SIP account settings.
3. Press the **Save** soft key to accept the change.

After successful registration, the display device displays **SIP**, and the LCD screen of the video conferencing phone displays **SIP**.

## SIP IP Call

When making an IP call using the SIP protocol, the endpoint doesn't support the TLS transport

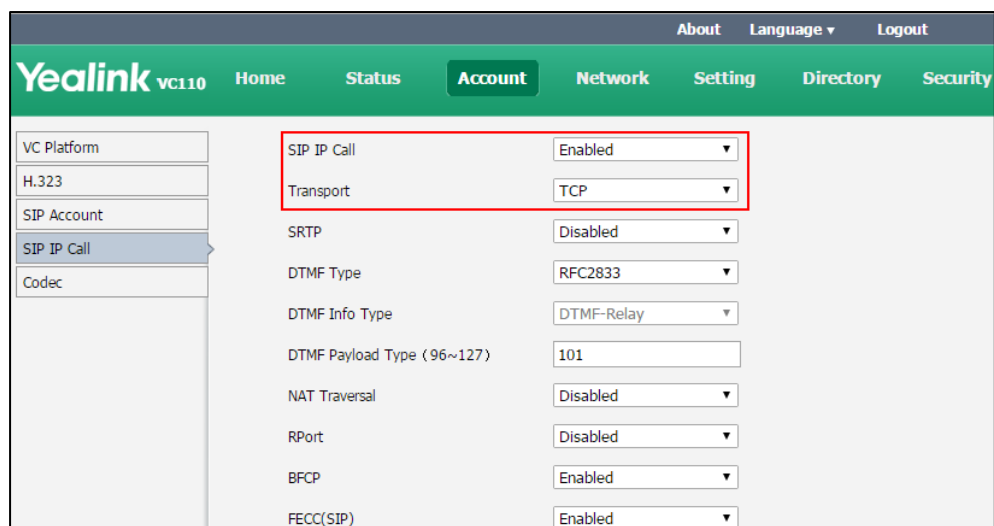
protocol. So configuration parameters of SIP IP call are divided from the SIP account. You can configure SIP IP call separately.

SIP IP call parameters on the endpoint are described below:

Parameter	Description	Configuration Method
<b>SIP IP Call</b>	Enables or disables the SIP IP Call. <b>Default:</b> Enabled. <b>Note:</b> When it is set to Enabled on both sites, the VC110 can call the far site by dialing an IP address directly.	Remote Control Web User Interface
<b>Transport</b>	Configures the type of transport protocol for the SIP IP call.  <ul style="list-style-type: none"> <li><b>UDP</b>—provides best-effort transport via UDP for SIP signaling.</li> <li><b>TCP</b>—provides reliable transport via TCP for SIP signaling.</li> <li><b>DNS-NAPTR</b>—performs the DNS NAPTR and SRV queries for the service type and port if no server port is given.</li> </ul> <b>Default:</b> TCP	Remote Control Web User Interface

**To configure SIP IP call via web user interface:**

1. Click on **Account->SIP IP Call**.
2. Select the desired value from the pull-down list of **SIP IP Call**.
3. Select the desired value from the pull-down list of **Transport**.





4. Click **Confirm** to accept the change.

**To configure SIP IP call via the remote control:**

1. Select **Menu->Advanced** (default password: 0000)->**SIP IP Call**.
2. Check the **SIP IP Call** checkbox.
3. Press the **Save** soft key to accept the change.

## Configuring H.323 Settings

Yealink VC110 video conferencing endpoints support H.323 protocol. If your network uses a gatekeeper, you can register an H.323 account for the endpoint, and specify its H.323 name and extension. This allows others to call the endpoint by entering the H.323 name or extension instead of the IP address.

SIP settings parameters on the endpoint are described below:

Parameter	Description	Configuration Method
<b>H.323 Protocol</b>	Enables or disables the H.323 protocol. <b>Default:</b> Enabled. <b>Note:</b> Only when it is set to Enabled, can H.323 account be registered. When it is set to Enabled on both sites, the VC110 can call the far site by dialing an IP address directly.	Remote Control Web User Interface
<b>H.323 Account</b>	Enables or disables the H.323 account. <b>Default:</b> Enabled If it is set to disabled, the endpoint cannot place or receive calls with the H.323 protocol.	Remote Control Web User Interface
<b>H.323 Name</b>	Specifies the name that gatekeepers and gateways use to identify this endpoint. You can make point-to-point calls using H.323 names if both endpoint are registered to a gatekeeper. <b>Default:</b> blank	Remote Control Web User Interface
<b>H.323 Extension</b>	Specifies the extension that gatekeepers and gateways use to identify this endpoint.	Remote Control Web User Interface

Parameter	Description	Configuration Method
	<b>Default:</b> blank <b>Note:</b> Users can place point-to-point calls using the extension if both endpoints are registered with a gatekeeper.	
<b>Gatekeeper Mode</b>	Configures the gatekeeper mode. <ul style="list-style-type: none"> <li>• <b>Disabled</b>—the endpoint does not use a gatekeeper.</li> <li>• <b>Auto</b>—the endpoint automatically discovers a gatekeeper.</li> <li>• <b>Manual</b>—specify the IP address and port for the gatekeeper manually.</li> </ul> <b>Default:</b> Disabled	Remote Control Web User Interface
<b>Gatekeeper IP Address 1/Gatekeeper Server 1</b>	Configures the IP address of the primary gatekeeper.	Remote Control Web User Interface
<b>Gatekeeper Port 1/Port</b>	Configures the port of the primary gatekeeper. <b>Valid values:</b> Integer from 0 to 65535. <b>Default:</b> 1719	Remote Control Web User Interface
<b>Gatekeeper IP Address 2/Gatekeeper Server 2</b>	Configures the IP address of the secondary gatekeeper.	Remote Control Web User Interface
<b>Gatekeeper Port 2/Port</b>	Configures the port of the primary gatekeeper. <b>Valid values:</b> Integer from 0 to 65535. <b>Default:</b> 1719	Remote Control Web User Interface
<b>Gatekeeper Authentication</b>	Enables or disables support for gatekeeper authentication. <b>Default:</b> Disabled <b>Note:</b> When Gatekeeper	Remote Control Web User Interface

Parameter	Description	Configuration Method
	Authentication is enabled, the gatekeeper ensures that only trusted H.323 endpoints are allowed to access the gatekeeper.	
<b>Gatekeeper Username</b>	Specifies the user name for authentication with gatekeeper. <b>Default:</b> blank	Remote Control Web User Interface
<b>Gatekeeper Password</b>	Specifies the password for authentication with gatekeeper. <b>Default:</b> blank	Remote Control Web User Interface
<b>H.460 Active</b>	Enables or disables firewall traversal of H.323 calls using H.460 protocols. <b>Default:</b> Disabled For more information, refer to <a href="#">Enabling H.460 Support for H.323 Calls</a> on page 142.	Remote Control Web User Interface
<b>H.323 Tunneling</b>	(Optional) Instructs the endpoint to send all signaling and media through the HTTP tunnel. <b>Default:</b> Disabled For more information, refer to <a href="#">H.323 Tunneling</a> on page 82.	Remote Control Web User Interface
<b>H.235</b>	Specifies the H.235 type during an H.323 call. <ul style="list-style-type: none"><li>• <b>Disabled</b>—do not use H.235 in H.323 calls.</li><li>• <b>Optional</b>—negotiate with the far site whether to use H.235 for media encryption in H.323 calls.</li><li>• <b>Compulsory</b>—compulsory use H.235 for media encryption in H.323 calls.</li></ul> <b>Default:</b> Disabled For more information, refer to <a href="#">H.235</a> on page 264.	Web User Interface
<b>Protocol Monitor Port</b>	Specifies the port for the H.323 protocol.	Web User Interface

Parameter	Description	Configuration Method
	<b>Valid values:</b> 0-65535 <b>Default</b> 1720. <b>Note:</b> It is only applicable to H.323 IP call.	
<b>Local Early Media</b>	Enables or disables local early media feature on the endpoint. <b>Default:</b> Disabled. If it is set to Enabled, the endpoint will send video SDP twice during a call to solve the compatibility between Yealink device and certain devices.	Web User Interface

**To configure H.323 account via web user interface:**

1. Click on **Account**->**H.323**.
2. Configure the H.323 account settings.

3. Click **Confirm** to accept the change.

After successful registration, the display device displays **H323** , and the LCD screen of the video conferencing phone displays **H323** .

**To configure H.323 account via the remote control:**

1. Select **Menu->Advanced** (default password: 0000) ->**H.323**.
2. Configure the H.323 account settings.
3. Press the **Save** soft key to accept the change.

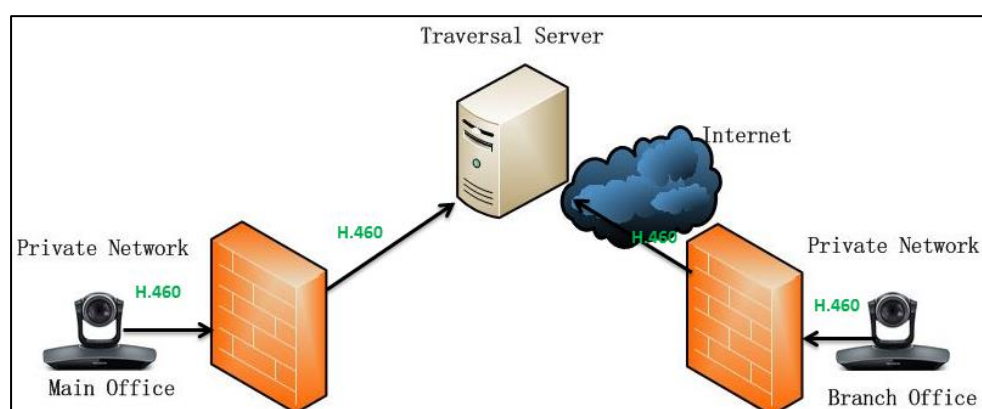
After successful registration, the display device displays **H323** , and the LCD screen of the video conferencing phone displays **H323** .

## Enabling H.460 Support for H.323 Calls

Yealink video conferencing endpoints support firewall traversal of H.323 calls using H.460 protocols. You must have an H.460 server configured in your environment for this feature to function properly.

### Note

If you configure H.323 settings and enable H.460 support, the endpoint ignores Static NAT settings. For more information on NAT, refer to [Static NAT](#) on page 90.



The H.460 firewall traversal parameter is described below:

Parameter	Description	Configuration Method
<b>Gatekeeper Mode</b>	<p>Configures the gatekeeper mode.</p> <ul style="list-style-type: none"> <li>• <b>Disabled</b>—the endpoint does not use a gatekeeper.</li> <li>• <b>Auto</b>—the endpoint automatically discovers a gatekeeper.</li> <li>• <b>Manual</b>—specify the IP address and port for the gatekeeper manually.</li> </ul> <p><b>Default:</b> Disabled</p>	<p>Remote Control</p> <p>Web User Interface</p>

Parameter	Description	Configuration Method
<b>Gatekeeper IP Address 1/Gatekeeper Server 1</b>	Configures the IP address of the primary H.460 server. <b>Note:</b> It is configurable only when the <b>Gatekeeper Mode</b> is set to Manual.	Remote Control Web User Interface
<b>Gatekeeper Port 1/Port</b>	Configures the port of the primary H.460 server. <b>Valid values:</b> Integer from 0 to 65535. <b>Default:</b> 1719	Remote Control Web User Interface
<b>Gatekeeper IP Address 2/Gatekeeper Server 2</b>	Configures the IP address of the secondary H.460 server. <b>Note:</b> It is configurable only when the <b>Gatekeeper Mode</b> is set to Manual.	Remote Control Web User Interface
<b>Gatekeeper Port 2/Port</b>	Configures the port of the secondary H.460 server. <b>Valid values:</b> Integer from 0 to 65535. <b>Default:</b> 1719	Remote Control Web User Interface
<b>H.460 Active</b>	Enables or disables firewall traversal of H.323 calls using H.460 protocols. <b>Default:</b> Disabled	Remote Control Web User Interface

To enable H.460, configure the H.323 preferences first, as described in [Configuring H.323 Settings](#) chapter with the following exceptions:

**To configure H.460 firewall traversal for H.323 via web user interface:**

1. Click on **Account->H.323**.
2. Select **Manual** from the pull-down list of **Gatekeeper Mode**.
3. Enter the IP address and port number of the H.460 server in **Gatekeeper IP Address** and **Port** fields.

4. Select **Enabled** from the pull-down list of **H.460 Active**.

The screenshot shows the Yealink VC110 web interface. The 'Account' tab is selected. On the left, the 'H.323' menu item is highlighted. The main content area shows various settings. A red box highlights the 'H.460 Active' dropdown menu, which is currently set to 'Disabled'. Other settings visible include 'Gatekeeper Mode' (Manual), 'Gatekeeper IP Address 1' (10.2.1.43), 'Gatekeeper IP Address 2' (empty), 'Gatekeeper Authentication' (Disabled), 'Gatekeeper Username' (empty), 'Gatekeeper Password' (masked), and 'H.323 Tunneling' (Disabled).

5. Click **Confirm** to accept the change.

#### To configure H.460 firewall traversal via the remote control:

1. Select **Menu->Advanced** (default password: 0000) ->**H.323**.
2. Select **Manual Settings** from the pull-down list of **Gatekeeper Type**.
3. Enter the IP address and port number of the H.460 server in **Gatekeeper Server** and **Gatekeeper Port** fields.
4. Check the **H.460 Active** checkbox.
5. Press the **Save** soft key to accept the change.

## DTMF

DTMF (Dual Tone Multi-frequency), better known as touch-tone, is used for telecommunication signaling over analog telephone lines in the voice-frequency band. DTMF is the signal sent from the IP phone to the network, which is generated when pressing the keypad during a call. Each key pressed on the IP phone generates one sinusoidal tone of two frequencies. One is generated from a high frequency group and the other from a low frequency group.

The DTMF keypad is laid out in a 4×4 matrix, with each row representing a low frequency, and each column representing a high frequency. Pressing a digit key (such as '1') will generate a sinusoidal tone for each of two frequencies (697 and 1209 hertz (Hz)).

**DTMF Keypad Frequencies:**

	1209 Hz	1336 Hz	1477 Hz	1633 Hz
697 Hz	1	2	3	A
770 Hz	4	5	6	B
852 Hz	7	8	9	C
941 Hz	*	0	#	D

## Methods of Transmitting DTMF Digit

Three methods of transmitting DTMF digits on SIP calls:

- **RFC 2833** -- DTMF digits are transmitted by RTP Events compliant to RFC 2833.
- **INBAND** -- DTMF digits are transmitted in the voice band.
- **SIP INFO** -- DTMF digits are transmitted by SIP INFO messages.

The method of transmitting DTMF digits is configurable on a per-line basis.

### RFC 2833

DTMF digits are transmitted using the RTP Event packets that are sent along with the voice path. These packets use RFC 2833 format and must have a payload type that matches what the other end is listening for. The default payload type for RTP Event packets is 101 and the payload type is configurable. The VC110 uses the configured value to negotiate with the other end during call establishment.

The RTP Event packet contains 4 bytes. The 4 bytes are distributed over several fields denoted as Event, End bit, R-bit, Volume and Duration. If the End bit is set to 1, the packet contains the end of the DTMF event. You can configure the sending times of the end RTP Event packet.

### INBAND

DTMF digits are transmitted within the audio of the IP phone conversation. It uses the same codec as your voice and is audible to conversation partners.

### SIP INFO

DTMF digits are transmitted by the SIP INFO messages when the voice stream is established after a successful SIP 200 OK-ACK message sequence. The SIP INFO message is sent along the signaling path of the call. The SIP INFO message can transmit DTMF digits in three ways: DTMF, DTMF-Relay and Telephone-Event.



DTMF parameters on the endpoint are described below:

Parameter	Description	Configuration Method
<b>DTMF Type</b>	<p>Configures the DTMF type. You can configure it for the Cloud platform, SIP account or SIP IP call separately.</p> <ul style="list-style-type: none"> <li>• <b>INBAND</b>—DTMF digits are transmitted in the voice band.</li> <li>• <b>RFC2833</b>—DTMF digits are transmitted by RTP Events compliant to RFC2833.</li> <li>• <b>SIP INFO</b>—DTMF digits are transmitted by the SIP INFO messages.</li> <li>• <b>RFC2833+ SIP INFO</b>—DTMF digits are transmitted by RTP Events compliant to RFC 2833 and the SIP INFO messages.</li> </ul> <p><b>Default:</b> RFC2833.</p>	<p>Remote Control</p> <p>Web User Interface</p>
<b>DTMF Info Type</b>	<p>Configures the DTMF info type when DTMF type is set to SIP INFO or RFC2833+SIP INFO. You can configure it for the Cloud platform, SIP account or SIP IP call separately</p> <ul style="list-style-type: none"> <li>• <b>DTMF-Relay</b></li> <li>• <b>DTMF</b></li> <li>• <b>Telephone-Event</b></li> </ul> <p><b>Default:</b> DTMF-Relay.</p>	<p>Remote Control</p> <p>Web User Interface</p>
<b>DTMF Payload Type (96~127)</b>	<p>Configures the value of DTMF payload. You can configure it for the Cloud platform, SIP account or SIP IP call separately.</p> <p><b>Default:</b> 101</p>	<p>Web User Interface</p>

**To configure DTMF type for Cloud platform via web user interface:**

1. Click on **Account->VC Platform**.
2. Select the desired value from the pull-down list of **DTMF Type**.
3. If **SIP INFO** or **RFC2833+ SIP INFO** is selected, select the desired value from the pull-down list of **DTMF Info Type**.

4. Enter the desired value in the **DTMF Payload Type(96~127)** field.

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes links for About, Language, and Logout. The main menu has tabs for Home, Status, Account, Network, Setting, Directory, and Security. The 'Account' tab is selected, and the 'Video Conference Platform' settings are displayed. On the left, a sidebar lists options: VC Platform, H.323, SIP Account, SIP IP Call, and Codec. The main content area shows the following settings:

- Status: Registered
- Cloud Account: Enabled
- Platform Type: Yealink VC Cloud Man
- Login Type: user/password
- Username: 584921002
- Password: (masked with dots)
- Server: yealinkvc.com

The 'Advanced Setting' section is highlighted with a red box and contains the following settings:

- DTMF Type: SIP INFO
- DTMF Info Type: DTMF-Relay
- DTMF Payload Type (96~127): 101

At the bottom of the 'Advanced Setting' section, there are two buttons: 'Log Out Account' and 'Log Out'.

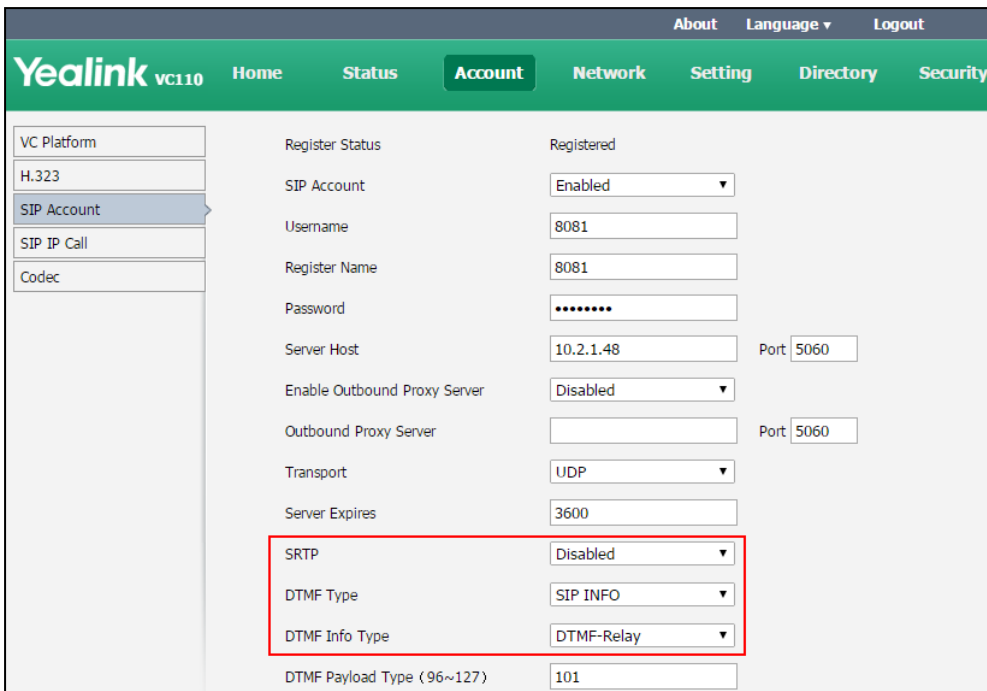
5. Click **Confirm** to accept the change.

**To configure DTMF type for SIP account via web user interface:**

1. Click on **Account->SIP Account**.
2. Select the desired value from the pull-down list of **DTMF Type**.

If **SIP INFO** or **RFC2833+ SIP INFO** is selected, select the desired value from the pull-down list of **DTMF Info Type**.

- Enter the desired value in the **DTMF Payload Type(96~127)** field.

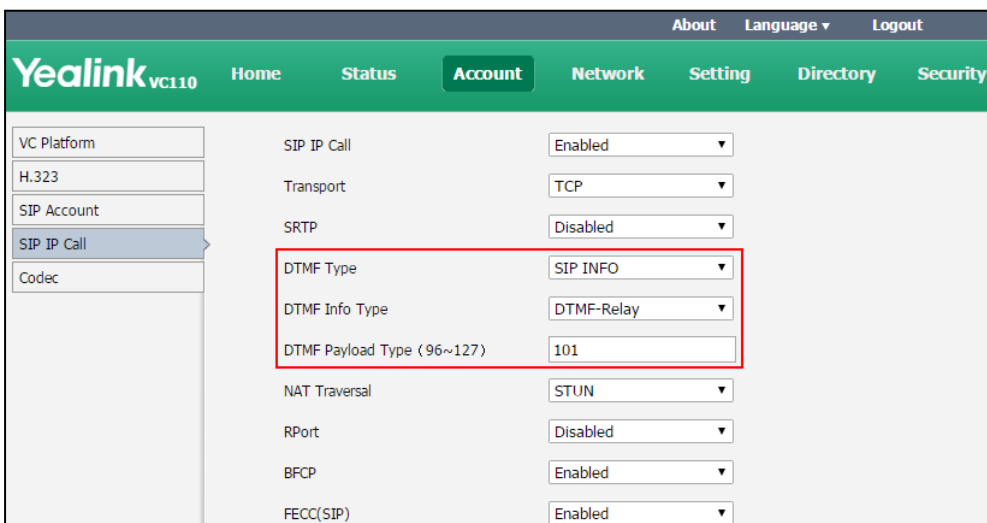


VC Platform	Register Status	Registered
H.323	SIP Account	Enabled
SIP Account	Username	8081
SIP IP Call	Register Name	8081
Codec	Password	*****
	Server Host	10.2.1.48 Port 5060
	Enable Outbound Proxy Server	Disabled
	Outbound Proxy Server	Port 5060
	Transport	UDP
	Server Expires	3600
	SRTP	Disabled
	DTMF Type	SIP INFO
	DTMF Info Type	DTMF-Relay
	DTMF Payload Type (96~127)	101

- Click **Confirm** to accept the change.

#### To configure DTMF type for SIP IP call via web user interface:

- Click on **Account->SIP IP Call**.
- Select the desired value from the pull-down list of **DTMF Type**.  
If **SIP INFO** or **RFC2833+ SIP INFO** is selected, select the desired value from the pull-down list of **DTMF Info Type**.
- Enter the desired value in the **DTMF Payload Type(96~127)** field.



VC Platform	SIP IP Call	Enabled
H.323	Transport	TCP
SIP Account	SRTP	Disabled
SIP IP Call	DTMF Type	SIP INFO
Codec	DTMF Info Type	DTMF-Relay
	DTMF Payload Type (96~127)	101
	NAT Traversal	STUN
	RPort	Disabled
	BFCP	Enabled
	FECC(SIP)	Enabled

- Click **Confirm** to accept the change.

DTMF parameters for H.323 protocol on the endpoint are described below:

Parameter	Description	Configuration Method
<b>DTMF Type</b>	<p>Configures the DTMF type. You can configure it for the StarLeaf Cloud platform or H.323 call separately.</p> <ul style="list-style-type: none"> <li><b>INBAND</b>—DTMF digits are transmitted in the voice band.</li> <li><b>Auto</b>—the endpoint automatically negotiates the way (INBAND, RFC2833 or SIP INFO) to transfer DTMF digits.</li> </ul> <p><b>Default:</b> Auto</p>	<p>Remote Control</p> <p>Web User Interface</p>

**To configure DTMF type for StarLeaf Cloud platform via web user interface:**

1. Click on **Account->VC Platform**.
2. Select **StarLeaf** from the pull-down list of **Platform Type**.
3. Select the desired value from the pull-down list of **DTMF Type**.

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes links for About, Language, and Logout. The main menu has tabs for Home, Status, Account, Network, Setting, Directory, and Security. The 'Account' tab is selected, and the 'VC Platform' sub-tab is active. On the left, a sidebar lists 'VC Platform', 'H.323', 'SIP Account', 'SIP IP Call', and 'Codec'. The main content area is titled 'Video Conference Platform' and contains the following settings:

- Status: Registered
- Cloud Account: Enabled (dropdown)
- Platform Type: StarLeaf (dropdown)
- QCP Code: 36703222222
- Advanced Setting**
  - H.323 Tunneling: Disabled (dropdown)
  - H.235: Disabled (dropdown)
  - Protocol Monitor Port: 1720
  - DTMF Type: Auto (dropdown, highlighted with a red box)**
  - Local Early Media: Disabled (dropdown)
  - H.239: Enabled (dropdown)
  - FECC(H.323): Enabled (dropdown)
- Log Out Account: Log Out (button)

4. Click **Confirm** to accept the change.

**To configure DTMF type for H.323 via web user interface:**

1. Click on **Account->H.323**.

- Select the desired value from the pull-down list of **DTMF Type**.

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes links for About, Language, and Logout. The main menu has tabs for Home, Status, Account (selected), Network, Setting, Directory, and Security. On the left, a sidebar lists configuration categories: VC Platform, H.323 (selected), SIP Account, SIP IP Call, and Codec. The main content area displays various settings for the H.323 account. The 'DTMF Type' setting is highlighted with a red rectangular box, showing a dropdown menu with 'Auto' selected. Other settings include H.323 Account (Enabled), H.323 Name (9000), H.323 Extension (9000), Gatekeeper Mode (Manual), Gatekeeper IP Address 1 (10.2.1.42) and Port (1719), Gatekeeper IP Address 2 (empty) and Port (1719), Gatekeeper Authentication (Disabled), Gatekeeper Username (empty), Gatekeeper Password (masked with dots), H.460 Active (Disabled), H.323 Tunneling (Disabled), H.235 (Disabled), Protocol Monitor Port (1720), Local Early Media (Disabled), H.239 (Enabled), and FECC(H.323) (Enabled).

- Click **Confirm** to accept the change.

## Codecs

CODEC is an abbreviation of COmpress-DECompress, and is capable of coding or decoding a digital data stream or signal by implementing an algorithm. The object of the algorithm is to represent the high-fidelity audio/video signal with a minimum number of bits while retaining quality. This can effectively reduce the frame size and the bandwidth required for audio/video transmission.

## Audio Codecs

The audio codec that the endpoint uses to establish a call should be supported by the server. When placing a call, the endpoint will offer the enabled audio codec list to the server and then use the audio codec negotiated with the called party according to the priority.

The following table summarizes the supported audio codecs on the endpoint:





Codec	Algorithm	Bit Rate	Sample Rate	Reference
G.722.1c	G.722.1	48 Kbps	32 Ksps	RFC 5577
G.722.1c		32 Kbps	32 Ksps	RFC 5577

Codec	Algorithm	Bit Rate	Sample Rate	Reference
G.722.1c		24 Kbps	32 Ksps	RFC 5577
G.722.1	G.722.1	24 Kbps	16 or 32 Ksps	RFC 5577
G722	G.722	64 Kbps	16 Ksps	RFC 3551
PCMU	G.711	64 Kbps	8 Ksps	RFC 3551
PCMA	G.711	64 Kbps	8 Ksps	RFC 3551

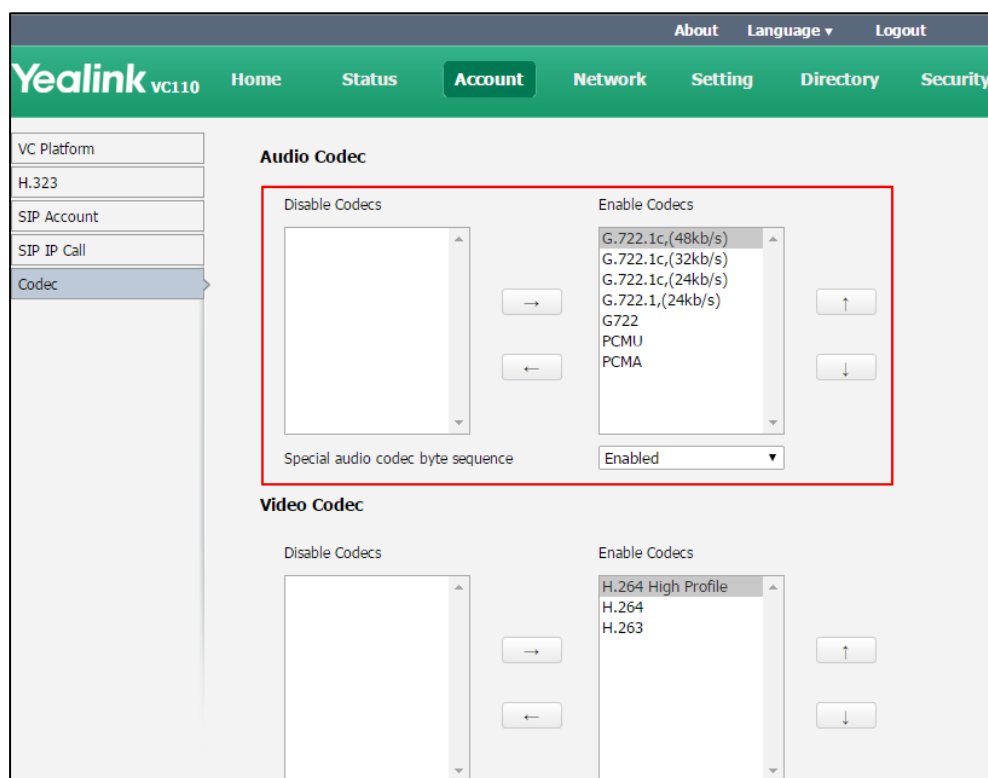
Audio codecs parameters on the endpoint are described below:

Parameter	Description	Configuration Method
<b>Enable Codecs</b>	Specifies the enabled audio codecs for the endpoint to use. <b>Note:</b> All support audio codecs are enabled on the endpoint by default.	Web User Interface
<b>Disable Codecs</b>	Specifies the disabled audio codecs for the endpoint not to use.	Web User Interface
<b>Special audio codec byte sequence</b>	Enables or disables the special audio codec byte sequence. <b>Note:</b> Different devices have different definition about how some Codecs are stored (Big-endian or little-endian), which may lead to the audio incompatibility problems between Yealink and certain devices. You can enable the special audio codec byte sequence feature to solve these incompatibility problems.	Web User Interface

**To configure audio codecs via web user interface:**

1. Click on **Account->Codec**.
2. Select the desired codec from the **Disable Codecs** or the **Enable Codecs** column.
3. Click  or  to disable or enable the selected codec.
4. Select the desired audio codec from the **Enable Codecs** column, and click  or  to adjust the priority of the selected audio codecs.

5. (Optional.) If Yealink device has audio problems with certain device, select **Enabled** from the pull-down list of **Special audio codec byte sequence**.



6. Click **Confirm** to accept the change.

## Video Codecs

The video codec that the endpoint uses to establish a call should be supported by the server. When placing a call, the endpoint will offer the enabled video codec list to the server and then use the video codec negotiated with the called party according to the priority.





The following table summarizes the supported video codecs on the endpoint:

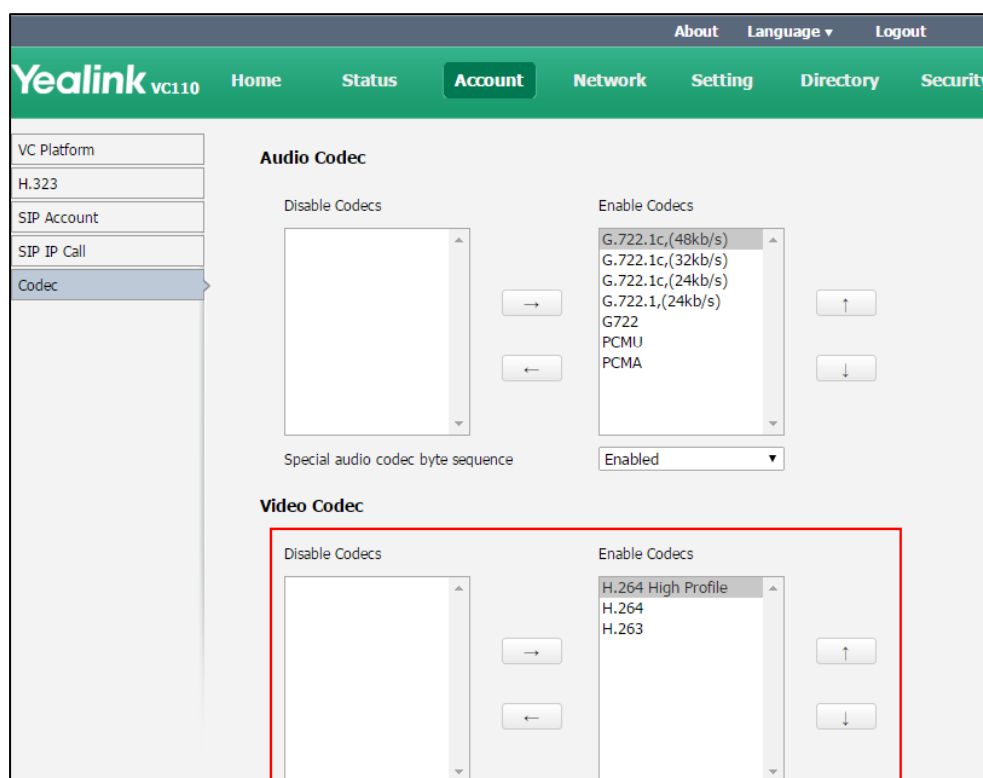
Name	MIME Type	Bit Rate	Frame Rate	Frame Size
H.264 High Profile	H264/90000	90 kbps to 2048 kbps	5 fps to 30 fps	Tx: WQVGA, 360P, 448P, 540P, 720P, 1080P
H.264	H264/90000			Rx: Conventional Size Below 1080P
H.263	H263/90000			Tx: CIF, 4CIF RX: QCIF, CIF, 4CIF

Video codecs parameters on the endpoint are described below:

Parameter	Description	Configuration Method
<b>Enable Codecs</b>	Specifies the enabled video codecs for the endpoint to use. <b>Note:</b> All support video codecs are enabled on the endpoint by default.	Web User Interface
<b>Disable Codecs</b>	Specifies the disabled video codecs for the endpoint not to use.	Web User Interface

**To configure video codecs via web user interface:**

1. Click on **Account->Codec**.
2. Select the desired video codec from the **Disable Codecs** or the **Enable Codecs** column.
3. Click  or  to disable or enable the selected video codec.
4. Select the desired video codec from the **Enable Codecs** column, and click  or  to adjust the priority of the selected video codecs.



5. Click **Confirm** to accept the change.

## Call Protocol

The endpoint supports SIP and H.323 protocols for incoming and outgoing calls. H.323 is commonly used to communicate to other video conferencing endpoint. SIP is commonly used



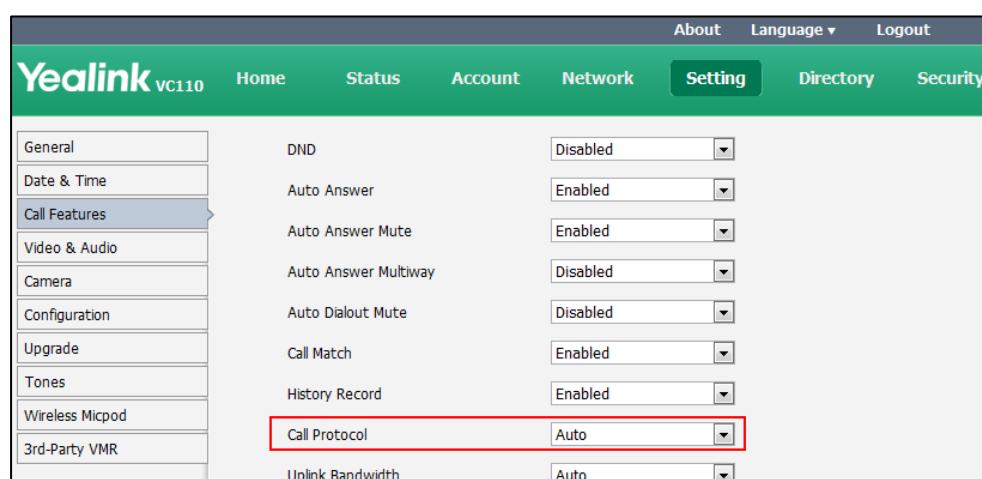
to communicate with other VoIP devices. The default call protocol on the endpoint is Auto. The endpoint preferentially uses the H.323 protocol to place calls. If there is no available H.323 account on the endpoint, the endpoint will switch to the SIP protocol for placing calls. You can specify the desired protocol for the endpoint to place calls. Ensure the remote endpoint supports the same protocol.

The call protocol parameter on the endpoint is described below:

Parameter	Description	Configuration Method
<b>Call Protocol</b>	<p>Specifies the desired call protocol for placing calls.</p> <ul style="list-style-type: none"> <li><b>Auto</b>—the endpoint automatically uses the available call protocol.</li> <li><b>SIP</b>—the endpoint uses the SIP protocol for placing calls.</li> <li><b>H.323</b>—the endpoint uses H.323 protocol for placing calls.</li> </ul> <p><b>Default:</b> Auto</p>	<p>Remote Control</p> <p>Web User Interface</p>

#### To configure call protocol via web user interface:

1. Click on **Setting**->**Call Features**.
2. Select the desired value from the pull-down list of **Call Protocol**.



3. Click **Confirm** to accept the change.

#### To configure call protocol via the remote control:

1. Select **Menu**->**Call Features** ->**Call Protocol**.
2. Select the desired value from the pull-down list of **Call Protocol**.
3. Press the **Save** soft key to accept the change.

## Account Polling

When you dial account numbers of other endpoint, account polling feature enables your endpoint to use different call types according to this priority: Cloud platform>H.323 account>SIP account. If you cannot call other endpoints using all your registered accounts, then this call fails.

Account polling is disabled by default. When you register multiple accounts (2 or more) for your endpoint, you can enable account polling feature. You can configure account polling feature via web user interface only.

Account polling parameter on the endpoint is described below:

Parameter	Description	Configuration Method
<b>Account Polling</b>	<p>Enables or disables the account polling on the endpoint.</p> <ul style="list-style-type: none"> <li><b>Disabled</b>—the endpoint can only call other endpoint's account using the call type with the highest priority (Cloud platform&gt;H.323 account&gt;SIP account).</li> <li><b>Enabled</b>—the endpoint will attempt to call other endpoint's account using different call types according the priority (Cloud platform&gt;H.323 account&gt;SIP account).</li> </ul> <p><b>Default:</b> Disabled</p>	<p>Remote Control</p> <p>Web User Interface</p>

**To configure account polling via web user interface:**

1. Click on **Setting->Call Features**.

2. Select the desired value from the pull-down list of **Account Polling**.

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes 'About', 'Language', and 'Logout'. The main menu has 'Home', 'Status', 'Account', 'Network', 'Setting' (highlighted), 'Directory', and 'Security'. On the left, a sidebar lists various settings categories: General, Date & Time, Call Features (highlighted), Video & Audio, Camera, Configuration, Upgrade, Tones, Wireless Micpod, 3rd-Party VMR, and Preset. The main content area displays various settings. The 'Account Polling' option at the bottom is highlighted with a red box and is currently set to 'Disabled'. Other settings include DND, Auto Answer, Auto Answer Mute, Auto Answer Multiway, Auto Dialout Mute, Ringback Timeout(30-240), Auto Refuse Timeout(30-240), SIP IP Call by Proxy, Default Layout of Single Screen, Use Default Layout, Public Mode, and Network Address Adapter. At the bottom, there are 'Confirm' and 'Cancel' buttons.

3. Click **Confirm** to accept the change.

The following example shows the way calls are placed when account polling is enabled or disabled.

#### Scenario:

1. Endpoint A is registered with a Yealink Cloud account and a SIP account.
2. On endpoint A, select **Auto** from the pull-down list before calling.

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes 'About', 'Language', and 'Logout'. The main menu has 'Home', 'Status', 'Account', 'Network', 'Setting' (highlighted), 'Directory', and 'Security'. On the left, a sidebar lists various settings categories: General, Date & Time, Call Features (highlighted), Video & Audio, Camera, Configuration, Upgrade, Tones, Wireless Micpod, 3rd-Party VMR, and Preset. The main content area displays various settings. The 'Auto' option in the pull-down list is highlighted with a red box. Other settings include DND, Auto Answer, Auto Answer Mute, Auto Answer Multiway, Auto Dialout Mute, Ringback Timeout(30-240), Auto Refuse Timeout(30-240), SIP IP Call by Proxy, Default Layout of Single Screen, Use Default Layout, Public Mode, and Network Address Adapter. At the bottom, there are 'Confirm' and 'Cancel' buttons.

3. On endpoint A, dial the account numbers of endpoint B.

#### Result:

- If account polling is disabled, endpoint A can only use its Cloud account (highest priority) to call endpoint B.
- If account polling is enabled, endpoint A will use its Cloud account (highest priority) to call endpoint B first. If this call fails, endpoint A continues to use its SIP account (next priority) to call endpoint B.

## Do Not Disturb

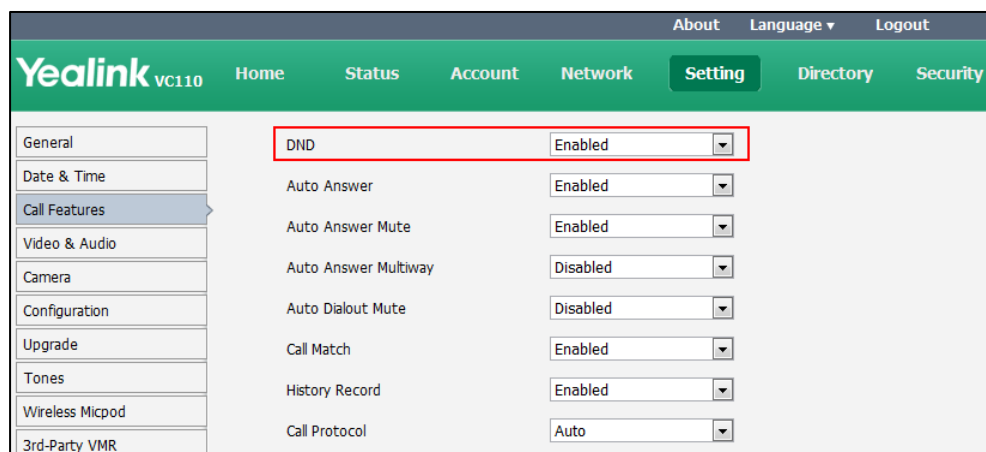
Do not Disturb allows the endpoint to reject all incoming calls automatically. You can activate the DND mode for the endpoint when it is idle, and the DND mode will be deactivated after the endpoint places a call. You can also activate the DND mode for the endpoint during a call, and the DND mode will be deactivated after the endpoint ends the call.


The DND parameter on the endpoint is described below:

Parameter	Description	Configuration Method
<b>DND</b>	Enables or disables DND mode on the endpoint. <b>Default:</b> Disabled	Remote Control Web User Interface


### To configure DND via web user interface:

1. Click on **Setting->Call Features**.
2. Select the desired value from the pull-down list of **DND**.




3. Click **Confirm** to accept the change.  
If **Enabled** is selected, the display device will display , and the LCD screen of the video conferencing phone will display **DND**.

### To configure DND via the remote control:

1. Select **Menu->Call Features**.
2. Check the **DND** checkbox.
3. Press the **Save** soft key to accept the change.  
The display device will display , and the LCD screen of the video conferencing phone will display **DND**.


### To configure DND during a call via web user interface:

1. Click **Home**.
2. Check the **DND** checkbox.

The display device will display , and the LCD screen of the video conferencing phone will display **DND**.

**To configure DND during a call via the remote control:**

1. Press the **More** soft key.
2. Check the **DND** checkbox.
3. Press the **Back** soft key to exit the **More** window.

The display device will display , and the LCD screen of the video conferencing phone will display **DND**.

## Auto Answer

The auto answer feature allows the endpoint to answer incoming calls automatically. The auto answer mute feature allows the endpoint to turn off the microphone when an incoming call is answered automatically. The auto answer mute feature is available only when the auto answer feature is enabled. The auto answer multiway feature allows the endpoint to answer new incoming calls automatically during an active call.

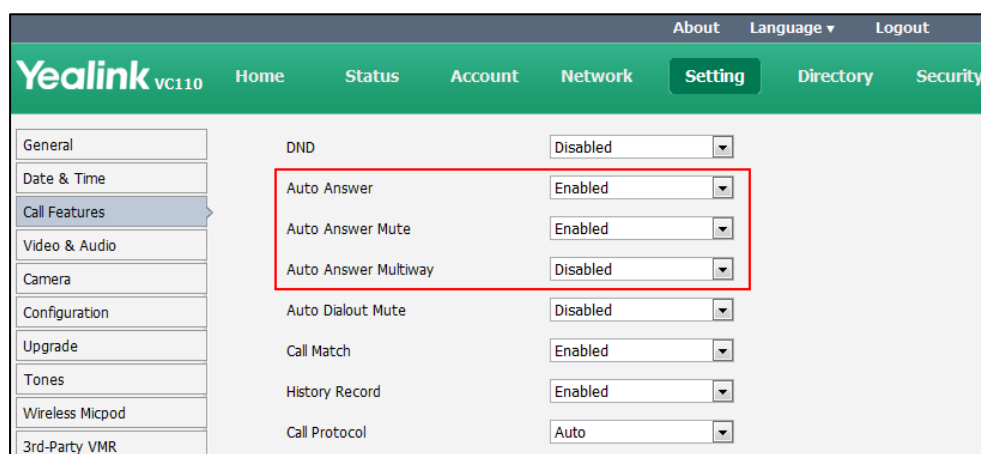
Auto answer parameters on the endpoint are described below:

Parameter	Description	Configuration Method
<b>Auto Answer</b>	Enables or disables the auto answer feature on the endpoint. <b>Default:</b> Enabled	Remote Control Web User Interface
<b>Auto Answer Mute</b>	Enables or disables the auto answer mute feature on the endpoint. <b>Default:</b> Enabled Auto answer mute feature is configurable only when the auto answer is enabled.	Remote Control Web User Interface
<b>Auto Answer Multiway</b>	Enables or disables the auto answer multiway feature on the endpoint. <b>Default:</b> Disabled The auto answer multiway feature is available only when the auto answer is enabled.	Remote Control Web User Interface

**To configure auto answer via web user interface:**

1. Click on **Setting->Call Features**.
2. Select the desired value from the pull-down list of **Auto Answer**.
3. Select the desired value from the pull-down list of **Auto Answer Mute**.

4. Select the desired value from the pull-down list of **Auto Answer Multiway**.



5. Click **Confirm** to accept the change.

If **Enabled** is selected, the display device will display **AA**, and the LCD screen of the video conferencing phone will display **AA**.

#### To configure auto answer via the remote control:

1. Select **Menu->Call Features**.
2. Check the **Auto Answer** checkbox.
3. Check the **Auto Answer Mute** checkbox.
4. Check the **Auto Answer Multiway** checkbox.
5. Press the **Save** soft key to accept the change.

The display device will display **AA**, and the LCD screen of the video conferencing phone will display **AA**.

## Auto Dialout Mute

The auto dialout mute feature allows the endpoint to turn off the microphone when placing a call, so that the other party cannot hear you.

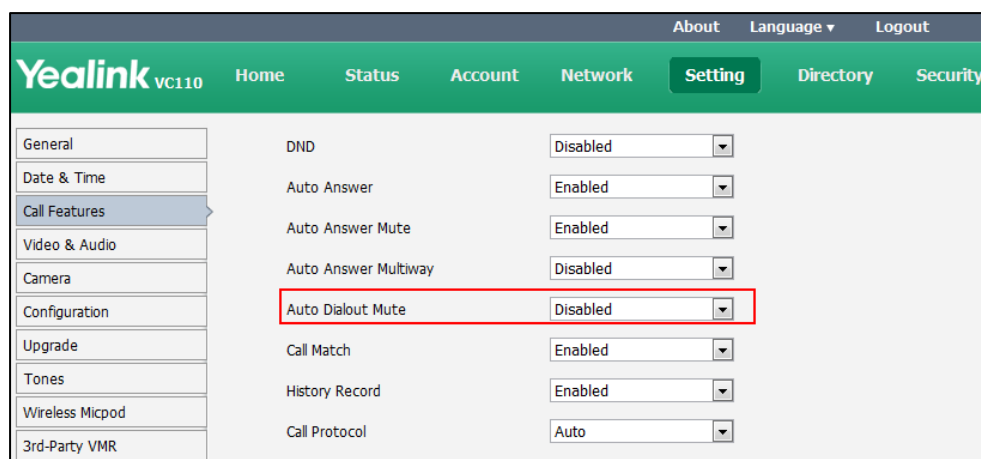
Auto dialout mute parameter on the endpoint is described below:

Parameter	Description	Configuration Method
<b>Auto Dialout Mute</b>	Enables or disables the auto dialout mute feature on the endpoint. <b>Default:</b> Disabled	Web User Interface


#### To configure auto dialout mute feature via web user interface:

1. Click on **Setting->Call Features**.

2. Select the desired value from the pull-down list of **Auto Dialout Mute**.



3. Click **Confirm** to accept the change.

If **Enabled** is selected, your video image will display mute icon (  ) when you place a call.

## Call Match

The call match feature allows the endpoint to search for entries automatically from the search source list based on the entered string. Once matched, the results will be displayed on the screen. If no list is added to the search source list, the endpoint will not perform a search even if call match is enabled. For more information on how to search source list in dialing, refer to [Search Source List in Dialing](#) on page 242 .

Parameter of call match on the endpoint is described below:

Parameter	Description	Configuration Method
<b>Call Match</b>	Enables or disables the call match feature on the endpoint. <b>Default:</b> Enabled	Remote Control Web User Interface

**To configure call match via web user interface:**

1. Click on **Setting**->**Call Features**.

2. Select the desired value from the pull-down list of **Call Match**.

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes 'About', 'Language', and 'Logout'. Below this is a green header with 'Yealink VC110' and tabs for 'Home', 'Status', 'Account', 'Network', 'Setting' (selected), 'Directory', and 'Security'. On the left, a sidebar lists various settings categories: General, Date & Time, Call Features (selected), Video & Audio, Camera, Configuration, Upgrade, Tones, Wireless Micpod, and 3rd-Party VMR. The main content area displays settings for 'Call Features'. A table lists the following settings and their current values:

Setting	Value
DND	Disabled
Auto Answer	Enabled
Auto Answer Mute	Enabled
Auto Answer Multiway	Disabled
Auto Dialout Mute	Disabled
<b>Call Match</b>	<b>Enabled</b>
History Record	Enabled
Call Protocol	Auto

3. Click **Confirm** to accept the change.

#### To configure call match via the remote control:

1. Select **Menu->Call Features**.
2. Check the **Call Match** checkbox.
3. Press the **Save** soft key to accept the change.

## History Record

The endpoint maintains a local call history, which contains call information such as remote party identification, time and date, and call duration. Users can manage call history list via the remote control, web user interface and video conferencing phone. To save call history, you must enable the history record feature on the endpoint in advance. If history record feature is disabled, the endpoint will not save call log and prompt the missed call.

The history record parameter on the endpoint is described below:

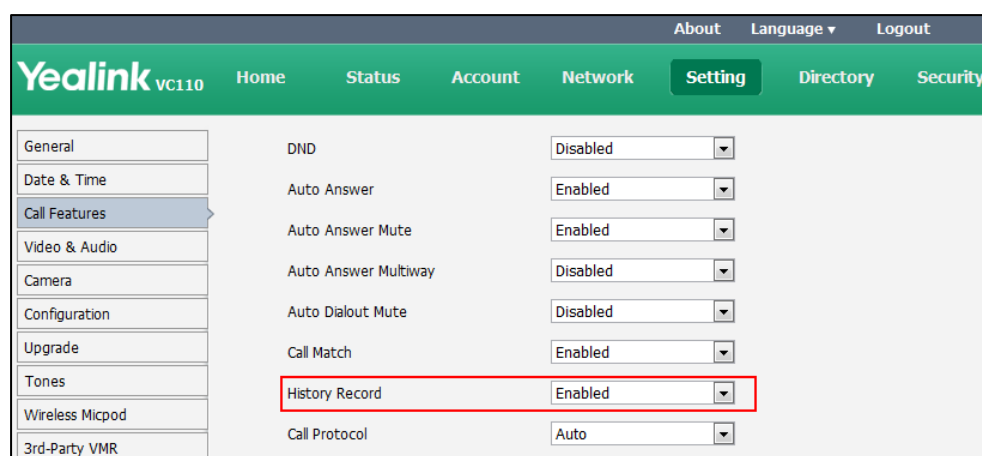
Parameter	Description	Configuration Method
<b>History Record</b>	Enables or disables the history record feature on the endpoint. <b>Default:</b> Enabled	Remote Control Web User Interface

#### To configure history record via web user interface:

1. Click on **Setting->Call Features**.



2. Select the desired value from the pull-down list of **History Record**.



3. Click **Confirm** to accept the change.

**To configure history record via the remote control:**

1. Select **Menu->Call Features**.
2. Check the **History Record** checkbox.
3. Press the **Save** soft key to accept the change.

## Bandwidth

The endpoint automatically detects the available bandwidth for call connection by default. The VC110 supports connecting to other devices with different bandwidth. If a device with lower bandwidth joins a call, the video quality will stay the same or will not reduce a lot. You can specify the uplink and downlink bandwidths for the endpoint to achieve the best result. Uplink bandwidth is the max bandwidth of outgoing calls. And downlink bandwidth is the max bandwidth of incoming calls.

The configurable bandwidths on the endpoint are: 256 kb/s, 384 kb/s, 512 kb/s, 640 kb/s, 768 kb/s, 1024 kb/s, 1280 kb/s, 1500 kb/s, 2000 kb/s, 3000 kb/s, 4000 kb/s. You can configure which bandwidth is to be used when in the dialing screen. The optional maximum bandwidth in dialing screen is the uplink bandwidth.

**Note**

The actual bandwidth depends on the performance of the remote endpoint, and is affected by the quality of the communication channel.

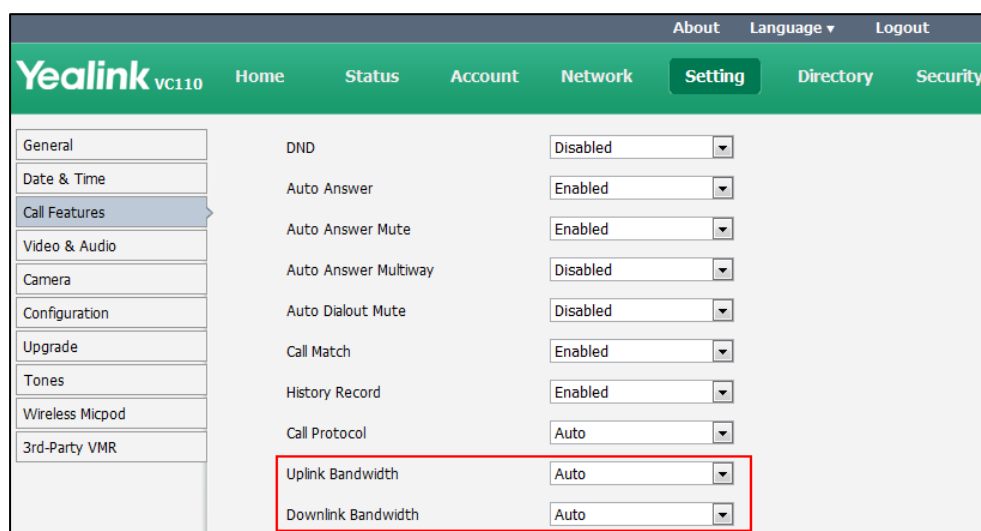
Bandwidth settings parameters on the endpoint are described below:

Parameter	Description	Configuration Method
<b>Uplink Bandwidth</b>	Specifies the maximum transmitting bandwidth for the endpoint.	Remote Control Web User Interface

Parameter	Description	Configuration Method
	<b>Default:</b> Auto If <b>Auto</b> is selected, the endpoint will negotiate the appropriate uplink bandwidth automatically.	
<b>Downlink Bandwidth</b>	Specifies the maximum receiving bandwidth for the endpoint. <b>Default:</b> Auto If <b>Auto</b> is selected, the endpoint will negotiate the appropriate downlink bandwidth automatically.	Remote Control Web User Interface

**To configure bandwidth via web user interface:**

1. Click on **Setting->Call Features**.
2. Select the desired value from the pull-down list of **Uplink Bandwidth**.
3. Select the desired value from the pull-down list of **Downlink Bandwidth**.



4. Click **Confirm** to accept the change.

**To configure bandwidth via the remote control:**

1. Select **Menu->Call Features->Bandwidth Settings**.
2. Select the desired value from the pull-down list of **Uplink Bandwidth**.
3. Select the desired value from the pull-down list of **Downlink Bandwidth**.
4. Press the **Save** soft key to accept the change.

**Note**

The priority of bandwidth is as follows: Endpoint bandwidth>Contact bandwidth (refer to [add local contacts](#)).

For example: the endpoint bandwidth is 512kbps, if contact bandwidth is set to a value greater than 512bps, than the actual contact bandwidth will be 512bps. If contact bandwidth is set to a value less than 512bps, than the actual contact bandwidth will be the value set by user.

## Sharing Content

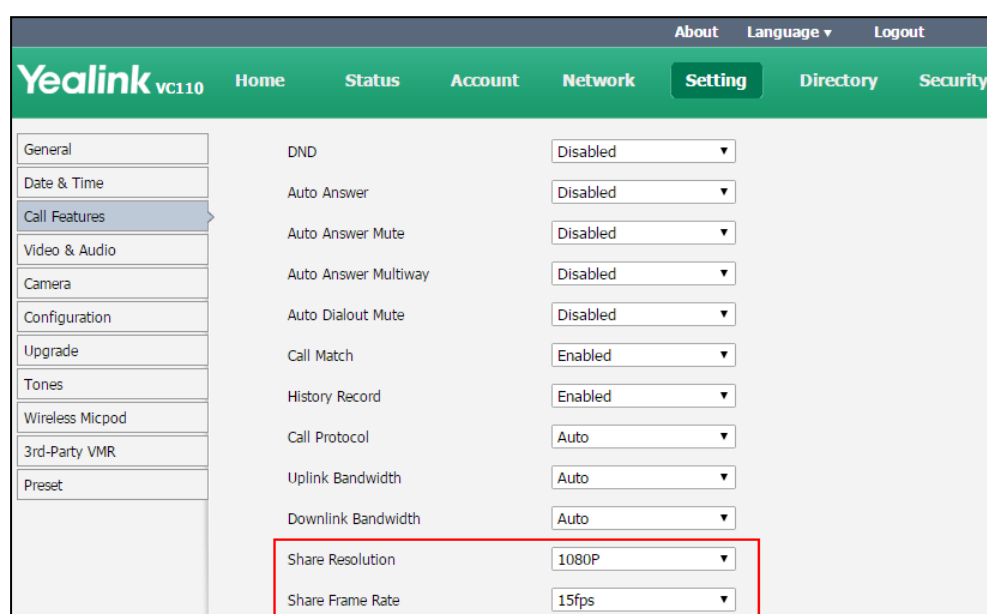
If a PC is connected to the hub, the endpoint will start a presentation automatically. During a call, both local and remote display devices will display the contents. You can also start/stop a presentation manually during a call. If you disconnect the PC, the presentation will stop automatically.

Presentation parameters on the endpoint are described below:

Parameter	Description	Configuration Method
<b>Share Resolution</b>	Specifies the resolution of the presentation. <ul style="list-style-type: none"> <li>1080P</li> <li>720P</li> </ul> <b>Default:</b> 1080P	Web User Interface
<b>Share Frame Rate</b>	Specifies the frame rate of the presentation. <ul style="list-style-type: none"> <li>30fps</li> <li>15fps</li> <li>5fps</li> </ul> <b>Default:</b> 15fps	Web User Interface

**To configure the presentation via web user interface:**

1. Click on **Setting->Call Features**.
2. Select the desired value from the pull-down list of **Share Resolution**.
3. Select the desired value from the pull-down list of **Share Frame Rate**.



- Click **Confirm** to accept the change.

## Ringback Timeout

Ringback timeout defines a specific period of time within which the VC110 video conferencing endpoint will cancel the dialing if the call is not answered.

The ringback timeout parameter on the endpoint is described below:

Parameter	Description	Configuration Method
<b>Ringback Timeout (30-240)</b>	Configures the duration time (in seconds) in the ringback state.  <b>Default:</b> 200  If it is set to 200, the endpoint will cancel the dialing if the call is not answered within 200s.	Web User Interface

**To configure ringback timeout via web user interface:**

- Click on **Setting->Call Features**.
- Select the desired value from the pull-down list of **Ringback Timeout(30-240)**.

The screenshot shows the Yealink VC110 web interface. The 'Setting' tab is selected, and the 'Call Features' section is expanded in the left sidebar. The 'Ringback Timeout(30-240)' parameter is highlighted with a red box and set to 200. Other settings include DND (Disabled), Auto Answer (Disabled), Auto Answer Mute (Disabled), Auto Answer Multiway (Disabled), Auto Dialout Mute (Disabled), Auto Refuse Timeout(30-240) (120), SIP IP Call by Proxy (Off), Default Layout of Single Screen (Remote Full screen), Use Default Layout (Enabled), Public Mode (Disabled), Network Address Adapter (Enabled), and Account Polling (Disabled). The 'Confirm' and 'Cancel' buttons are at the bottom.

- Click **Confirm** to accept the change.

## Auto Refuse Timeout

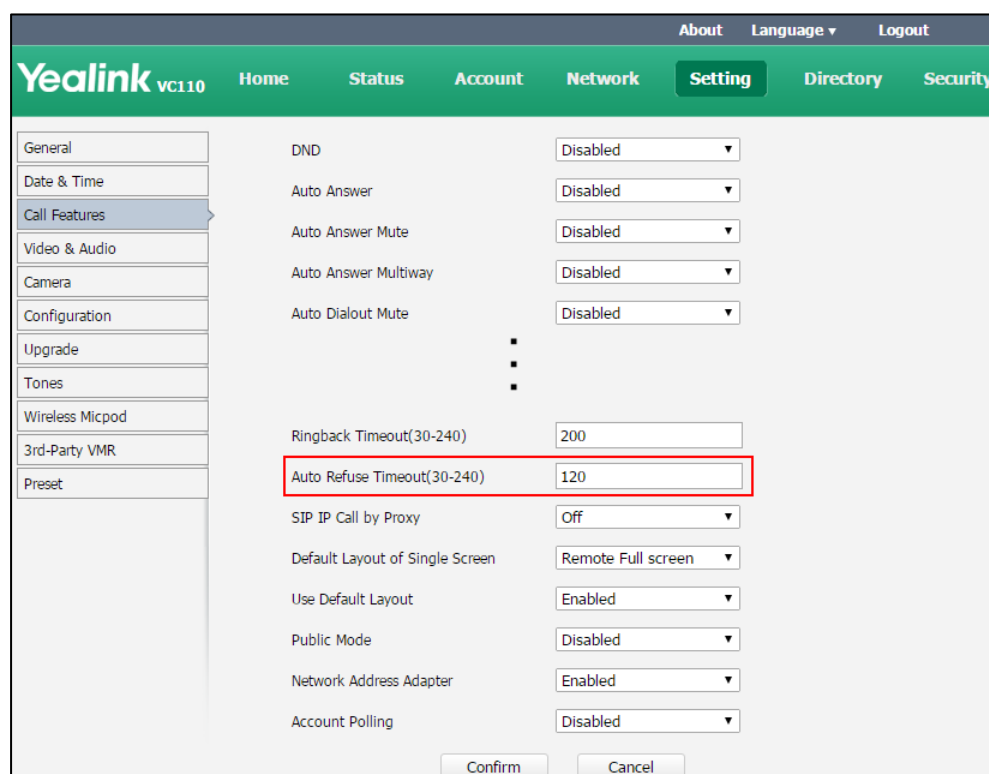
Auto refuse timeout defines a specific period of time within which the video conferencing endpoint will stop ringing if the call is not answered.

The auto refuse timeout parameters on the endpoint are described below:

Parameter	Description	Configuration Method
<b>Auto Refuse Timeout (30-240)</b>	Configures the duration time (in seconds) in the ringing state. <b>Default: 120</b> If it is set to 120, the endpoint will stop ringing if the call is not answered within 120s.	Web User Interface

**To configure auto refuse timeout via web user interface:**

1. Click on **Setting->Call Features**.
2. Select the desired value from the pull-down list of **Auto Refuse Timeout (30-240)**.



3. Click **Confirm** to accept the change.

## SIP IP Call by Proxy

If the account of far site is an URI address (Username@Server), local site can use SIP IP call or SIP

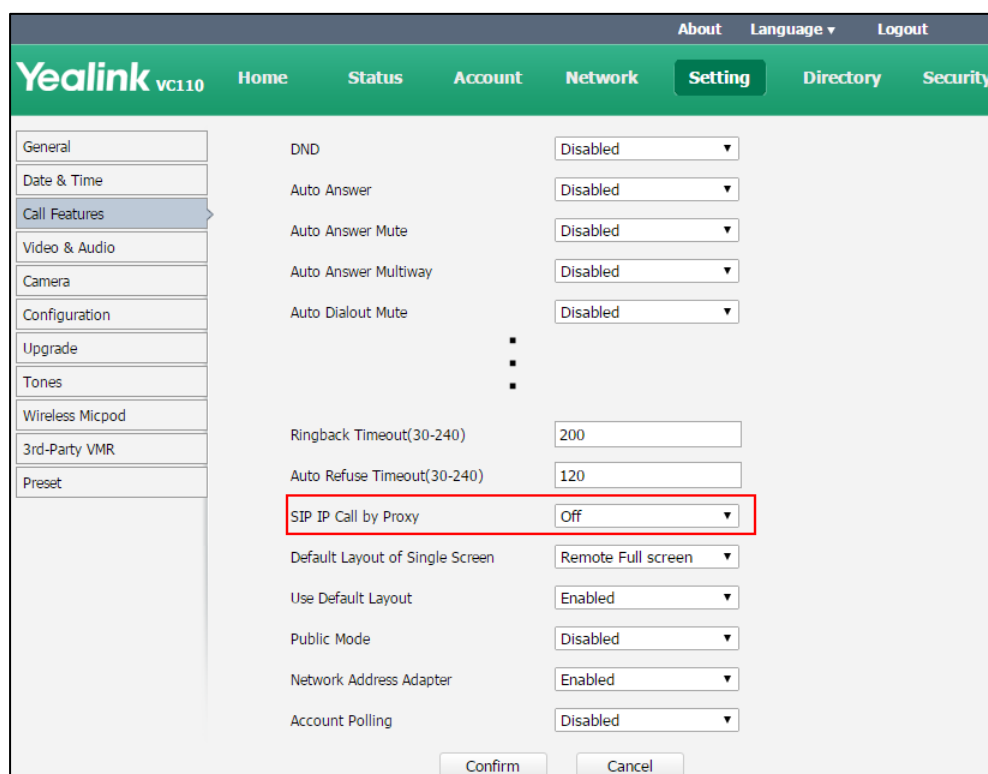
account to connect to the far site.

The SIP IP call by proxy parameters on the endpoint are described below:

Parameter	Description	Configuration Method
<b>SIP IP Call by Proxy</b>	<p>Configures the SIP IP call by proxy.</p> <ul style="list-style-type: none"> <li><b>Off</b>—when dialing the URI of the far site, the endpoint actually uses SIP IP address to establish a connection.</li> <li><b>On</b>—when dialing the URI of the far site, the endpoint uses SIP account to establish a connection.</li> <li>The outbound proxy server should be configured to resolve this URI address.</li> </ul> <p><b>Default:</b> Off</p>	Web User Interface

**To configure the SIP IP call by proxy via web user interface:**

1. Click on **Setting->Call Features**.
2. Select the desired value from the pull-down list of **SIP IP Call by Proxy**.



3. Click **Confirm** to accept the change.

## Default Layout

When only one display device is connected to the VC110 all-in-one unit (single screen), you can configure the default layout when a call is established.

The parameters of default layout are described below:

Parameter	Description	Configuration Method
<b>Default Layout of Single Screen</b>	<p>Configures the default layout of single screen when a call is established.</p> <ul style="list-style-type: none"> <li>• <b>Remote big Local small</b></li> <li>• <b>Remote Full screen</b></li> <li>• <b>Equal</b></li> </ul> <p><b>Default:</b> Remote Full screen</p> <p>If it is set to Remote big Local small, the remote video image is shown in big size, and the local video image along the right side of the screen is shown in small size when a call is established.</p> <p>If it is set to Remote Full screen, the remote video image is shown in full size when a call is established.</p> <p>If it is set to Equal, the remote and local video images are shown in the same size when a call is established.</p>	Web User Interface
<b>Use Default Layout</b>	<p>Enables or disables the endpoint to use default layout.</p> <ul style="list-style-type: none"> <li>• <b>Enabled</b> - the endpoint uses default layout when a call is established.</li> <li>• <b>Disabled</b> - the endpoint uses the layout you specified when a call is established.</li> </ul> <p><b>For example:</b> in the last call, you set the layout to be equal. The endpoint will use the equal layout by default when a call is established.</p>	Web User Interface

Parameter	Description	Configuration Method
	<b>Default:</b> Enabled	

**To configure default layout of single screen via web user interface:**

1. Click on **Setting->Call Features**.
2. Select the desired value from the pull-down list of **Default Layout of Single Screen**.
3. Select the desired value from the pull-down list of **Use Default Layout**.

The screenshot shows the Yealink VC110 web interface. The 'Setting' tab is selected, and the 'Call Features' section is active in the left sidebar. The main configuration area lists various settings with their current values:

- DND: Disabled
- Auto Answer: Disabled
- Auto Answer Mute: Disabled
- Auto Answer Multiway: Disabled
- Auto Dialout Mute: Disabled
- Ringback Timeout(30-240): 200
- Auto Refuse Timeout(30-240): 120
- SIP IP Call by Proxy: Off
- Default Layout of Single Screen: Remote Full screen** (highlighted)
- Use Default Layout: Enabled** (highlighted)
- Public Mode: Disabled
- Network Address Adapter: Enabled
- Account Polling: Disabled

At the bottom of the configuration area are 'Confirm' and 'Cancel' buttons.

4. Click **Confirm** to accept the change.

## Public Mode

In your display device, public mode simplifies the idle screen by displaying only local camera and calendar schedules (if you register a YMS account and have a scheduled conference). In public mode, therefore, users can join scheduled calendar and answer calls.

Public mode is disabled by default. If it is enabled, these conditions apply:

- On the display device, status bar and three soft keys are hidden.
- On the video conferencing phone, four soft keys are hidden.
- On your remote control/virtual remote control, you can use the Zoom key, Volume key, Navigation key, OK key, On-hook Key, Mute key and Delete key (for capturing packets)
- On your video conferencing phone, you can use the Volume key, On-hook Key and Mute key.



- You can use web user interface or third-party control endpoint.

The parameters of public mode are described below:

Parameter	Description	Configuration Method
<b>Public Mode</b>	Enables or disables the public mode. <b>Default:</b> Disabled	Web User Interface

**To configure public mode via web user interface:**

- Click on **Setting->Call Features**.
- Select the desired value from the pull-down list of **Public Mode**.

The screenshot displays the Yealink VC110 web interface. The top navigation bar includes links for About, Language, and Logout. The main menu has tabs for Home, Status, Account, Network, Setting (selected), Directory, and Security. On the left, a sidebar lists various configuration categories. The 'Call Features' category is selected, and the 'Public Mode' setting is highlighted with a red rectangle. The 'Public Mode' dropdown menu is set to 'Disabled'. Other settings visible include DND (Disabled), Auto Answer (Disabled), Auto Answer Mute (Disabled), Auto Answer Multiway (Disabled), Auto Dialout Mute (Disabled), Ringback Timeout (200), Auto Refuse Timeout (120), SIP IP Call by Proxy (Off), Default Layout of Single Screen (Remote Full screen), Use Default Layout (Enabled), Network Address Adapter (Enabled), and Account Polling (Disabled). At the bottom, there are 'Confirm' and 'Cancel' buttons.

- Click **Confirm** to accept the change.

## Configuring Endpoint Settings

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This chapter provides information for making configuration changes for the endpoint, such as language, time and date, backlight of the video conferencing phone, video&audio settings and camera settings:

Topics include:

- [General Settings](#)
- [Audio Settings](#)
- [Adjusting MTU of Video Packets](#)
- [Dual-Stream Protocol](#)
- [Mix Sending](#)
- [Configuring Camera Settings](#)
- [Far-end Camera Control](#)
- [Camera Control Protocol](#)
- [Output Resolution](#)
- [USB Configuration](#)
- [Video Recording](#)
- [ScreenshotTones](#)

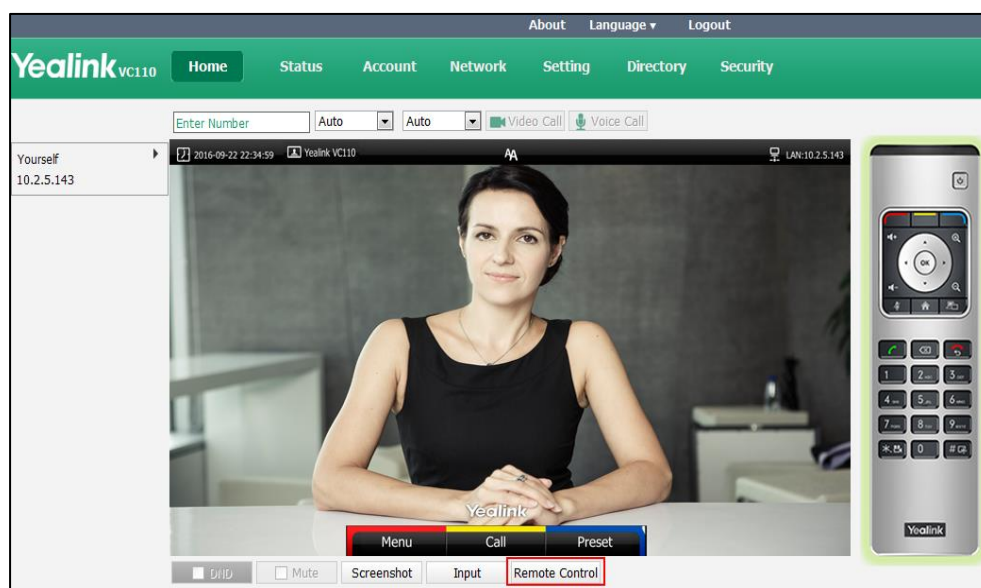
## General Settings

### Virtual Remote Control

In addition to using the remote control, you can also control the VC110 video conferencing endpoint via virtual remote control.

**To control video conferencing endpoint via the virtual remote control:**

1. Click **Home->Remote Control** when the endpoint is idle or during a call.



2. Click the keys on the virtual remote control to control the VC110 video conferencing endpoint.
3. Click **Remote Control** to hide the virtual remote control.

## Configuring Remote Control

If your environment does not use remote control, you can choose to disable remote control feature.

The remote control parameter is described below:

Parameter	Description	Configuration Method
<b>Remote Control Enabled</b>	<p>Enables or disables the remote control feature.</p> <p><b>Default:</b> On</p> <p><b>Note:</b> If it is set to Off, you cannot use remote control and virtual remote control to control your video conferencing endpoint.</p>	Web User Interface

**To configure remote control via web user interface:**

1. Click **Setting->General**.

2. Select desired value from the pull-down list of **Remote Control Enabled**.

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes links for About, Language, and Logout. Below this is a green header with the Yealink VC110 logo and tabs for Home, Status, Account, Network, Setting (selected), Directory, and Security. On the left, a sidebar lists various settings categories: General (selected), Date & Time, Call Features, Video & Audio, Camera, Configuration, Upgrade, Tones, Wireless Micpod, 3rd-Party VMR, and Preset. The main content area is titled 'General Information' and contains several settings: Site Name (Yealink VC110), Automatic Sleep Time (10 Min), Backlight Time (Always On), Hide IP Address (Enabled), Hide Menu Logo (Enabled), ReLogOffTime(1-1000min) (1000), Key Tone (On), and Remote Control Enabled (On). The 'Remote Control Enabled' setting is highlighted with a red rectangular box.

3. Click **Confirm** to accept the change.

## Site Name

When the endpoint is idle, the site name is displayed on the status bar of display device and video conferencing phone. You can make an IP address call to the far site, the site name will be displayed on the display device of the far site. Site name can consist of letters, numbers or special characters. You can configure the site name of the endpoint via the remote control or web user interface.

The site name parameter is described below:

Parameter	Description	Configuration Method
<b>Site Name</b>	Configures the site name of the endpoint. <b>Valid values:</b> String within 64 characters <b>Default:</b> Yealink VC110	Remote Control Web User Interface

**To configure the site name via web user interface:**

1. Click on **Setting**->**General**.

2. Edit the site name in the **Site Name** field.

The screenshot shows the Yealink VC110 WUI. The top navigation bar includes 'About', 'Language', and 'Logout'. The main menu has 'Home', 'Status', 'Account', 'Network', 'Setting' (highlighted), 'Directory', and 'Security'. On the left, a sidebar lists various settings categories: General, Date & Time, Call Features, Video & Audio, Camera, Configuration, Upgrade, Tones, Wireless Micpod, 3rd-Party VMR, and Preset. The 'General Information' section is active, displaying several configuration options. The 'Site Name' field is highlighted with a red rectangle and shows 'Yealink VC110'. Other options include 'Automatic Sleep Time' (10 Min), 'Backlight Time' (Always On), 'Hide IP Address' (Enabled), 'Hide Menu Logo' (Enabled), 'ReLogOffTime(1-1000min)' (1000), 'Key Tone' (On), and 'Remote Control Enabled' (On).

3. Click **Confirm** to accept the change.

The LCD screen of the display device and video conferencing phone will display the changed site name.

#### To configure the site name via the remote control:

1. Select **Menu->Basic**.
2. Edit the site name in the **Site Name** field.
3. Press the **Save** soft key to accept the change.

The LCD screen of the display device and video conferencing phone will display the changed site name.

## Backlight of the Video Conferencing Phone

Backlight determines the brightness of the LCD screen display, allowing users to read easily in dark environments. Backlight time specifies the delay time to turn off the backlight when the phone is inactive.

You can configure the backlight time as one of the following types:

- **Always On:** Backlight is turned on permanently.
- **15 s, 30 s, 10 min, 20 min, 30 min, 1 Hour, 2 Hour, 3 Hour, 4 Hour:** Backlight is turned off when the phone is inactive after a preset period of time. It is automatically turned on if the status of the phone changes or any key is pressed.

The backlight parameter on video conferencing phone is described below:

Parameter	Description	Configuration Method
<b>Backlight Time</b>	Configures the backlight time of the video conferencing phone. <b>Default:</b> Always On	Web User Interface

**To configure the backlight time of the video conferencing phone via web user interface:**

1. Click on **Setting**->**General**.
2. Select the desired value from the pull-down list of **Backlight Time**.

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes 'About', 'Language', and 'Logout'. Below this is a green header with 'Yealink VC110' and tabs for 'Home', 'Status', 'Account', 'Network', 'Setting' (selected), 'Directory', and 'Security'. On the left, a sidebar lists various settings categories: General, Date & Time, Call Features, Video & Audio, Camera, Configuration, Upgrade, Tones, Wireless Micpod, 3rd-Party VMR, and Preset. The main content area is titled 'General Information' and contains several configuration items: Site Name (Yealink VC110), Automatic Sleep Time (10 Min), Backlight Time (Always On, highlighted with a red box), Hide IP Address (Enabled), Hide Menu Logo (Enabled), ReLogOffTime(1-1000min) (1000), Key Tone (On), and Remote Control Enabled (On).

3. Click **Confirm** to accept the change.

## Language

The default language of the LCD screen of the display device and the video conferencing phone is English, and you can change it via the remote control. The video conferencing phone will detect and use the same language as the display device.

The default language of the web user interface is English. You can change the language of the web user interface via web user interface. The available languages for endpoint are English, Chinese Simplified, Chinese Traditional, French, German, Italian, Polish, Portuguese, Spanish, Turkish and Russian.

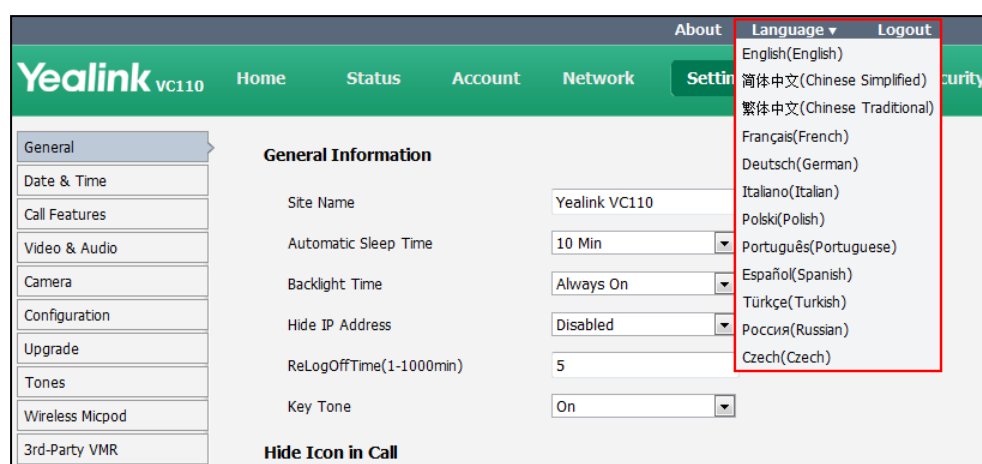
The language parameters on the endpoint are described below:

Parameter	Description	Configuration Method
<b>Language</b>	Specifies the language for the web user interface	Web User Interface
<b>Language</b>	Specifies the language for the LCD screen of the display device and the video conferencing phone. <b>Default:</b> English	Remote Control

**To specify the language for the web user interface via web user interface:**

1. Click **Language** at the top of the web page.

2. Select the desired language from the pull-down list of **Language**.



To specify the language for the display device and the video conferencing phone via the remote control:

1. Select **Menu->Basic**.
2. Select the desired language from the pull-down list of **Language**.
3. Press the **Save** soft key to accept the change.

## Date & Time

Time and date are displayed on the idle screen of the display device and the video conferencing phone. Time and date are synced automatically from the NTP server by default. The default NTP server is cn.pool.ntp.org. The NTP server is configurable manually or obtained by DHCP via DHCP Option 42. The phone will use the NTP server obtained by DHCP preferentially. If the endpoint cannot obtain the time and date from the NTP server, you need to manually configure them. The time and date can use one of several different formats.

### Time Zone

A time zone is a region on Earth that has a uniform standard time. It is convenient for areas in close commercial or other communication to keep the same time. When configuring the endpoint to obtain the time and date from the NTP server, you must set the time zone.

### Daylight Saving Time

Daylight Saving Time (DST) is the practice of temporary advancing clocks during the summertime so that evenings have more daylight and mornings have less. Typically, clocks are adjusted forward one hour at the start of spring and backward in autumn. Many countries have used DST at various times, details vary by location. DST can be adjusted automatically from the time zone configuration. Typically, there is no need to change this setting.

DST parameters are described below:

Parameter	Description	Configuration Method
<b>DHCP Time</b>	Enables or disables the endpoint to update time with the offset time obtained from the DHCP server. <b>Default:</b> Disabled <b>Note:</b> it is only available to GMT 0.	Web User Interface
<b>Time Zone</b>	Configures the time zone. <b>Default:</b> +8 China (Beijing)	Remote Control Web User Interface
<b>Primary Server/NTP Primary Server</b>	Configures the primary NTP server. <b>Default:</b> cn.pool.ntp.org	Remote Control Web User Interface
<b>Secondary Server/NTP Secondary Server</b>	Configures the secondary NTP server. <b>Default:</b> cn.pool.ntp.org	Remote Control Web User Interface
<b>Synchronism (15~86400s)</b>	Configures the interval (in minutes) for the endpoint to synchronize time and date with NTP server. <b>Default:</b> 1000.	Web User Interface
<b>Daylight Saving Time</b>	Configures the Daylight Saving Time (DST) type. The available types for the endpoint are: <ul style="list-style-type: none"> <li>• <b>Disabled</b>-not use DST.</li> <li>• <b>Enabled</b>-use DST. You can manually configure the start time, end time and offset according to your needs.</li> <li>• <b>Automatic</b>-use DST. DST will be configured automatically. You do not need to manually configure the</li> </ul>	Remote Control Web User Interface



Parameter	Description	Configuration Method
	start time, end time and offset. <b>Default:</b> Automatic	
<b>Fixed Type</b>	Configures the DST calculation methods. <ul style="list-style-type: none"> <li>• <b>By Date</b>- specifies the month, day and hour to be the DST start /end date.</li> <li>• <b>By Week</b>- specifies the month, week, day and hour the DST start /end date.</li> </ul> <b>Note:</b> It only works if the value of Daylight Saving Time is set to Enabled.	Web User Interface
<b>Start Date</b>	When the DST calculation method is set to <b>By Date</b> . Configures the time to start DST. <b>Note:</b> It only works if the value of the Daylight Saving Time is set to Enabled.	Web User Interface
<b>End Date</b>	When the DST calculation method is set to <b>By Date</b> . Configures the time to end DST. <b>Note:</b> It only works if the value of the Daylight Saving Time is set to Enabled.	Web User Interface
<b>DST Start Month</b>	When the DST calculation method is set to <b>By Week</b> . Configures the time to start DST. <b>Note:</b> It only works if the value of the Daylight Saving Time is set to Enabled.	Web User Interface
<b>DST Start Day of Week</b>		
<b>DST Start Day of Week Last in Month</b>		
<b>Start Hour of Day</b>		
<b>DST Stop Month</b>	When the DST calculation method is set to <b>By Week</b> . Configures the time to end DST. <b>Note:</b> It only works if the value of the Daylight Saving Time is set	Web User Interface
<b>DST Stop Day of Week</b>		
<b>DST Stop Day of Week Last in Month</b>		

Parameter	Description	Configuration Method
<b>End Hour of Day</b>	to Enabled.	
<b>Offset(minutes)</b>	Configures the DST offset time (in minutes). <b>Valid values:</b> -300 to +300. <b>Note:</b> It only works if the value of the Daylight Saving Time is set to Enabled.	Web User Interface
<b>Time Type</b>	Configures the DST time type. <ul style="list-style-type: none"> <li><b>SNTP:</b> obtain the time and date from the NTP server automatically.</li> <li><b>Manual Time:</b> configure the time and date manually.</li> </ul> <b>Default:</b> SNTP	Remote Control Web User Interface
<b>Time Format/ Time</b>	Configures the time format. <ul style="list-style-type: none"> <li>Hour12</li> <li>Hour24</li> </ul> <b>Default:</b> Hour 24	Remote Control Web User Interface
<b>Date Format/Date</b>	Configures the date format. <ul style="list-style-type: none"> <li>WWW MMM DD</li> <li>DD-MMM-YY</li> <li>YYYY-MM-DD</li> <li>DD/MM/YYYY</li> <li>MM/DD/YY</li> <li>DD MMM YYYY</li> <li>WWW DD MMM</li> </ul> <b>Default:</b> YYYY-MM-DD	Remote Control Web User Interface

**To configure the NTP server, time zone and DST via web user interface:**

1. Click on **Setting->Date& Time**.
2. Select **Disabled** from the pull-down list of **Manual Time**.
3. Select the desired time zone from the pull-down list of **Time Zone**.
4. Enter the domain names or IP addresses in the **Primary Server** and **Secondary Server** fields respectively.
5. Enter the desired time interval in the **Synchronism (15~86400s)** field.

6. Select the desired value from the pull-down list of **Daylight Saving Time**.

If you select **Enabled**, do one of the following:

- Mark the **DST By Date** radio box in the **Fixed Type** field.

Enter the start time in the **Start Date** field.

Enter the end time in the **End Date** field.

The screenshot shows the Yealink VC110 web interface with the 'Setting' tab selected. The left sidebar lists various settings categories, and the 'Date & Time' section is active. The 'Daylight Saving Time' is set to 'Enabled'. Under the 'Fixed Type' section, the 'DST By Date' radio button is selected. The 'Start Date' is configured with Month 6, Day 28, and Hour 10. The 'End Date' is configured with Month 11, Day 30, and Hour 10. The 'Offset(minutes)' is set to 10. A red box highlights the 'Daylight Saving Time', 'Fixed Type', 'Start Date', 'End Date', and 'Offset(minutes)' fields.

- Mark the **DST By Week** radio box in the **Fixed Type** field.

Select the desired values from the pull-down lists of **DST Start Month**, **DST Start Day of Week**, **DST Start Day of Week Last in Month**, **DST Stop Month**, **DST Stop Day of Week** and **DST Stop Day of Week Last in Month**.

Enter the desired time in the **Start Hour of Day** field.

Enter the desired time in the **End Hour of Day** field.

The screenshot shows the Yealink VC110 web interface. The left sidebar contains a menu with options: General, Date & Time (selected), Call Features, Video & Audio, Camera, Configuration, Upgrade, Tones, Wireless Micpod, and 3rd-Party VMR. The main content area displays the 'Date & Time' settings. A red box highlights the 'Fixed Type' section, which includes the following fields:

- Fixed Type: ☐ DST By Date, ☒ DST By Week
- DST Start Month:
- DST Start Day of Week:
- DST Start Day of Week Last in Month:
- Start Hour of Day:
- DST Stop Month:
- DST Stop Day of Week:
- DST Stop Day of Week Last in Month:
- End Hour of Day:
- Offset(minutes):

7. Enter the desired offset time in the **Offset (minutes)** field.

8. Click **Confirm** to accept the change.

**To configure the time and date manually via web user interface:**

1. Click on **Setting->Date& Time**.
2. Select **Manual Time** from the pull-down list of **Time Type**.
3. Enter the current date in the **Date** field.
4. Enter the current time in the **Time** field.
5. Select the desired value from the pull-down list of **Time Format**.
6. Select the desired value from the pull-down list of **Date Format**.

The screenshot shows the Yealink VC110 web interface. The left sidebar contains a menu with options: General, Date & Time (selected), Call Features, Video & Audio, Camera, Configuration, Upgrade, Tones, Wireless Micpod, and 3rd-Party VMR. The main content area displays the 'Date & Time' settings. A red box highlights the 'Manual Time' section, which includes the following fields:

- Time Type:
- Date: Year  Month  Day
- Time: Hour  Minute  Second
- Time Format:
- Date Format:

7. Click **Confirm** to accept the change.

**To configure the time and date format via the remote control:**

1. Select **Menu->Basic->Date & Time**.
2. Configure the desired values.
3. Press the **Save** soft key to accept the change.

The time and date displayed on the LCD screen of the display device and video conferencing phone will change accordingly.

## Automatic Sleep Time

The endpoint will enter the sleep mode automatically when it has been inactive for a period of time (the default time is 10 minutes). When the endpoint is in sleep mode, it can still accept incoming calls. The display device will prompt "No Signal", and the LCD screen of the video conferencing phone prompts "Sleeping Press any key to resume". You can press any key on the remote control or the video conferencing phone to wake the endpoint up. When receiving a call, the endpoint will be woken up automatically.

You can change the automatic sleep time via the remote control or web user interface. You can also press the sleep key on the remote control to make the endpoint sleep immediately.

The automatic sleep time is described below:

Parameter	Description	Configuration Method
<b>Automatic Sleep Time</b>	<p>Configures the inactive time (in minutes) before the endpoint enter sleep mode.</p> <p><b>Default:</b> 10 Min</p> <p><b>Note:</b> During setup wizard, the automatic sleep time feature is disabled automatically. To protect the display device, you should configure the automatic sleep time immediately.</p>	<p>Remote Control</p> <p>Web User Interface</p>

**To configure the automatic sleep time via web user interface:**

1. Click on **Setting->General**.

2. Select desired value from the pull-down list of **Automatic Sleep Time**.

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes links for About, Language, and Logout. Below this is a green header with the Yealink VC110 logo and navigation tabs: Home, Status, Account, Network, Setting (highlighted), Directory, and Security. On the left, a sidebar lists various settings categories: General (selected), Date & Time, Call Features, Video & Audio, Camera, Configuration, Upgrade, Tones, Wireless Micpod, 3rd-Party VMR, and Preset. The main content area is titled 'General Information' and contains several settings: Site Name (Yealink VC110), Automatic Sleep Time (10 Min, highlighted with a red box), Backlight Time (Always On), Hide IP Address (Enabled), Hide Menu Logo (Enabled), ReLogOffTime(1-1000min) (1000), Key Tone (On), and Remote Control Enabled (On).

3. Click **Confirm** to accept the change.

**To configure the automatic sleep time via the remote control:**

1. Select **Menu->Basic**.
2. Select desired value from the pull-down list of **Automatic Sleep Time**.
3. Press the **Save** soft key to accept the change.

## Hiding IP Address

The status bar of the display device displays IP address. You can choose to hide IP address on the status bar.

The hide IP address parameter is described below:

Parameter	Description	Configuration Method
<b>Hide IP address</b>	Enables or disables the endpoint to hide IP address. <b>Default:</b> Disabled	Web User Interface

**To hide IP address via web user interface:**

1. Click on **Setting->General**.
2. Select **Enabled** from the pull-down list of **Hide IP Address**.

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes 'About', 'Language', and 'Logout'. Below this is a green bar with 'Yealink VC110' and tabs for 'Home', 'Status', 'Account', 'Network', 'Setting' (selected), 'Directory', and 'Security'. On the left, a sidebar lists various settings categories: General, Date & Time, Call Features, Video & Audio, Camera, Configuration, Upgrade, Tones, Wireless Micpod, 3rd-Party VMR, and Preset. The 'General' category is selected, and the 'General Information' settings are displayed. The 'Hide IP Address' option is highlighted with a red box and is set to 'Enabled'. Other settings include Site Name (Yealink VC110), Automatic Sleep Time (10 Min), Backlight Time (Always On), Hide Menu Logo (Enabled), ReLogOffTime(1-1000min) (1000), Key Tone (On), and Remote Control Enabled (On).

3. Click **Confirm** to accept the change.

The IP address is hidden from the status bar of the display device.

## Hiding Menu Logo

When the endpoint is idle, a Yealink logo is shown on the display device. You can hide the Yealink logo as needed to achieve the best video effects.

Parameters of hiding menu logo on the endpoint are described below:

Parameter	Description	Configuration Method
<b>Hide Menu Logo</b>	Enables or disables the endpoint to hide Yealink logo on the idle screen. <b>Default:</b> Disabled	Web User Interface

**To enable the hiding menu logo feature via web user interface:**

1. Click on **Setting->General**.

2. Select the **Enabled** from the pull-down lists of **Hide Menu Logo**.

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes links for About, Language, and Logout. Below this is a green header with the Yealink VC110 logo and tabs for Home, Status, Account, Network, Setting (selected), Directory, and Security. On the left, a sidebar lists various settings categories: General (selected), Date & Time, Call Features, Video & Audio, Camera, Configuration, Upgrade, Tones, Wireless Micpod, 3rd-Party VMR, and Preset. The main content area is titled 'General Information' and contains several settings: Site Name (Yealink VC110), Automatic Sleep Time (10 Min), Backlight Time (Always On), Hide IP Address (Enabled), Hide Menu Logo (Enabled, highlighted with a red box), ReLogOffTime(1-1000min) (1000), Key Tone (On), and Remote Control Enabled (On).


3. Click **Confirm** to accept the change.

The Yealink logo disappears from the display device.



## Hiding Icons in a Call



During a call, the endpoint will display some information and icons (such as call time, mute icon and recording icon) by default, you can know the call status from these information and icons. You can also hide these icons as needed to achieve the best video effects.



Parameters of hiding icons in a call feature on the endpoint are described below:

Parameter	Description	Configuration Method
<b>Time Icon</b>	<p>Enables or disables the endpoint to hide call time during a call.</p> <ul style="list-style-type: none"> <li>• <b>Disabled</b>- the endpoint does not display call time during a call.</li> <li>• <b>Hide with operation menu</b> - the endpoint displays call time during a call, but the call time will hide with operation menu.</li> <li>• <b>Enabled</b>- the endpoint displays call time during a call.</li> </ul> <p><b>Default:</b> Hide with operation menu</p>	Web User Interface
<b>Mute Icon</b>	<p>Enables or disables the endpoint to hide mute icon (  ) during a call.</p> <ul style="list-style-type: none"> <li>• <b>Disabled</b>- the endpoint does</li> </ul>	Web User Interface



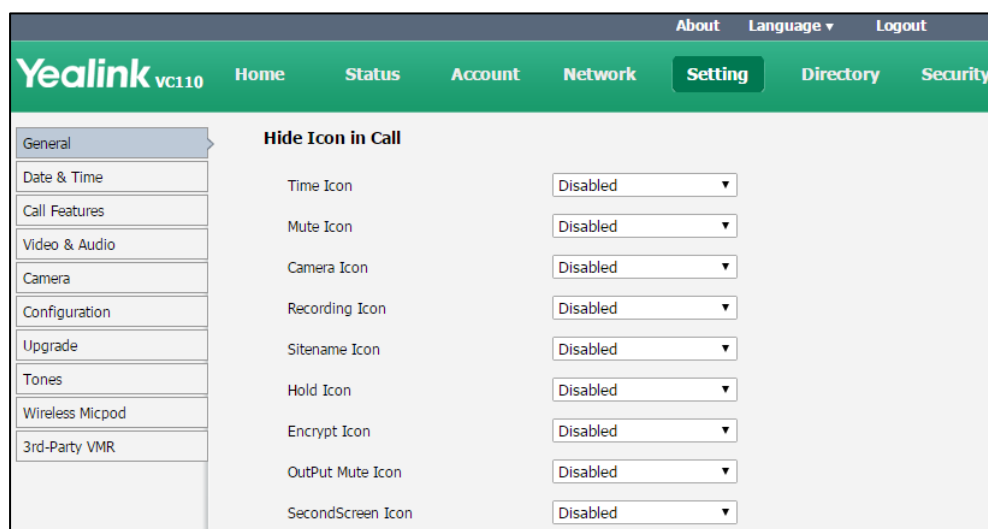
Parameter	Description	Configuration Method
	<p>not display mute icon during a call.</p> <ul style="list-style-type: none"> <li>• <b>Hide with operation menu</b> - the endpoint displays mute icon during a call, but the mute icon will hide with operation menu.</li> <li>• <b>Enabled</b>- the endpoint displays mute icon during a call.</li> </ul> <p><b>Default:</b> Disabled</p>	
<b>Camera Icon</b>	<p>Enables or disables the endpoint to hide camera icon (  ) during a call.</p> <ul style="list-style-type: none"> <li>• <b>Disabled</b>- the endpoint does not display camera icon during a call.</li> <li>• <b>Hide with operation menu</b> - the endpoint displays camera icon during a call, but the camera icon will hide with operation menu.</li> <li>• <b>Enabled</b>- the endpoint displays camera icon during a call.</li> </ul> <p><b>Default:</b> Disabled</p>	Web User Interface
<b>Recording Icon</b>	<p>Enables or disables the endpoint to hide recording icon (  ) during a call.</p> <ul style="list-style-type: none"> <li>• <b>Disabled</b>- the endpoint does not display recording icon during a call.</li> <li>• <b>Hide with operation menu</b> - the endpoint displays recording icon during a call, but the recording icon will hide with operation menu.</li> <li>• <b>Enabled</b>- the endpoint displays recording icon during</li> </ul>	Web User Interface

Parameter	Description	Configuration Method
	a call. <b>Default:</b> Disabled	
<b>Sitename Icon</b>	<p>Enables or disables the endpoint to hide site name icon during a call.</p> <ul style="list-style-type: none"> <li>• <b>Disabled</b>- the endpoint does not display site name icon during a call.</li> <li>• <b>Hide with operation menu</b> - the endpoint displays site name icon during a call, but the site name icon will hide with operation menu.</li> <li>• <b>Enabled</b>- the endpoint displays site name icon during a call.</li> </ul> <p><b>Default:</b> Disabled</p>	Web User Interface
<b>Hold Icon</b>	<p>Enables or disables the endpoint to hide hold icon (  ) during a call.</p> <ul style="list-style-type: none"> <li>• <b>Disabled</b>- the endpoint does not display hold icon during a call.</li> <li>• <b>Hide with operation menu</b> - the endpoint displays hold icon during a call, but the hold icon will hide with operation menu.</li> <li>• <b>Enabled</b>- the endpoint displays hold icon during a call.</li> </ul> <p><b>Default:</b> Disabled</p>	Web User Interface
<b>Encrypt Icon</b>	<p>Enables or disables the endpoint to hide encrypt icon (  ) during a call.</p> <ul style="list-style-type: none"> <li>• <b>Disabled</b>- the endpoint does not display encrypt icon during a call.</li> <li>• <b>Hide with operation menu</b> - the endpoint displays encrypt icon during a call, but the encrypt icon will hide with</li> </ul>	Web User Interface

Parameter	Description	Configuration Method
	<p>operation menu.</p> <ul style="list-style-type: none"> <li>• <b>Enabled</b>- the endpoint displays encrypt icon during a call.</li> </ul> <p><b>Default:</b> Disabled</p>	
<b>OutPut Mute Icon</b>	<p>Enables or disables the endpoint to hide output mute icon (output volume is set to 0:  ) during a call.</p> <ul style="list-style-type: none"> <li>• <b>Disabled</b>- the endpoint does not display output mute icon during a call.</li> <li>• <b>Hide with operation menu</b> - the endpoint displays output mute icon during a call, but the output mute icon will hide with operation menu.</li> <li>• <b>Enabled</b>- the endpoint displays output mute icon during a call.</li> </ul> <p><b>Default:</b> Disabled</p>	Web User Interface
<b>SecondScreen Icon</b>	<p>Enables or disables the endpoint to hide second screen icon (  ) during a call.</p> <ul style="list-style-type: none"> <li>• <b>Disabled</b>- the endpoint does not display second screen icon during a call.</li> <li>• <b>Hide with operation menu</b> - the endpoint displays second screen icon during a call, but the icon will hide with operation menu.</li> <li>• <b>Enabled</b>- the endpoint displays second screen icon during a call.</li> </ul> <p><b>Default:</b> Disabled</p>	Web User Interface

**To hide icons in a call via web user interface:**

1. Click on **Setting->General**.
2. Select the desired values from the pull-down lists of **Time Icon**, **Mute Icon**, **Camera Icon**, **Recording Icon**, **Sitename Icon**, **Hold Icon**, **Encrypt Icon**, **OutPut Mute Icon**, and **SecondScreen Icon**.



3. Click **Confirm** to accept the change.

## ReLog Offtime

The endpoint will log out of the web user interface automatically after being inactive for a period of time (default: 5 minutes). You need to re-enter the user name and password to login. You can only configure the relog offtime via web user interface.

The relog offtime parameter is described below:

Parameter	Description	Configuration Method
<b>ReLogOffTime (1-1000min)</b>	Configures the inactive time (in minutes) before the endpoint logs out of the web user interface automatically. <b>Default: 5</b>	Web User Interface

**To configure the relog offtime via web user interface:**

1. Click on **Setting->General**.

2. Enter the desired time in the **ReLogOffTime (1-1000min)** field.

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes links for About, Language, and Logout. Below this is a green header with the Yealink VC110 logo and tabs for Home, Status, Account, Network, Setting (selected), Directory, and Security. On the left, a sidebar lists various settings categories: General (selected), Date & Time, Call Features, Video & Audio, Camera, Configuration, Upgrade, Tones, Wireless Micpod, 3rd-Party VMR, and Preset. The main content area is titled 'General Information' and contains several settings: Site Name (Yealink VC110), Automatic Sleep Time (10 Min), Backlight Time (Always On), Hide IP Address (Enabled), Hide Menu Logo (Enabled), ReLogOffTime(1-1000min) (1000, highlighted with a red box), Key Tone (On), and Remote Control Enabled (On).

3. Click **Confirm** to accept the change.

## Key Tone

You can enable the key tone feature for the endpoint to make a keyboard click sound effect (key tone) when pressing a key on the remote control. If you disable this feature or endpoint ringer volume is adjusted to 0, the endpoint will not play a key tone when you press the key on the remote control.

Key tone is configurable via the remote control or web user interface.

The key tone parameter is described below:

Parameter	Description	Configuration Method
<b>Key Tone</b>	Enables or disables the key tone. <b>Default:</b> On	Remote Control Web User Interface

**To configure the key tone via web user interface:**

1. Click on **Setting->General**.

2. Select the desired value from the pull-down list of **Key Tone**.

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes 'About', 'Language', and 'Logout'. Below this is a green header with 'Yealink VC110' and tabs for 'Home', 'Status', 'Account', 'Network', 'Setting' (selected), 'Directory', and 'Security'. On the left, a sidebar lists various settings categories: General, Date & Time, Call Features, Video & Audio, Camera, Configuration, Upgrade, Tones, Wireless Micpod, 3rd-Party VMR, and Preset. The main content area is titled 'General Information' and contains several settings: Site Name (Yealink VC110), Automatic Sleep Time (10 Min), Backlight Time (Always On), Hide IP Address (Enabled), Hide Menu Logo (Enabled), ReLogOffTime(1-1000min) (1000), Key Tone (On, highlighted with a red box), and Remote Control Enabled (On).

3. Click **Confirm** to accept the change.

**To configure the key tone via the remote control:**

1. Select **Menu->Basic**.
2. Mark the radio box in the **Key Tone** field.
3. Press the **Save** soft key to accept the change.

## Meeting Blacklist

You can add the IP address, account or domain name of the remote endpoint to the meeting blacklist. VC110 will refuse incoming calls from the blacklist automatically. VC110 will not remind incoming calls and save call history from blacklist.

VC110 supports up to 100 blacklist records. Blacklist is configurable via web user interface only.

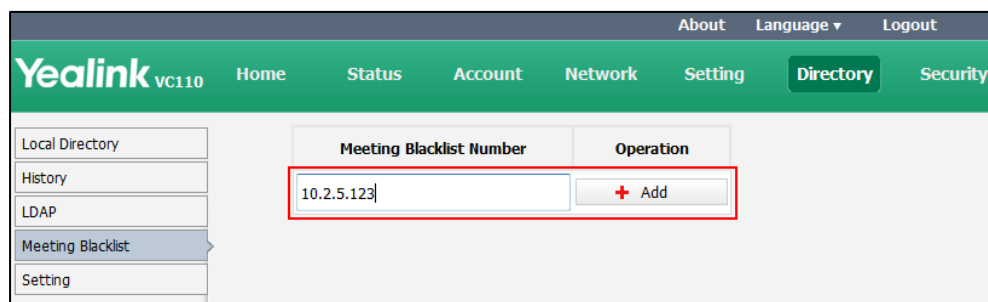
The blacklist parameter is described below:

Parameter	Description	Configuration Method
<b>Meeting Blacklist Number</b>	Add the IP address, account or domain name of the remote endpoint to the meeting blacklist. <b>Default:</b> blank	Web User Interface

**To add the blacklist numbers via web user interface:**

1. Click on **Directory->Blacklist**.
2. Enter the user's IP address, account or domain name in the **Meeting Blacklist Number** field.

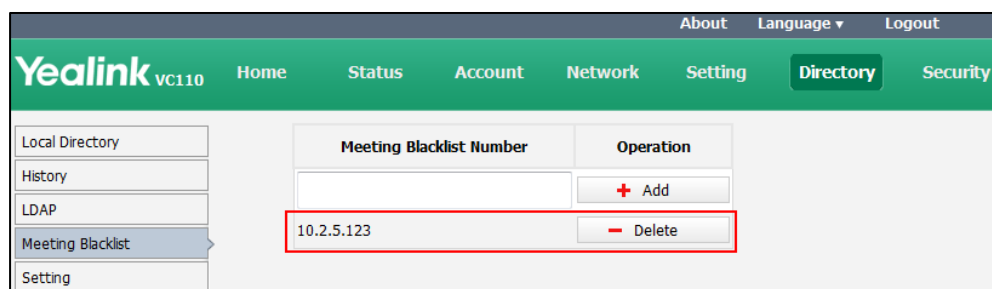
3. Click **Add**.



4. Repeat step 2-3 to add more numbers to the meeting blacklist.

**To delete the blacklist numbers via web user interface:**

1. Click on **Directory**->**Blacklist**.
2. Click **Delete** beside the numbers that you want to delete.



The web user interface prompts the message "Warning: Are you sure delete the black number?".



3. Click **Confirm**.



## Keyboard Input Method

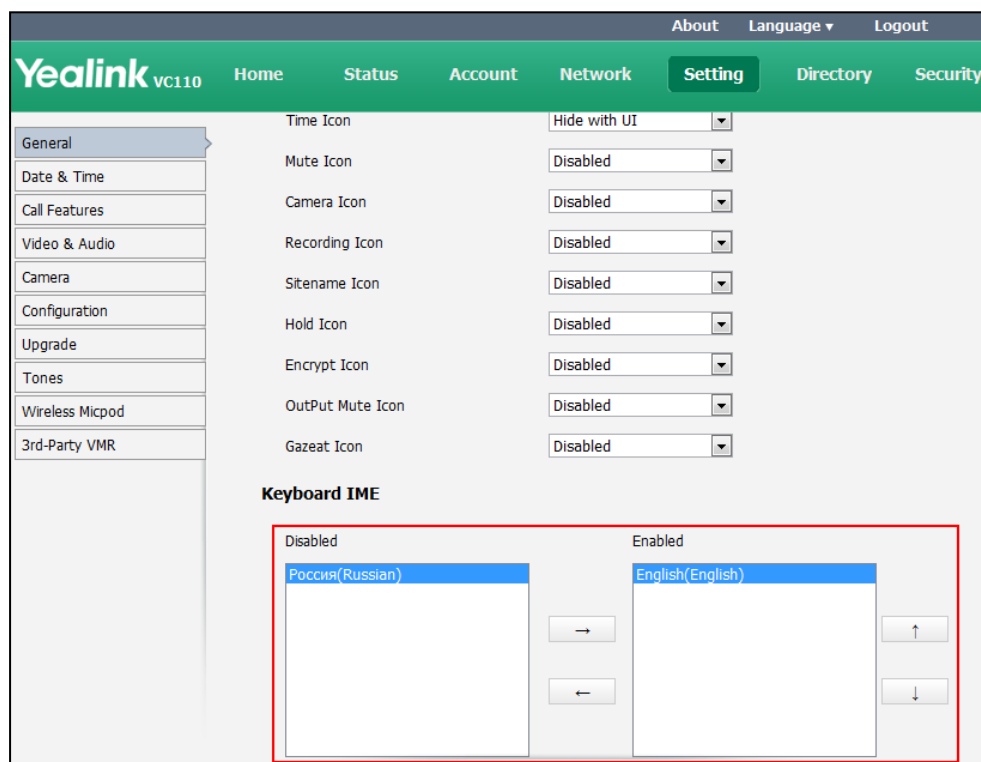
The on-screen keyboard supports English and Russian input methods.

You can enter characters using the input method only when the input method is enabled. Changing keyboard input method is configurable via web user interface only.

**To configure keyboard input method via web user interface:**




1. Click on **Setting** ->**General**.
2. In the **Keyboard IME** block, select the desired list from the **Disabled** column and click  .  
The selected input method appears in the **Enabled** column.
3. Repeat step 2 to add more input methods to the **Enabled** column.
4. (Optional.) To remove a list from the **Enabled** column, select the desired list and then click  .

5. To adjust the display order of the enabled input methods, select the desired list, and click  or .



6. Click **Confirm** to accept the change.

**To change keyboard input method via the remote control:**

1. Press  (**Keyboard** soft key) or  (**Keyboard** soft key).  
The display device appears the on-screen keyboard.
2. Press  (**abc** soft key) to change the input method.

## Audio Settings

### Audio Output Device

The endpoint supports the following audio output devices:

- **Auto**
- **VCS Phone**
- **HDMI**
- **Line Output**

By default, the endpoint automatically selects the audio output devices with highest priority. The priority is: VCS Phone> HDMI>Line Output. If the audio output device with highest priority is removed from the VC110, the VC110 will select the next highest priority device.



You can also specify the desired audio output device via the remote control or the web user interface.

The audio output device parameter is described below:

Parameter	Description	Configuration Method
<b>Audio Output</b>	<p>Specifies the audio output device for the endpoint.</p> <p><b>Valid values:</b></p> <ul style="list-style-type: none"> <li>• <b>Auto</b> - selects the audio output device with higher priority.</li> <li>• <b>HDMI</b> - selects the built-in speakerphone of the display device.</li> <li>• <b>Line Output</b> - selects the speakerphone connected to the Line Out port on the VC110 all-in-one unit.</li> <li>• <b>VCS Phone</b> - selects the video conferencing phone.</li> </ul> <p><b>Default:</b> Auto.</p> <p>If <b>VCS Phone</b> is selected as the audio output device manually or automatically, the audio input device must be <b>VCS Phone</b> or <b>Line In+VCS Phone</b>.</p>	<p>Remote Control</p> <p>Web User Interface</p>

**To configure the audio output device feature via web user interface:**

1. Click on **Setting->Video & Audio**.

2. Select the desired value from the pull-down list of **Audio Output**.

3. Click **Confirm** to accept the change.

**To configure the audio output device via the remote control:**

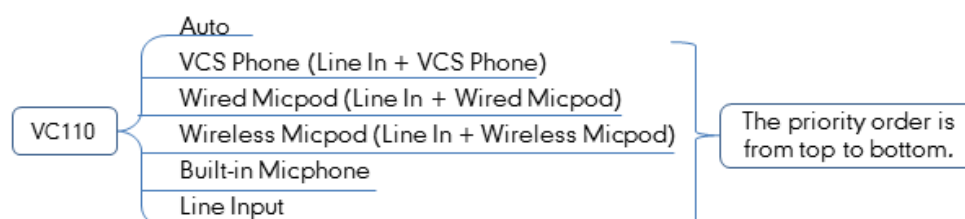
1. Select **Menu->Video & Audio->Audio Settings**.
2. Select the desired value from the pull-down list of **Audio Output**.
3. Press the **Save** soft key to accept the change.

## Audio Input Device

The endpoint supports the following audio input devices:

- **Auto** (select the audio input device with highest priority)
- **VCS Phone** (video conferencing phone)
- **Wired Micpod** (VCM30)
- **Wireless Micpod** (VCM60)
- **Built-in Micphone** (built-in micphone of VC110)
- **Line Input** (microphone connected to the Line In port on the VC110 all-in-one unit)
- **Line In + VCS Phone**
- **Line In + Wired Micpod**
- **Line In + Wireless Micpod**

The priority of audio input device is:



By default, the VC110 automatically selects the audio input devices with the highest priority. If you select “Line In + device” option, the VC110 will use microphone connected to the Line In port and the device to pick up audio at the same time.

You can also specify the desired audio input device via the remote control or the web user interface.

The audio input device parameter is described below:

Parameter	Description	Configuration Method
<b>Audio Input</b>	<p>Specifies the audio input device for the endpoint.</p> <p><b>Valid values:</b></p> <ul style="list-style-type: none"> <li>• <b>Auto</b>- selects the audio input device with highest priority.</li> <li>• <b>VCS Phone</b>- selects the video conferencing phone.</li> <li>• <b>Wired Micpod</b>- selects the VCM30 video conferencing microphone array</li> <li>• <b>Wireless Micpod</b> -selects the VCM60 video conferencing wireless microphone.</li> <li>• <b>Built-in Microphone</b>-selects the vc110 built-in microphone.</li> <li>• <b>Line Input</b>- selects the microphone connected to the Line In port on the VC110 all-in-one unit.</li> <li>• <b>Line In +VCS Phone</b>- selects microphone connected to the Line In port on the VC110 all-in-one unit and video conferencing phone.</li> <li>• <b>Line In + Wired Micpod</b> - selects microphone connected</li> </ul>	<p>Remote Control</p> <p>Web User Interface</p>

Parameter	Description	Configuration Method
	<p>to the Line In port on the VC110 all-in-one unit and VCM30 video conferencing microphone array.</p> <ul style="list-style-type: none"> <li>• <b>Line In + Wireless Micpod-</b> selects the microphone connected to the Line In port on the VC110 all-in-one unit and VCM60 video conferencing wireless microphone.</li> </ul> <p><b>Default:</b> Auto.</p> <ul style="list-style-type: none"> <li>• If <b>Line Input</b> is selected as the audio input device, the near-end audio output device will not play sound from the Line Input device.</li> <li>• If "Line In + device" is selected as the audio input device, the near-end audio output device will play sound from the Line Input device.</li> </ul> <p>During a video training for main office and branch office, both offices need to hear the video sound, you can select this option.</p>	

**To configure the audio input device via web user interface:**

1. Click on **Setting->Video & Audio**.

2. Select the desired value from the pull-down list of **Audio Input**.

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes links for About, Language, and Logout. The main menu has tabs for Home, Status, Account, Network, Setting (active), Directory, and Security. On the left, a sidebar lists various settings categories: General, Date & Time, Call Features, Video & Audio (selected), Camera, Configuration, Upgrade, Tones, Wireless Micpod, and 3rd-Party VMR. The main content area is titled 'Audio Settings' and contains several sections: 'Audio Settings' with 'Audio Input' (highlighted in red) set to 'Auto(Wired Micpod)' and 'Audio Output' set to 'Auto(HDMI)'; 'Presentation' with 'Mtx' set to 'On'; 'Far-end Camera Control' with 'Not FECC in call(0~300s)' set to '15', 'Far Control Near Camera' set to 'Enabled', 'Far Set of Camera Presets' set to 'Disabled', and 'Far Move to Camera Presets' set to 'Disabled'; and 'Output Resolution' with 'Display1' set to 'Auto(1920 x 1080 60Hz)' and 'Display2' set to 'No devices'.

3. Click **Confirm** to accept the change.

#### To configure the audio input device via the remote control:

1. Select **Menu->Video & Audio->Audio Settings**.
2. Select the desired value from the pull-down list of **Audio Input**.
3. Press the **Save** soft key to accept the change.

## Adjusting MTU of Video Packets

Video packets that exceed the maximum transmission unit (MTU) size for any router or segment along the network path may be fragmented or dropped. This results in poor quality video at the receiving device. You can set the maximum MTU size of the video packets sent by the endpoint. The default value is 1500 bytes. Specify the MTU size used in calls based on the network bandwidth settings. If the video becomes blocky or network errors occur, packets may be too large; decrease the MTU. If the network is burdened with unnecessary overhead; packets may be too small, increase the MTU.

The MTU parameter on the endpoint is described below.

Parameter	Description	Configuration Method
<b>Video MTU</b>	<p>Specifies the maximum MTU size (in bytes) of video packets sent by the endpoint.</p> <p><b>Valid Values:</b> Integer from 1000 to 1500</p> <p><b>Default:</b> 1500</p> <p><b>Note:</b> If you change this parameter, the endpoint will reboot to make the change take effect.</p>	<p>Remote Control</p> <p>Web User Interface</p>

**To configure MTU via web user interface:**

1. Click on **Network->Advanced**.
2. In the **MTU** block, enter the desired value in the **Video MTU** field.

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes 'About', 'Language', and 'Logout'. Below this is a green header with 'Yealink VC110' and tabs for 'Home', 'Status', 'Account', 'Network' (selected), 'Setting', 'Directory', and 'Security'. On the left, a sidebar lists 'LAN Configuration', 'NAT/Firewall', 'Advanced' (selected), and 'Diagnose'. The main content area is titled 'QoS' and contains three sections: 'QoS' with fields for Audio Priority (63), Video Priority (34), and Data Priority (63); 'MTU' with a field for Video MTU (1500, highlighted with a red box); and 'SNMP' with fields for Active (Enabled), Port (161), and Trusted Address. Below these is a 'Web Server' section with fields for HTTP (Enabled), HTTP Port (80), HTTPS (Enabled), and HTTPS Port (443).

3. Click **Confirm** to accept the change.  
A dialog box pops up to prompt that the settings will take effect after a reboot.
4. Click **Confirm** to reboot the endpoint immediately.

**To configure MTU via the remote control:**

1. Select **Menu->Advanced** (default password: 0000) -> **Advanced Network**.
2. Enter the desired value in the **Video MTU(1000-1500)** field.

3. Press the **Save** soft key to accept the change.  
The display device prompts "Reboot now?".
4. Select **OK** to reboot the endpoint immediately.

## Dual-Stream Protocol

To enhance the process of communicating with others over video, the dual-stream protocol provides the ability to share content from a computer, such as video clips or documentation. Both the video and the documentation can be transmitted to the far site simultaneously, thus meeting the requirements of different conference scenarios, such as training or medical consultation.

The Yealink video conferencing endpoint supports the standard H.239 protocol and BFCP (Binary Floor Control Protocol). H.239 protocol is used when sharing content with the far site in H.323 calls. BFCP protocol is used when sharing content with the far site in SIP calls. Before enabling the desired protocol, ensure that the protocol is supported and enabled by the far site you wish to call. If the far site does not support the protocol for sharing content, MCU will automatically mix the content and camera video, and send them in one channel. For more information on mix sending, refer to [Mix Sending](#) on page 205.

Dual-stream protocol parameters on the endpoint are described below.

Parameter	Description	Configuration Method
<b>H.239</b>	Enables or disables the H.239 protocol for sharing content. You can configure it for the StarLeaf Cloud platform or H.323 call separately. <b>Default:</b> Enabled	Web User Interface
<b>BFCP</b>	Enables or disables the BFCP protocol for sharing content. You can configure it for Zoom/Pexip/BlueJeans/Mind/Custom platform, SIP account or SIP IP call separately. <b>Default:</b> For Zoom/Pexip/BlueJeans/Mind/Custom platform and SIP IP call, the default value is Enabled. For SIP account, the default value is Disabled. <b>Note:</b> You cannot configure it for the Yealink/StarLeaf Cloud platform.	Web User Interface

**To configure H.239 dual-stream protocol for StarLeaf Cloud platform via web user interface:**

1. Click on **Account->VC Platform**.

2. Select **StarLeaf** from the pull-down list of **Platform Type**.
3. Select the desired value from the pull-down list of **H.239**.

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes 'About', 'Language', and 'Logout'. The main menu has 'Home', 'Status', 'Account', 'Network', 'Setting', 'Directory', and 'Security'. The left sidebar shows a tree view with 'VC Platform' expanded, containing 'H.323', 'SIP Account', 'SIP IP Call', and 'Codec'. The main content area is titled 'Video Conference Platform' and contains the following settings:

Setting	Value
Status	Registered
Cloud Account	Enabled
Platform Type	StarLeaf
QCP Code	36703222222
<b>Advanced Setting</b>	
H.323 Tunneling	Disabled
H.235	Disabled
Protocol Monitor Port	1720
DTMF Type	Auto
Local Early Media	Disabled
H.239	Enabled
FECC(H.323)	Enabled
Log Out Account	Log Out

4. Click **Confirm** to accept the change.

**To configure H.239 dual-stream protocol for H.323 call via web user interface:**

1. Click on **Account->H.323**.



2. Select the desired value from the pull-down list of **H.239**.

Setting	Value
VC Platform	H.323 Account
H.323	H.323 Name
SIP Account	H.323 Extension
SIP IP Call	Gatekeeper Mode
Codec	Gatekeeper IP Address 1
	Gatekeeper IP Address 2
	Gatekeeper Authentication
	Gatekeeper Username
	Gatekeeper Password
	H.460 Active
	H.323 Tunneling
	H.235
	Protocol Monitor Port
	DTMF Type
	Local Early Media
	<b>H.239</b>
	FECC(H.323)

3. Click **Confirm** to accept the change.

**To configure BFCP dual-stream protocol for Zoom/Pexip/BlueJeans/Mind/Custom platform via web user interface:**

1. Click on **Account->VC Platform**.
2. Select **Zoom/Pexip/BlueJeans/Mind/Custom** from the pull-down list of **Platform Type**.

3. Select the desired value from the pull-down list of **BFCP**.

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes links for About, Language, and Logout. Below this is a green header with the Yealink logo and navigation tabs: Home, Status, Account (selected), Network, Setting, Directory, and Security. On the left, a sidebar menu lists: VC Platform (selected), H.323, SIP Account, SIP IP Call, and Codec. The main content area is titled 'Video Conference Platform' and contains the following settings:

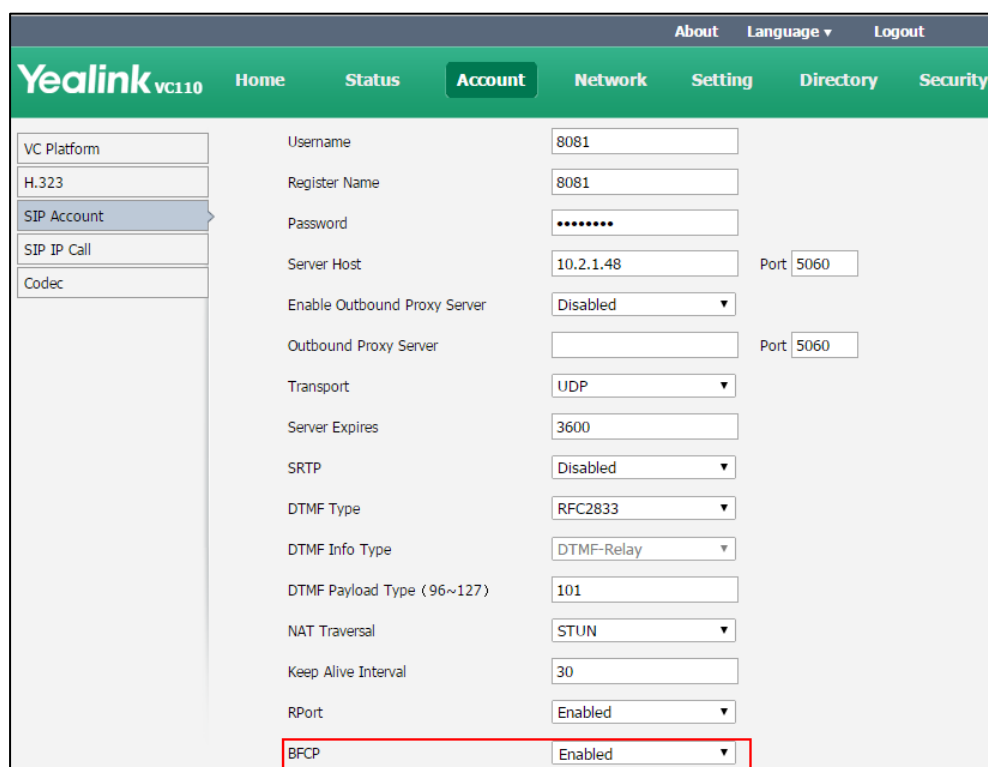
Video Conference Platform	
Status	Registered
Cloud Account	Enabled
Platform Type	Zoom
Server Host	zoomcrc.com
Advanced Setting	
Transport	TCP
Server Expires	3600
SRTP	Disabled
DTMF Type	RFC2833
DTMF Info Type	DTMF-Relay
DTMF Payload Type (96~127)	101
Keep Alive Interval	30
<b>BFCP</b>	Enabled
FECC(SIP)	Enabled

4. Click **Confirm** to accept the change.

**To configure BFCP dual-stream protocol for SIP call via web user interface:**

1. Click on **Account->SIP Account**.

2. Select the desired value from the pull-down list of **BFCP**.



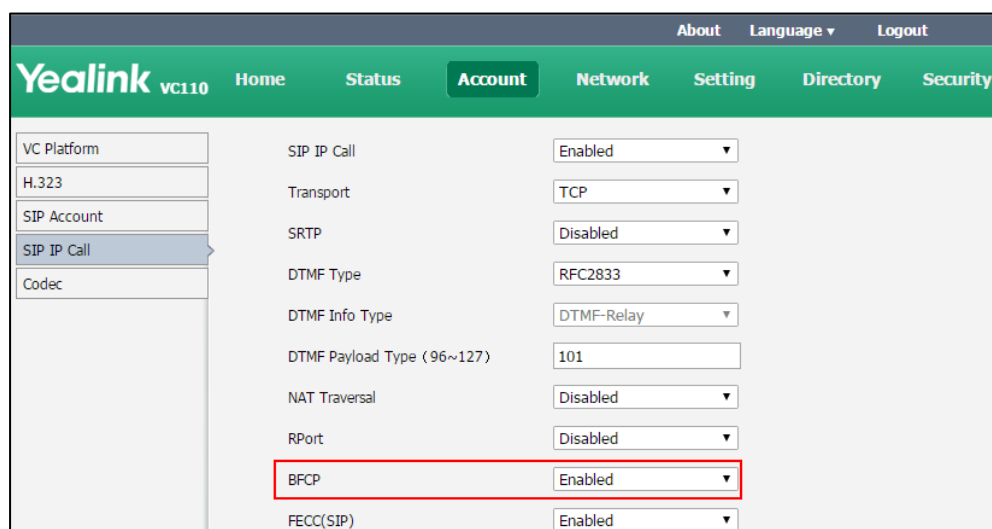
The screenshot shows the Yealink VC110 web interface. The top navigation bar includes 'About', 'Language', and 'Logout'. The main navigation bar has 'Home', 'Status', 'Account', 'Network', 'Setting', 'Directory', and 'Security'. The 'Account' tab is selected. On the left, a sidebar menu shows 'VC Platform', 'H.323', 'SIP Account', 'SIP IP Call', and 'Codec'. The 'SIP Account' option is highlighted. The main content area displays various settings for the SIP account. The 'BFCP' dropdown menu is highlighted with a red box, showing 'Enabled' as the selected value.

VC Platform	Username	8081
H.323	Register Name	8081
SIP Account	Password	*****
SIP IP Call	Server Host	10.2.1.48
Codec	Port	5060
	Enable Outbound Proxy Server	Disabled
	Outbound Proxy Server	
	Port	5060
	Transport	UDP
	Server Expires	3600
	SRTP	Disabled
	DTMF Type	RFC2833
	DTMF Info Type	DTMF-Relay
	DTMF Payload Type (96~127)	101
	NAT Traversal	STUN
	Keep Alive Interval	30
	RPort	Enabled
	BFCP	Enabled

3. Click **Confirm** to accept the change.

**To configure BFCP dual-stream protocol for SIP IP call via web user interface:**

1. Click on **Account->SIP IP Call**.
2. Select the desired value from the pull-down list of **BFCP**.



The screenshot shows the Yealink VC110 web interface. The top navigation bar includes 'About', 'Language', and 'Logout'. The main navigation bar has 'Home', 'Status', 'Account', 'Network', 'Setting', 'Directory', and 'Security'. The 'Account' tab is selected. On the left, a sidebar menu shows 'VC Platform', 'H.323', 'SIP Account', 'SIP IP Call', and 'Codec'. The 'SIP IP Call' option is highlighted. The main content area displays various settings for the SIP IP call. The 'BFCP' dropdown menu is highlighted with a red box, showing 'Enabled' as the selected value.

VC Platform	SIP IP Call	Enabled
H.323	Transport	TCP
SIP Account	SRTP	Disabled
SIP IP Call	DTMF Type	RFC2833
Codec	DTMF Info Type	DTMF-Relay
	DTMF Payload Type (96~127)	101
	NAT Traversal	Disabled
	RPort	Disabled
	BFCP	Enabled
	FECC(SIP)	Enabled

3. Click **Confirm** to accept the change.

## Mix Sending

Content sharing allows users to share content with other conference participants during a call. When a PC is connected to the PC port on the VC110 all-in-one unit, the display device can display both the camera video and the shared content. The content sharing feature is very useful in the conference scenario in which content sharing is needed (e.g., a slide or a flash).

During a conference call, the far site may not support receiving shared content. In this case, you can enable mix sending feature on the endpoint. Mix sending feature allows the sender to compound multiple video streams (local image+shared content) to one video stream, and then send it to the far site.

The mix sending parameter on the endpoint is described below.

Parameter	Description	Configuration Method
<b>Mix</b>	Enables or disables the mix sending feature on the endpoint. <b>Default:</b> Enabled	Web User Interface

**To configure mix sending via web user interface:**

1. Click on **Setting**->**Video & Audio**.
2. In the **Presentation** block, select the desired value from the pull-down list of **Mix**.

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes 'About', 'Language', and 'Logout'. Below it, a green bar contains 'Yealink VC110', 'Home', 'Status', 'Account', 'Network', 'Setting' (highlighted), 'Directory', and 'Security'. On the left, a sidebar lists various settings categories: General, Date & Time, Call Features, Video & Audio (selected), Camera, Configuration, Upgrade, Tones, Wireless Micpod, and 3rd-Party VMR. The main content area is titled 'Audio Settings' and includes sections for 'Audio Settings', 'Presentation', 'Far-end Camera Control', and 'Output Resolution'. In the 'Presentation' section, the 'Mix' dropdown menu is highlighted with a red box and is set to 'On'. Other settings include 'Audio Input' (Auto(Wired Micpod)), 'Audio Output' (Auto(HDMI)), 'Not FECC in call(0~300s)' (15), 'Far Control Near Camera' (Enabled), 'Far Set of Camera Presets' (Disabled), 'Far Move to Camera Presets' (Disabled), 'Display1' (Auto(1920 x 1080 60Hz)), and 'Display2' (No devices).

3. Click **Confirm** to accept the change.

## Configuring Camera Settings

To display high quality video image, you can configure camera settings as required, such as white balance, exposure and sharpness.

Camera settings parameters are described below.

Parameter	Description	Configuration Method
<b>Exposure Compensation</b>	<p>Configures the value of camera exposure compensation.</p> <ul style="list-style-type: none"> <li>Off</li> <li>1</li> <li>2</li> <li>3</li> </ul> <p>Exposure compensation is used to compensate the camera effectively when the camera is shooting in a backlight environment. If the environment light is dark, you can increase the compensation value.</p> <p><b>Default:</b> 1</p>	<p>Remote Control</p> <p>Web User Interface</p>
<b>Flicker</b>	<p>Configures the value of camera flicker frequency.</p> <ul style="list-style-type: none"> <li>50Hz</li> <li>60Hz</li> </ul> <p><b>Default:</b> 50Hz</p> <p><b>Note:</b> Indoor lights powered by a 50Hz or 60Hz power source can produce a flicker. You can adjust the camera flicker frequency according to the power source the light is powered by.</p>	<p>Remote Control</p> <p>Web User Interface</p>
<b>White Balance Mode</b>	<p>Configures the white balance mode of the camera.</p> <ul style="list-style-type: none"> <li><b>Auto</b>—Yealink recommends this setting for most situations. It calculates the best white balance setting based on lighting conditions in the</li> </ul>	<p>Remote Control</p> <p>Web User Interface</p>

Parameter	Description	Configuration Method
	<p>room.</p> <ul style="list-style-type: none"> <li>• <b>Cool Daylight</b></li> <li>• <b>Neutral Daylight</b></li> <li>• <b>Florescent</b></li> <li>• <b>Incandescent</b></li> <li>• <b>Manual</b>—Manually set red and blue gain.</li> </ul> <p><b>Default:</b> Auto</p>	
<b>Red Gain</b>	<p>Configures the red gain of the camera.</p> <p><b>Valid Values:</b> 0-100</p> <p><b>Default:</b> 0</p> <p><b>Note:</b> You can set this parameter only when the white balance mode is configured to Manual.</p>	<p>Remote Control</p> <p>Web User Interface</p>
<b>Blue Gain</b>	<p>Configures the blue gain of the camera.</p> <p><b>Valid Values:</b> 0-100</p> <p><b>Default:</b> 0</p> <p><b>Note:</b> You can set this parameter only when the white balance mode is configured to Manual.</p>	<p>Remote Control</p> <p>Web User Interface</p>
<b>Saturation</b>	<p>Configures the saturation of the camera.</p> <p><b>Valid Values:</b> 0-14</p> <p><b>Default:</b> 7</p>	<p>Remote Control</p> <p>Web User Interface</p>
<b>Sharpness</b>	<p>Configures the sharpness of the camera.</p> <p><b>Valid Values:</b> 0-14</p> <p><b>Default:</b> 5</p> <p><b>Note:</b> The picture will be sharp and clear, but moderate to heavy motion at low call rates can cause some frames to be dropped.</p>	<p>Remote Control</p> <p>Web User Interface</p>
<b>Brightness</b>	<p>Configures the brightness of the camera.</p>	<p>Remote Control</p> <p>Web User Interface</p>

Parameter	Description	Configuration Method
	<b>Valid Values:</b> 0-100 <b>Default:</b> 50	
<b>Contrast</b>	Configures the contrast of the camera. <b>Valid Values:</b> 0-100 <b>Default:</b> 50	Remote Control Web User Interface
<b>Noise Reduction (2D)</b>	Specifies the noise reduction (2D) mode. <ul style="list-style-type: none"> <li>Off</li> <li>Low</li> <li>Middle</li> <li>High</li> </ul> <b>Default:</b> Low	Remote Control Web User Interface
<b>Hangup Mode</b>	Enables or disables the camera to flip the image view when camera is handed at up-side-down position <b>Default:</b> Off	Remote Control Web User Interface
<b>Camera Pan Direction</b>	Configures the pan direction of the camera. <ul style="list-style-type: none"> <li>Normal</li> <li>Reversed</li> </ul> <b>Default:</b> Normal If the camera reversed mode is enabled, the camera pan direction will be reversed when pressing the left and right navigation keys on the remote control. In this case, you can set the camera pan direction to Reversed.	Remote Control Web User Interface
<b>Multiple Preset</b>	Enables or disables the multiple preset feature. <b>Default:</b> Off For more information, refer to <a href="#">Multiple Preset</a> on page 210.	Web User Interface
<b>Camera Map</b>	Enables or disables the preview of	Remote Control

Parameter	Description	Configuration Method
	camera presets. <b>Default:</b> On <b>Note:</b> If it is set to On, you can view the pre-saved camera presets.	Web User Interface
<b>Clear Preset</b>	Clears all camera presets.	Remote Control Web User Interface
<b>Reset Camera</b>	Reset the camera settings to factory defaults. <b>Note:</b> The camera presets will also be cleared.	Remote Control Web User Interface

To configure camera settings via web user interface:

1. Click on **Setting->Camera**.
2. Configure the camera settings.

3. Click **Confirm** to accept the change.



**To configure camera settings via the remote control:**

1. Select **Menu->Video & Audio->Camera General Settings**.
2. Configure the camera settings.
3. Press the **Save** soft key to accept the change.

## Multiple Preset

You can store the preset to a numeric key via the remote control or web user interface. Each camera preset stores the camera pan, tilt, and zoom settings. This means that you can point a camera at pre-defined locations by pressing stored keys.

You can store up to 10 preset camera positions using the remote control. If you want to store more than 10 preset camera positions, you can enable the multiple preset feature. So that you can store up to 64 preset camera positions for your camera.

**The following example illustrates a scenario where multiple preset feature is used:**

There are multiple speakers in a large meeting room. You can set multiple preset camera positions for each speaker. When someone speaks, the camera can be adjusted to the corresponding preset camera position that is associated with the current speaker.

Multiple preset parameters are described below.

Parameter	Description	Configuration Method
<b>Multiple Preset</b>	Enables or disables the multiple preset feature on the endpoint. Default: <b>Off</b>	Web User Interface
<b>Use</b>	Points local camera at a preset position	Web User Interface
<b>Replace Preset</b>	Moves local camera to a preset position.	Web User Interface
<b>Delete Preset</b>	Deletes the selected preset position.	Web User Interface
<b>Clear Preset</b>	Clears all preset positions.	Remote Control Web User Interface

**To configure multiple preset via web user interface:**

1. Click on **Setting->Camera**.

2. Select the **On** from the pull-down lists of **Multiple Preset**.

3. Click **Confirm** to accept the change.  
A **Preset** menu appears.

### Storing a Camera Preset

To store a camera preset position via web user interface:

1. Click on **Setting** -> **Preset**.
2. Adjust the angle and focus of the camera.
3. Click **+** to store a camera preset to the specified number.

The web user interface prompts "Do you want to add the preset?".

4. Click **Confirm** to accept the change.

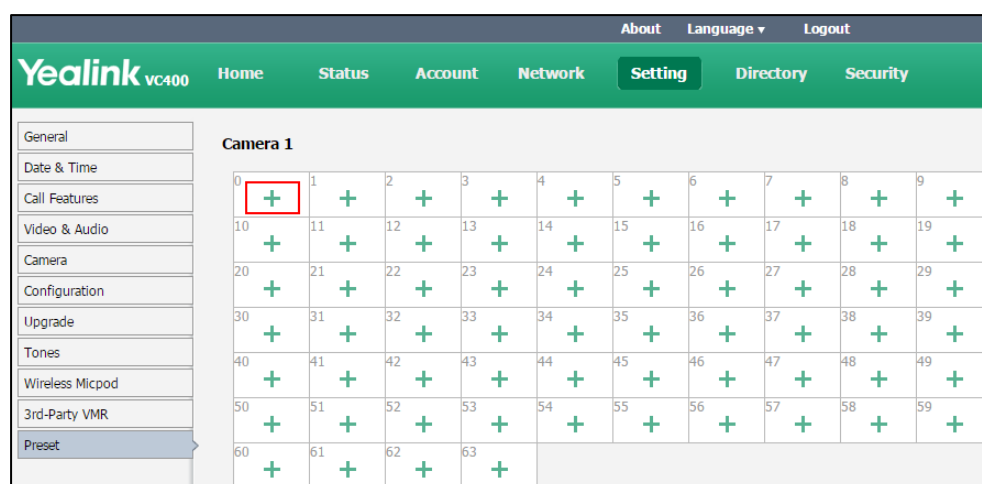
A **Preset** menu appears.

## Moving Local Camera to a Preset Position

You can check whether the camera presets are correct after you set multiple camera preset positions.

**To use a camera preset position via web user interface:**

1. Click on **Setting**->**Preset**.
2. Click **Use** to move local camera to the corresponding preset position.

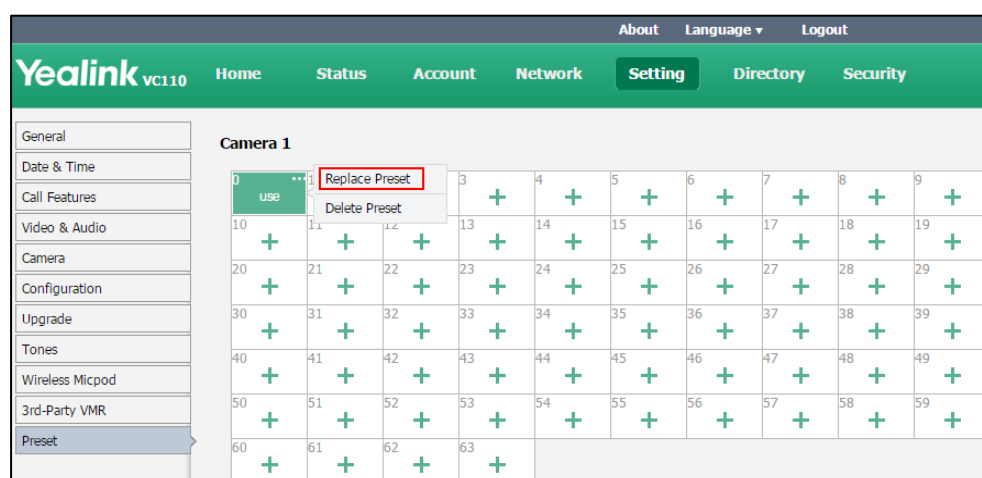


## Replacing the Stored Preset

You can replace the stored camera preset position with current camera preset position.


**To replace the stored camera preset position via web user interface:**

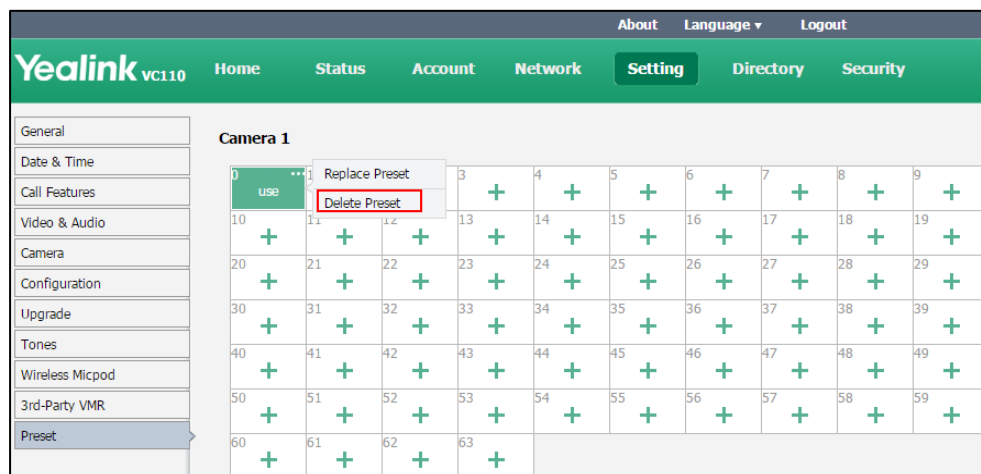
1. Click on **Setting**->**Preset**.
2. Click **...**, and then select **Replace Preset**.



## Deleting the Stored Preset

To delete the stored camera preset position via web user interface:

1. Click on **Setting->Preset**.
2. Click  , and then select **Delete Preset**.



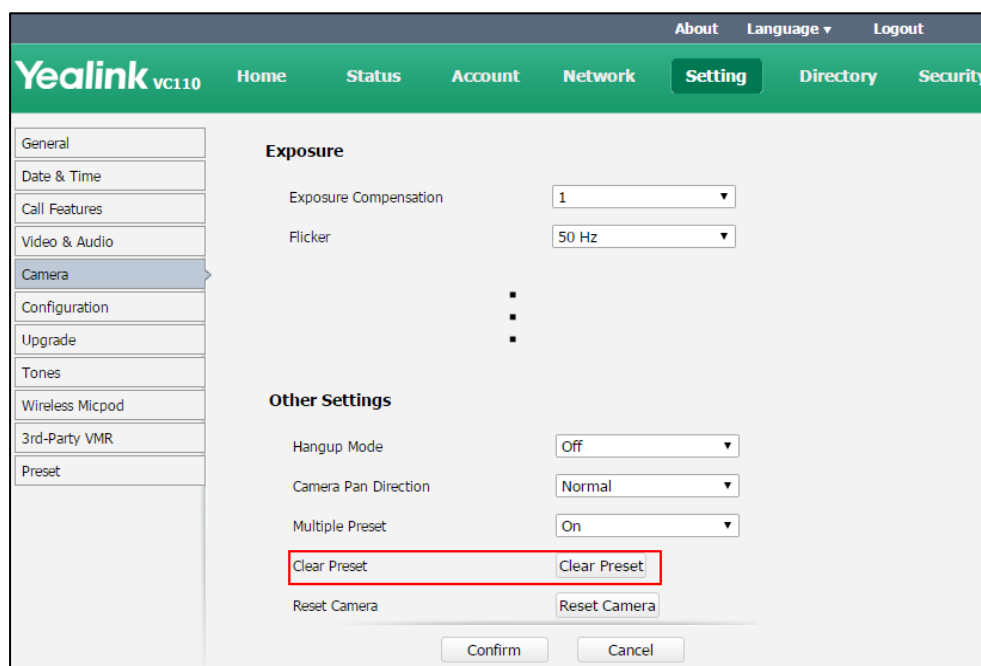
The web user interface prompts "Do you want to delete the preset?".

3. Click **Confirm** to accept the change.

## Clearing the Stored Preset

To clear all camera preset positions via web user interface:

1. Click on **Setting->Camera**.
2. Click **Clear Preset**.



The web user interface prompts "Clear the camera data?".

3. Click **Confirm** to accept the change.

**To clear all camera preset positions via the remote control:**

1. Select **Menu->Video & Audio->Camera General Settings**.
2. Select **Clear Preset Position**.
3. Press **OK** to accept the change.

## Far-end Camera Control

Local video is displayed on the display device of the far site during a call. For the best view, you can enable the Far Control of Near Camera feature to allow the far site to control the focus and angle of the local camera. You can also specify whether the far site is allowed to store and use the local camera presets.

Far control of the near camera parameters are described below.

Parameter	Description	Configuration Method
<b>Not FECC in call(0~300s)</b>	Configures the duration time (in seconds) when far site cannot control the local camera during a call. <b>Default:</b> 15  If it is set to 15, the far site is not allowed to control the local camera in the first 15 seconds of the call.	Web User Interface
<b>Far Control Near Camera</b>	Enables or disables the far site to control the local camera. <b>Default:</b> Enabled	Remote Control Web User Interface
<b>Far Set of Camera Presets</b>	Enables or disables the far site to create presets for the local camera. <b>Default:</b> Disabled <b>Note:</b> It only works if the value of the "Far Control Near Camera" is set to Enabled.	Remote Control Web User Interface
<b>Far Move to Camera Presets</b>	Enables or disables the far site to point local camera at pre-defined locations. <b>Default:</b> Disabled <b>Note:</b> It only works if the value of the "Far Control Near Camera" is set	Remote Control Web User Interface

Parameter	Description	Configuration Method
	to Enabled.	

**To configure far-end camera control via web user interface:**

1. Click on **Setting->Video & Audio**.
2. Enter the desired time in the **Not FECC in call(0~300s)** field.
3. Select the desired values from the pull-down lists of **Far Control Near Camera**.
4. Select the desired values from the pull-down lists of **Far Set of Camera Presets**.
5. Select the desired values from the pull-down lists of **Far Move to Camera Presets**.

The screenshot shows the Yealink VC110 web interface. The left sidebar contains a menu with options: General, Date & Time, Call Features, Video & Audio (selected), Camera, Configuration, Upgrade, Tones, Wireless Micpod, and 3rd-Party VMR. The main content area is titled 'Audio Settings' and includes sections for 'Presentation' (Mtx: On) and 'Far-end Camera Control'. The 'Far-end Camera Control' section is highlighted with a red box and contains the following settings:

Not FECC in call(0~300s)	15
Far Control Near Camera	Enabled
Far Set of Camera Presets	Disabled
Far Move to Camera Presets	Disabled

Below this section is the 'Output Resolution' section with settings for Display1 (Auto(1920 x 1080 60Hz)) and Display2 (No devices).

6. Click **Confirm** to accept the change.

**To configure far-end camera control feature via the remote control:**

1. Select **Menu->Video & Audio->Far-end Camera Control**.
2. Make the desired changes.
3. Press the **Save** soft key to accept the change.

## Camera Control Protocol

VC110 video conferencing endpoint supports camera control protocols: FECC (Far End Camera Control). You can enable the FECC protocol for SIP call or H.323 call.

If far site wants to control the local camera, both the far site and local site should enable the camera control protocol simultaneously. If the FECC protocol is not enabled on either site, far-end camera control cannot be performed. For example, a SIP call is established between two

sites, the two sites must enable FECC (SIP) protocol simultaneously to perform far-end camera control. If FECC (SIP) protocol and FECC (H.323) protocol are both enabled, the endpoint will select the appropriate camera control protocol according to the protocol (SIP or H.323) the call uses.

Camera control protocol parameters are described below:

Parameter	Description	Configuration Method
<b>FECC(H.323)</b>	Enables or disables the FECC (H.323) protocol for far site to control near camera. You can configure it for the StarLeaf Cloud platform or H.323 call separately. <b>Default:</b> Enabled	Web User Interface
<b>FECC(SIP)</b>	Enables or disables the FECC (SIP) protocol for far site to control near camera. You can configure it for the Zoom/Pexip/BlueJeans/Mind/Custom platform, SIP account or SIP IP call separately. <b>Default:</b> For Zoom/Pexip/BlueJeans/Mind/Custom platform and SIP IP call, the default value is Enabled. For SIP account, the default value is Disabled. <b>Note:</b> You cannot configure it for the Yealink/StarLeaf Cloud platform.	Web User Interface

**To configure FECC(H.323) camera control protocol for StarLeaf Cloud platform via web user interface:**

1. Click on **Account->VC Platform**.
2. Select **StarLeaf** from the pull-down list of **Platform Type**.

3. Select the desired value from the pull-down list of **FECC(H.323)**.

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes links for About, Language, and Logout. Below this is a green header with the Yealink VC110 logo and navigation tabs: Home, Status, Account (selected), Network, Setting, Directory, and Security. On the left, a sidebar menu lists: VC Platform (selected), H.323, SIP Account, SIP IP Call, and Codec. The main content area is titled 'Video Conference Platform' and contains the following settings:

Setting	Value
Status	Registered
Cloud Account	Enabled
Platform Type	StarLeaf
QCP Code	36703222222
<b>Advanced Setting</b>	
H.323 Tunneling	Disabled
H.235	Disabled
Protocol Monitor Port	1720
DTMF Type	Auto
Local Early Media	Disabled
H.239	Enabled
<b>FECC(H.323)</b>	<b>Enabled</b>

At the bottom of the settings area, there is a 'Log Out Account' link and a 'Log Out' button.

4. Click **Confirm** to accept the change.

**To configure FECC(H.323) camera control protocol for H.323 calls via web user interface:**

1. Click on **Account->H.323**.



2. Select the desired value from the pull-down list of **FECC(H.323)**.

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes 'About', 'Language', and 'Logout'. The main menu has 'Home', 'Status', 'Account', 'Network', 'Setting', 'Directory', and 'Security'. The 'Account' tab is selected. On the left, a sidebar lists 'VC Platform', 'H.323', 'SIP Account', 'SIP IP Call', and 'Codec'. The 'H.323' option is selected. The main content area displays various configuration settings for the H.323 account. At the bottom, the 'FECC(H.323)' setting is highlighted with a red box, showing it is currently set to 'Enabled'.

Setting	Value
H.323 Account	Enabled
H.323 Name	9000
H.323 Extension	9000
Gatekeeper Mode	Manual
Gatekeeper IP Address 1	10.2.1.42
Gatekeeper IP Address 2	
Gatekeeper Authentication	Disabled
Gatekeeper Username	
Gatekeeper Password	*****
H.460 Active	Disabled
H.323 Tunneling	Disabled
H.235	Disabled
Protocol Monitor Port	1720
DTMF Type	Auto
Local Early Media	Disabled
H.239	Enabled
FECC(H.323)	Enabled

3. Click **Confirm** to accept the change.

**To configure FECC(SIP) camera control protocol for Zoom/Pexip/BlueJeans/Mind/Custom platform via web user interface:**

1. Click on **Account->VC Platform**.
2. Select **Zoom/Pexip/BlueJeans/Mind/Custom** from the pull-down list of **Platform Type**.

3. Select the desired value from the pull-down list of **FECC(SIP)**.

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes links for About, Language, and Logout. Below this is a green header with the Yealink logo and navigation tabs: Home, Status, Account (selected), Network, Setting, Directory, and Security. On the left, a sidebar menu lists options: VC Platform (selected), H.323, SIP Account, SIP IP Call, and Codec. The main content area is titled 'Video Conference Platform' and contains the following settings:

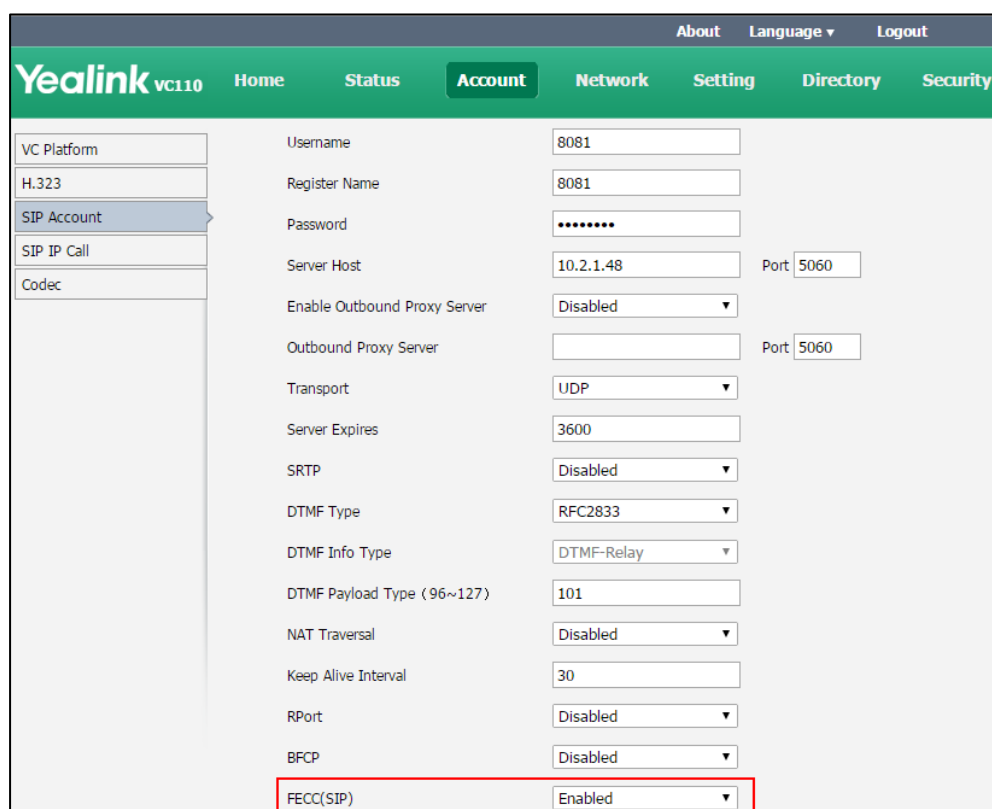
Status	Registered
Cloud Account	Enabled
Platform Type	Zoom
Server Host	zoomcrc.com
<b>Advanced Setting</b>	
Transport	TCP
Server Expires	3600
SRTP	Disabled
DTMF Type	RFC2833
DTMF Info Type	DTMF-Relay
DTMF Payload Type (96~127)	101
Keep Alive Interval	30
BFCP	Enabled
<b>FECC(SIP)</b>	<b>Enabled</b>

4. Click **Confirm** to accept the change.

**To configure FECC(SIP) camera control protocol for SIP calls via web user interface:**

1. Click on **Account->SIP Account**.

2. Select the desired value from the pull-down list of **FECC(SIP)**.



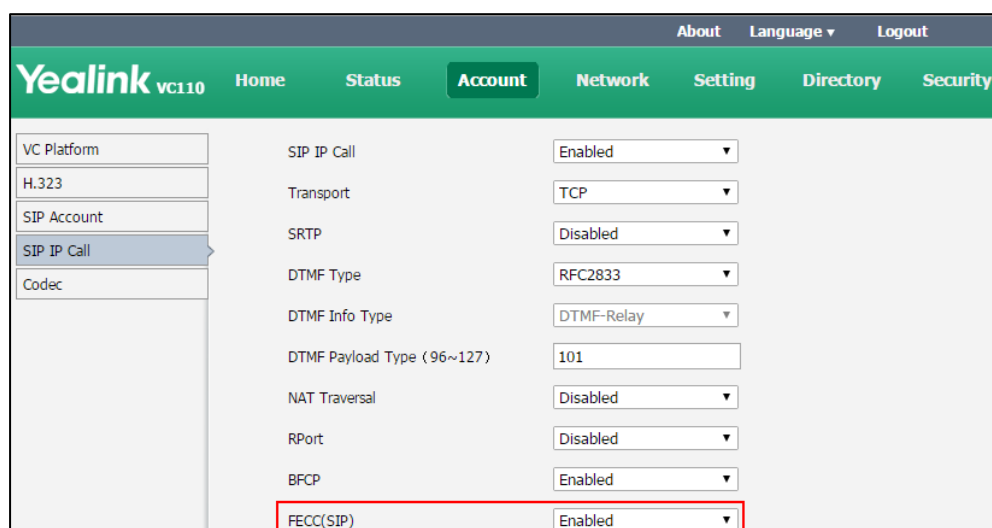
The screenshot shows the Yealink VC110 web interface. The 'Account' tab is selected in the top navigation bar. On the left sidebar, the 'SIP Account' option is highlighted. The main content area displays various configuration fields for the SIP account. The 'FECC(SIP)' field at the bottom is highlighted with a red box, showing a pull-down menu with 'Enabled' selected.

Field	Value
VC Platform	H.323
Username	8081
Register Name	8081
Password	*****
Server Host	10.2.1.48
Port	5060
Enable Outbound Proxy Server	Disabled
Outbound Proxy Server	
Port	5060
Transport	UDP
Server Expires	3600
SRTP	Disabled
DTMF Type	RFC2833
DTMF Info Type	DTMF-Relay
DTMF Payload Type (96~127)	101
NAT Traversal	Disabled
Keep Alive Interval	30
RPort	Disabled
BFCP	Disabled
<b>FECC(SIP)</b>	<b>Enabled</b>

3. Click **Confirm** to accept the change.

**To configure FECC(SIP) c camera control protocol for SIP IP call via web user interface:**

1. Click on **Account->SIP IP Call**.
2. Select the desired value from the pull-down list of **FECC(SIP)**.



The screenshot shows the Yealink VC110 web interface. The 'Account' tab is selected in the top navigation bar. On the left sidebar, the 'SIP IP Call' option is highlighted. The main content area displays various configuration fields for the SIP IP call. The 'FECC(SIP)' field at the bottom is highlighted with a red box, showing a pull-down menu with 'Enabled' selected.

Field	Value
SIP IP Call	Enabled
Transport	TCP
SRTP	Disabled
DTMF Type	RFC2833
DTMF Info Type	DTMF-Relay
DTMF Payload Type (96~127)	101
NAT Traversal	Disabled
RPort	Disabled
BFCP	Enabled
<b>FECC(SIP)</b>	<b>Enabled</b>

3. Click **Confirm** to accept the change.

## Output Resolution

VC110 video conferencing endpoint supports output resolution adjustment. You can adjust output resolution of primary/secondary display device respectively.

Make sure the display device has connected to the VC110 all-in-one unit before configuration.

The output resolution parameters on the endpoint are described below.

Parameter	Description	Configuration Method
<b>Display1</b>	Configures the output resolution of primary display device. <ul style="list-style-type: none"> <li>• <b>Auto</b>-select the highest output resolution automatically</li> <li>• Available output resolutions (The available resolutions depend on the display device you are using)</li> </ul> <b>Default:</b> Auto	Web User Interface
<b>Display2</b>	Configures the output resolution of secondary display device. <ul style="list-style-type: none"> <li>• <b>Auto</b>-select the highest output resolution automatically</li> <li>• Available output resolutions (The available resolutions depend on the display device you are using)</li> </ul> <b>Default:</b> Auto	Web User Interface

**To configure output resolution via web user interface:**

1. Click on **Setting**->**Video & Audio**.
2. Select the desired value from the pull-down list of **Display1**.

3. Select the desired value from the pull-down list of **Display2**.

The screenshot shows the Yealink VC110 web interface. The left sidebar contains a menu with options: General, Date & Time, Call Features, Video & Audio (selected), Camera, Configuration, Upgrade, Tones, Wireless Micpod, and 3rd-Party VMR. The main content area is titled 'Audio Settings' and includes sections for 'Audio Settings', 'Presentation', 'Far-end Camera Control', and 'Output Resolution'. The 'Output Resolution' section contains two dropdown menus: 'Display1' (set to 'Auto(1920 x 1080 60Hz)') and 'Display2' (set to 'No devices'). The 'Display2' dropdown is highlighted with a red rectangular box.

4. Click **Confirm** to accept the change.

## USB Configuration

If you have high requirement for data security, you can disable the USB feature. If you disable the USB feature, you cannot view the videos and screenshots stored in the USB flash driver via the remote control, and cannot record video or capture screenshots too.

The USB configuration parameter on the endpoint is described below.

Parameter	Description	Configuration Method
<b>USB Enable</b>	Enables or disables the USB feature. <b>Default:</b> Enabled	Web User Interface

**To configure USB configuration via web user interface:**

1. Click on **Setting**->**Video & Audio**.

2. Select the desired value from the pull-down list of **USB Enable**.

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes 'About', 'Language', and 'Logout'. The main menu has 'Home', 'Status', 'Account', 'Network', 'Setting' (highlighted), 'Directory', and 'Security'. The left sidebar lists various settings: General, Date & Time, Call Features, Video & Audio (selected), Camera, Configuration, Upgrade, Tones, Wireless Micpod, and 3rd-Party VMR. The main content area shows settings for 'Mix' (On), 'Far-end Camera Control' (Not FECC in call(0~300s): 15, Far Control Near Camera: Enabled, Far Set of Camera Presets: Disabled, Far Move to Camera Presets: Disabled), 'Output Resolution' (Display1: No devices, Display2: No devices), 'Record' (Recording: Enabled, Auto Recording: Disabled, Screenshot: Enabled), and 'USB Config' (USB Enable: Enabled, highlighted with a red box).

3. Click **Confirm** to accept the change.

## Video Recording

When the endpoint is idle, you can record local video via the remote control. During a call, the video and presentation which are shown on the display device can be recorded via the remote control and video conferencing phone.

Before recording video, you need to insert a USB flash drive to the USB port on the VC110 all-in-one unit to store recorded video. Make sure the USB feature is enabled.

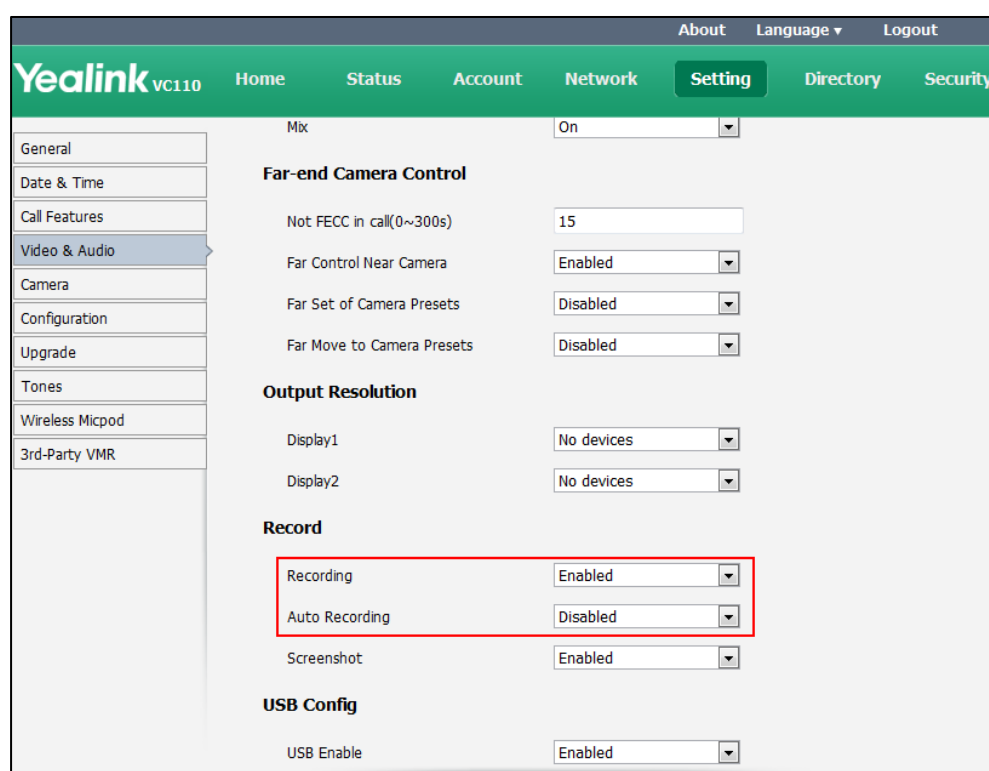
The video recording parameters on the endpoint are described below.

Parameter	Description	Configuration Method
<b>Recording</b>	Enables or disables the video recording feature on the endpoint. <b>Default:</b> Enabled If it is set to Disabled, you cannot record video.	Web User Interface
<b>Auto Recording</b>	Enables or disables the endpoint to start recording automatically once a call is established. <b>Default:</b> Disabled.	Web User Interface

Parameter	Description	Configuration Method
	<b>Note:</b> The auto recording feature is available only when the recording feature is enabled.	



**To configure video recording via web user interface:**

1. Click on **Setting**->**Video & Audio**.
2. Select the desired value from the pull-down list of **Recording**.
3. Select the desired value from the pull-down list of **Auto Recording**.









4. Click **Confirm** to accept the change.

**To record video when the endpoint is idle via the remote control:**


1. Press  to start recording and press  again to stop recording.

**To record video during a call via the remote control:**


1. Do one of the following:
  - Long press  to start recording and long press  again to stop recording.
  - Press **More** soft key to open **More** screen.  
Press  or  to scroll to **USB Recording**, and then press  to start recording.  
Open the **More** screen, scroll to **USB Recording** again, and then press  to stop recording.

**To record video during a call via the video conferencing phone:**

1. Press the **Start REC** soft key to start recording and press the **Stop REC** soft key again to stop recording.

When you start recording, the display device will show  and the recording time. When you stop recording, the recording icon disappears from the screen. The display device prompts "Successfully video recording!"

**Note**

If you start recording during a call, both your display device and remote display devices will show the  icon on your video image.

## Screenshot

You can capture the screenshot from the camera via the remote control or web user interface. Before capturing the screenshot, you need to insert a USB flash drive to the USB port on the VC110 all-in-one unit to store screenshots. Make sure the USB feature is enabled.

The screenshot parameter on the endpoint is described below.

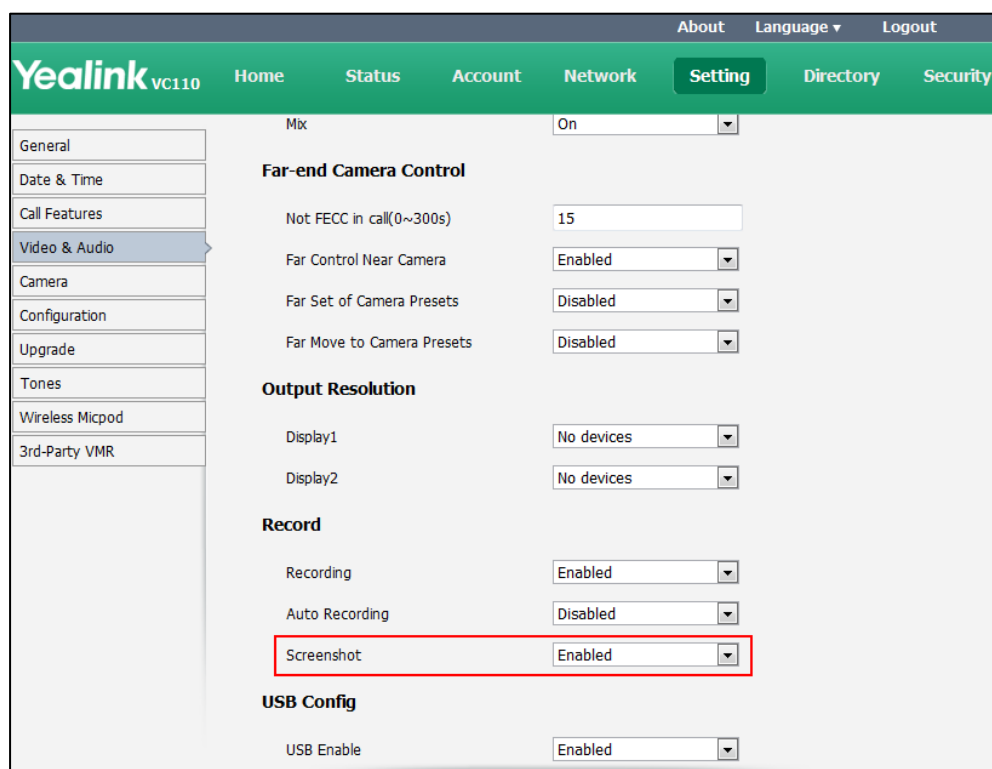
Parameter	Description	Configuration Method
<b>Screenshot</b>	<p>Enables or disables the screenshot feature on the endpoint.</p> <p><b>Default:</b> Enabled</p> <p>If it is set to Disabled, you cannot capture screenshot.</p>	Web User Interface

**To configure screenshot via web user interface:**

1. Click on **Setting->Video & Audio**.



2. Select the desired value from the pull-down list of **Screenshot**.



3. Click **Confirm** to accept the change.





#### To capture screenshots via web user interface:

1. Click **Home** -> **Screenshot** when the endpoint is idle or during a call.

#### To capture screenshots when the endpoint is idle via the remote control:

1. Press .

#### To capture screenshots during a call via the remote control:

1. Do one of the following:
  - Long press .
  - Press **More** soft key to open **More** screen.  
Press  or  to scroll to **Screenshot**, and then press  to capture screenshot.

## Tones

When automatically answering an incoming call, the endpoint will play a warning tone. You can customize tones or select specialized tone sets (vary from country to country) to indicate different conditions of the endpoint. The default tones used on the endpoint are the US tone sets. Available tone sets for the endpoint:

- Australia

- Austria
- Brazil
- Belgium
- China
- Chile
- Czech
- Czech ETSI
- Denmark
- Finland
- France
- Germany
- Great Britain
- Greece
- Hungary
- Lithuania
- India
- Italy
- Japan
- Mexico
- New Zealand
- Netherlands
- Norway
- Portugal
- Spain
- Switzerland
- Sweden
- Russia
- United States

Configured tones can be heard on the endpoint for the following conditions:

Condition	Description
Ring Back	Ring-back tone
Busy	When the callee is busy
Call Waiting	Call waiting tone

Condition	Description
Auto Answer	When answering a call automatically

Tones parameters on the endpoint are described below:

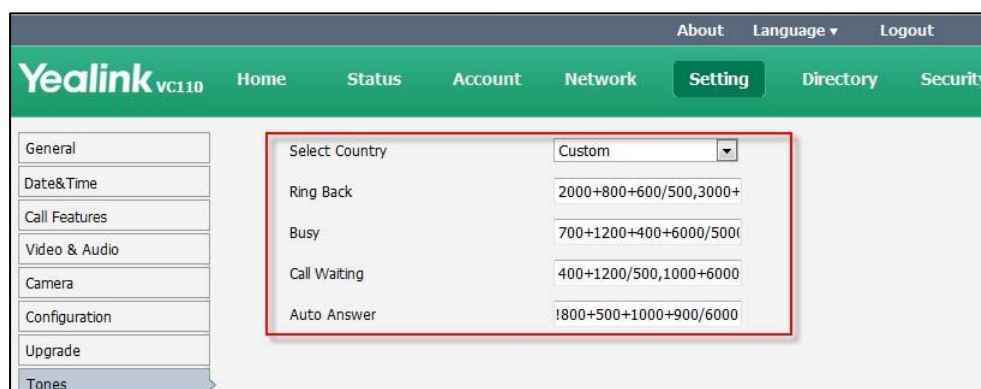
Parameter	Description	Configuration Method
<b>Select Country</b>	Customizes tones or selects the desired country tone set. <b>Default:</b> Custom	Web User Interface
<b>Ring Back</b>	Customizes the ring-back tone for the endpoint. tone = element1[,element2] [,element3]...[,element8] Where <b>element</b> = [!]Freq1[+Freq2][+Freq3][+Freq4] /Duration <b>Freq:</b> the frequency of the tone (ranges from 200Hz to 7000 Hz). If it is set to 0Hz, it means the tone is not played. A tone consists of at most four different frequencies. <b>Duration:</b> the duration (in milliseconds) of the dial tone, ranges from 0 to 30000ms. You can configure at most eight different tones for one condition, and separate them by commas. (e.g., 250/200, 0/1000, 200+300/500, 600+700+800+1000/2000). If you want the endpoint to play tones once, add an exclamation mark "!" before tones (e.g., !250/200, 0/1000, 200+300/500, 600+700+800+1000/2000). <b>Default:</b> Blank <b>Note:</b> It only works if the parameter "Select Country" is set to Custom.	Web User Interface
<b>Busy</b>	Customizes the busy tone for the endpoint. For more information on how to	Web User Interface

Parameter	Description	Configuration Method
	<p>customize the tone, refer to the parameter "Ring Back".</p> <p><b>Default:</b> Blank</p> <p><b>Note:</b> It only works if the parameter "Select Country" is set to Custom.</p>	
<b>Call Waiting</b>	<p>Customizes the call waiting tone for the endpoint.</p> <p>For more information on how to customize the tone, refer to the parameter "Ring Back".</p> <p><b>Default:</b> Blank</p> <p><b>Note:</b> It only works if the parameter "Select Country" is set to Custom.</p>	Web User Interface
<b>Auto Answer</b>	<p>Customizes the auto answer tone for the endpoint.</p> <p>For more information on how to customize the tone, refer to the parameter "Ring Back".</p> <p><b>Default:</b> Blank</p> <p><b>Note:</b> It only works if the parameter "Select Country" is set to Custom.</p>	Web User Interface

**To configure tones via web user interface:**

1. Click on **Setting**->**Tones**.
2. Select the desired value from the pull-down list of **Select Country**.

If you select **Custom**, you can customize the tone for indicating each condition of the endpoint.



3. Click **Confirm** to accept the change.



# Endpoint Management

This chapter provides operating instructions, such as managing directory, call history and dual screen. Topics include:

- [Directory](#)
- [LDAP](#)
- [Call History](#)
- [Search Source List in Dialing](#)
- [Dual Display Screen Layouts](#)

## Directory

VC110 endpoint can display: local contacts, Yealink Cloud contacts and YMS contacts.

- **Local contacts:** The VC110 endpoint can store up to 500 local contacts. You can add multiple numbers for a contact (at most 3).  
  
You can import or export local contact list to different endpoints to share the local directory. The endpoint only supports the XML and CSV format contact lists. You can view local directory via web user interface, remote control and the video conferencing phone. But you can edit or delete the local directory via web user interface and remote control.
- **Yealink Cloud contacts:** If you log into the Yealink VC Cloud Management Service platform, Yealink Cloud contacts which are created by your administrator, appear in your directory. Note that only the administrator can add, edit and delete Yealink Cloud contacts on the Yealink VC Cloud management service. On your VC110, you can only search for and place calls to the Yealink Cloud contacts. For more information on Yealink VC Cloud management service, refer to [Yealink VC Cloud Management Service Administrator Guide](#).
- **YMS contacts:** If you log into the Yealink Meeting Server, enterprise directory which is created by your administrator, appears in your directory. Note that only the administrator can add, edit and delete the YMS contacts and permanent VMR on the Yealink Meeting Server (YMS). The administrator can also determine whether synchronize the permanent VMR to the VC110. On your VC110, you can only search for and place calls to the YMS contacts and permanent VMR. For more information on Yealink Meeting Server, refer to [Yealink Meeting Server Administrator Guide](#).

### Note

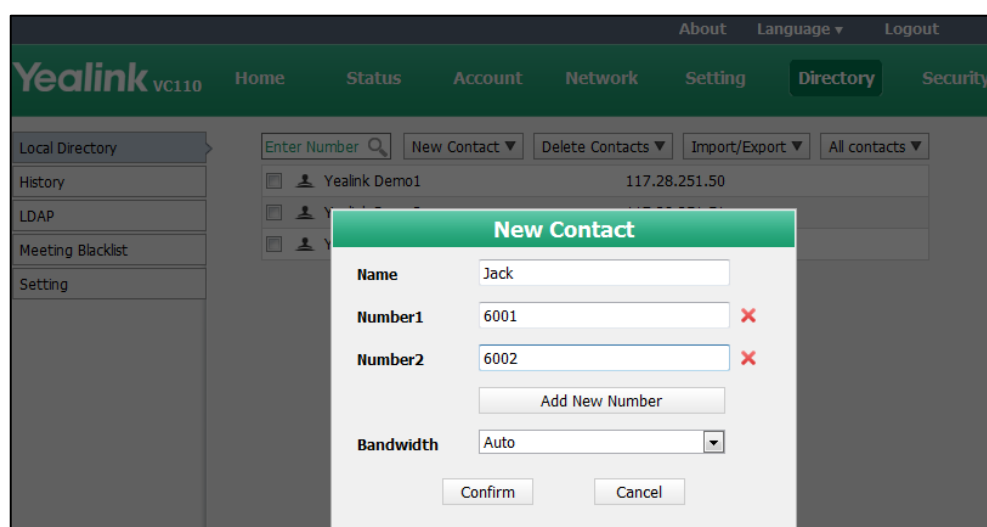
StarLeaf/Zoom/Pexip/BlueJeans/Mind platform does not provide Cloud contacts for video conferencing endpoint.

The following sections give you detailed steps on how to manage the local directory.

**To add local contacts via web user interface:**


1. Click on **Directory**->**Local Directory**.
2. Select **Local** from the pull-down list of **New Contact**.
3. Enter the desired name in the **Name** field.
4. Enter the desired number in the **Number** field.
5. Click **Add Number**, enter other number of the contact.
6. Select the desired contact bandwidth from the pull-down list of **Bandwidth**.

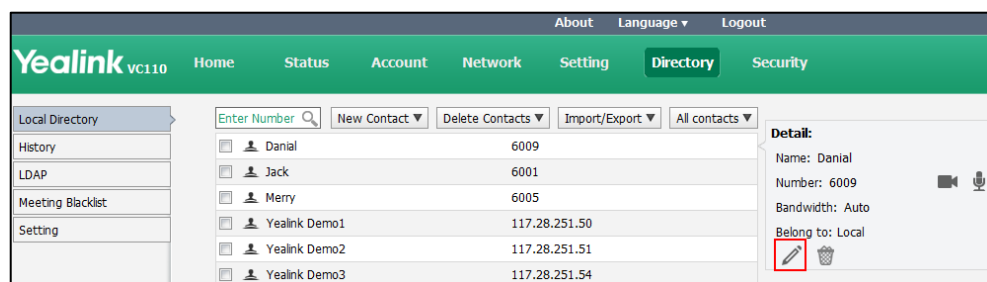
The default contact bandwidth is **Auto**. The endpoint will select the appropriate bandwidth automatically



7. Click **Confirm** to accept the change.

**To edit local contacts via web user interface:**



1. Click on **Directory**->**Local Directory**.
2. Hover your cursor over the local contact you want to edit.
3. Click  in the pop-up detail box.

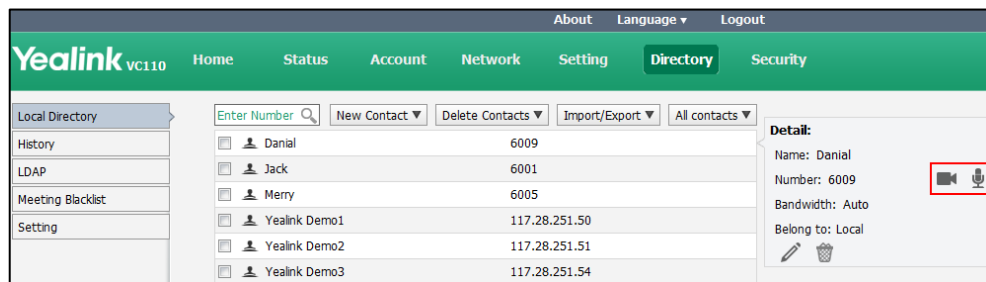


4. Edit the contact information.
5. Click **Confirm** to accept the change.

**To place calls to local contacts from the local directory via web user interface:**

1. Click on **Directory**->**Local Directory**.
2. Hover your cursor over the desired local contact.

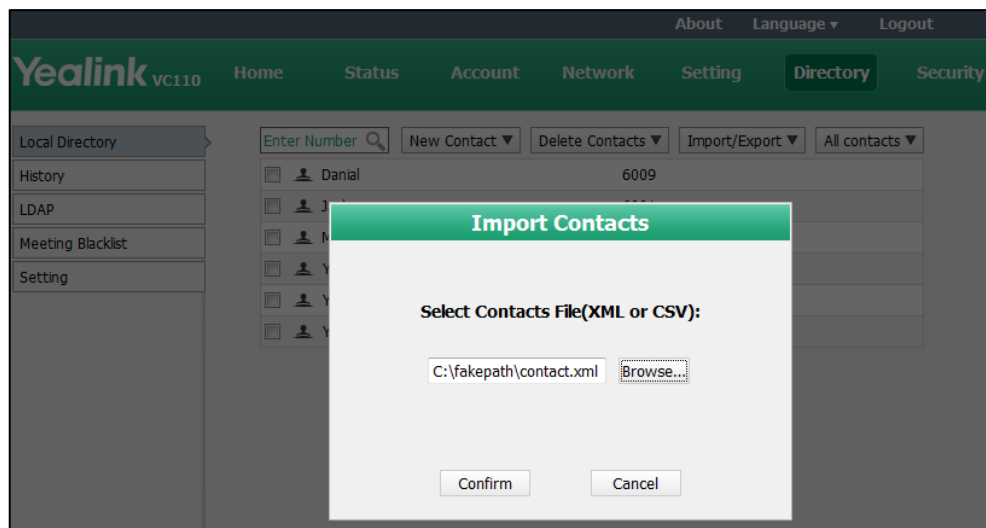
3. Click  or  in the pop-up detail box to place a video or audio call.



The web user interface prompts "Connecting, please wait!" and jumps automatically to the **Home** screen.

**To import an XML file of the local contact list via web user interface:**

1. Click on **Directory->Local Directory**.
2. Select **Import**. from the pull-down list of **Import/Export**.
3. Click **Browse** to locate a local contact list file (file format must be \*.xml) from your local endpoint.



4. Click **Confirm** to import the local contact list.

The web user interface prompts "Contacts imported successfully!".

**To import a CSV file of local contact list via web user interface:**

1. Click on **Directory->Local Directory**.
2. Select **Import**. from the pull-down list of **Import/Export**.
3. Click **Browse** to locate a local contact list file (file format must be \*.csv) from your local endpoint.
4. Click **Confirm**.



The web user interface is shown below:

The screenshot shows the Yealink VC110 web interface with the 'Directory' tab selected. An 'Import CSV File Preview' dialog is open, displaying a table of contact information to be imported. The dialog has two checkboxes: 'The first line as the title' and 'Delete Old Contacts'. Below these are six dropdown menus, each set to 'Ignore'. The table contains 7 rows of data, including names, groups, and phone numbers.

	Ignore	Ignore	Ignore	Ignore	Ignore	Ignore
1	display_name	group	number1	number2	number3	ct bandwidth
2	Danial	Local	6008			0
3	Jack	Local	6001	6002		0
4	Merry	Local	6005			0
5	Yealink Demo1	Local	117.28.251.50	xmdemo1.vcs.yealink.com		0
6	Yealink Demo2	Local	117.28.251.51			0
7	Yealink Demo3	Local	117.28.251.54			0

At the bottom of the dialog are 'Confirm' and 'Cancel' buttons.

5. (Optional.) Check the **The first line as the title** checkbox.

It will prevent importing the title of the local contact information which is located in the first line of the CSV file.

6. (Optional.) Check the **Delete Old Contacts** checkbox.

It will delete all existing local contacts while importing the local contact list.

7. Select the desired value from the pull-down list.

- If **Ignore** is selected, this column will not be imported to the endpoint.
- If **Display Name** is selected, this column will be imported to the endpoint as the contacts' name.

- If **number1/2/3** is selected, this column will be imported to the endpoint as the contacts' number.
- If **Bandwidth** is selected, this column will be imported to the endpoint as the contact's bandwidth.

**Import CSV File Preview**

☐ The first line as the title ☐ Delete Old Contacts

	Display Name	Group	number1	number2	number3	Bandwidth
1	display_name	group	number1	number2	number3	ct bandwidth
2	Daniel	Local	6008			0
3	Jack	Local	6001	6002		0
4	Merry	Local	6005			0
5	Yealink Demo1	Local	117.28.251.50	xmdemo1.vcs.yealink.com		0
6	Yealink Demo2	Local	117.28.251.51			0
7	Yealink Demo3	Local	117.28.251.54			0

8. Click **Confirm** to complete importing the local contact list.

The web user interface prompts "Contacts imported successfully!".

#### To export a XML/CSV file of the local contact list via web user interface:

1. Click on **Directory->Local Directory**.
2. Select **Export XML** or **Export CSV** from the pull-down list of **Import/Export**.

The local contact list is saved to your local endpoint.

## LDAP

LDAP (Lightweight Directory Access Protocol) is an application protocol for accessing and maintaining information services for the distributed directory over an IP network. Yealink VC110 endpoint is configurable to interface with a enterprise directory server that supports LDAP version 2 or 3. The following LDAP servers are supported:

- Microsoft Active Directory
- Sun ONE Directory Server
- Open LDAP Directory Server
- Microsoft Active Directory Application Mode (ADAM)

The biggest plus for LDAP is that users can access the central LDAP directory of the corporation

using the endpoint. Therefore they do not have to maintain the local directory. Users can search and dial out from the LDAP directory and save LDAP entries to the local directory. LDAP entries displayed on the display device screen are read only. They cannot be added to, edited or deleted by users. When an LDAP server is configured properly, the endpoint can look up entries from the LDAP server in a wide variety of ways. The LDAP server indexes all the data in its entries, and "filters" may be used to select the desired entry or group, and retrieve the desired information.

Configurations on the endpoint limit the amount of displayed entries when querying from the LDAP server, and decide how the attributes are displayed and sorted.

Performing a LDAP search on the endpoint:

- Enter search content in the dialing screen. (Ensure that the LDAP is in the enabled search source lists)
- In the **Directory** screen, select **Company** to enter the LDAP search screen, and then enter a few characters which you want to search.

The endpoint will send the search request to the LDAP server, the LDAP server then performs a search based on the entered content and configured filter condition, and returns results to the endpoint.

## LDAP Attributes

The following table lists the most common attributes used to configure the LDAP lookup on the endpoint:

Abbreviation	Name	Description
gn	givenName	First name
cn	commonName	LDAP attribute is made up from given name joined to surname.
sn	surname	Last name or family name
dn	distinguishedName	Unique identifier for each entry
dc	dc	Domain component
-	company	Company or organization name
-	telephoneNumber	Office phone number
mobile	mobilephoneNumber	Mobile or cellular phone number
ipPhone	IPphoneNumber	Home phone number

LADP parameters are described below:

Parameter	Description	Configuration Method
<b>LDAP Enable</b>	Enables or disables the LDAP feature on the endpoint.	Web User Interface

Parameter	Description	Configuration Method
	<b>Default:</b> Disabled	
<b>LDAP Name Filter</b>	Configures the name attribute for LDAP searching. <b>Example:</b> ( (cn=*)(sn=*))	Web User Interface
<b>LDAP Number Filter</b>	Configures the number attribute for LDAP searching. <b>Example:</b> ( (telephoneNumber=*)(mobile=*))	Web User Interface
<b>LDAP TLS Mode</b>	Configures the connection mode between the LDAP server and video conferencing endpoint. <ul style="list-style-type: none"> <li>• <b>LDAP</b>—Unencrypted connection between LDAP server and the endpoint (port 389 is used by default).</li> <li>• <b>LDAP TLS Start</b>—TLS/SSL connection between LDAP server and the endpoint (port 389 is used by default).</li> <li>• <b>LDAPS</b>—TLS/SSL connection between LDAP server and the endpoint (port 636 is used by default).</li> </ul> <b>Default:</b> LDAP	Web User Interface
<b>LDAP Server Address</b>	Configures the domain name or IP address of the LDAP server.	Web User Interface
<b>Port</b>	Configures the LDAP server port. <b>Default:</b> 389	Web User Interface
<b>LDAP User Name</b>	Configures the user name used to log into the LDAP server. <b>Note:</b> The user name is provided by the server administrator. If the LDAP server allows 'anonymous' to login, you don't need to provide the user name to access the LDAP server.	Web User Interface

Parameter	Description	Configuration Method
<b>LDAP Password</b>	Configures the password to log into the LDAP server. <b>Note:</b> The password is provided by the server administrator. If the LDAP server allows 'anonymous' to login, you don't need to provide the user password to access the LDAP server.	Web User Interface
<b>LDAP Base</b>	Configures the root path of the LDAP search base. <b>Example:</b> cn=manager,dc=yealink,dc=cn	Web User Interface
<b>Max Hit(1~32000)</b>	Configures the maximum number of search results to be returned by the LDAP server.	Web User Interface
<b>LDAP Name Attributes</b>	Configures the name attributes of each record to be returned by the LDAP server. <b>Note:</b> multiple name attributes should be separated by spaces. <b>Example:</b> cn sn	Web User Interface
<b>LDAP Number Attributes</b>	Configures the number attributes of each record to be returned by the LDAP server. <b>Note:</b> multiple numbers attributes should be separated by spaces. <b>Example:</b> telephoneNumber mobile	Web User Interface
<b>LDAP Display Name</b>	Configures the display name of the contact record displayed on the LCD screen. <b>Note:</b> multiple numbers attributes should be separated by spaces. <b>Example:</b> %cn	Web User Interface
<b>Protocol</b>	Configures the protocol for the LDAP server. <b>Note:</b> Make sure the protocol value corresponds with the version assigned on the LDAP server.	Web User Interface

Parameter	Description	Configuration Method
<b>Match Incoming Call</b>	<p>Enables or disables the endpoint to match caller numbers with LDAP contacts.</p> <p><b>Default:</b> Disabled</p> <p><b>Note:</b> If the match is successful, the endpoint will display the caller name when receives an incoming call.</p>	Web User Interface
<b>Match Outgoing Call</b>	<p>Enables or disables the endpoint to match outgoing call numbers with LDAP contacts.</p> <p><b>Default:</b> Enabled</p> <p><b>Note:</b> If the match is successful, the endpoint will display the contact name when places a call.</p>	Web User Interface
<b>LDAP Sorting Results</b>	<p>Enables or disables the endpoint to sort the search results in alphabetical order or numerical order.</p> <p><b>Default:</b> Disabled</p>	Web User Interface

For more information on string representations of LDAP query filters, refer to [RFC 2254](#).

**To configure LDAP via web user interface:**

1. Click on **Directory**->**LDAP**.
2. Enter the desired values in the corresponding fields.

3. Select the desired values from the corresponding pull-down lists.

4. Click **Confirm** to accept the change.

## Call History

The VC110 video conferencing endpoint maintains call history lists of All Calls, Missed Calls, Placed Calls and Received Calls. The endpoint supports up to 100 history entries, including local history entries and Cloud history entries.

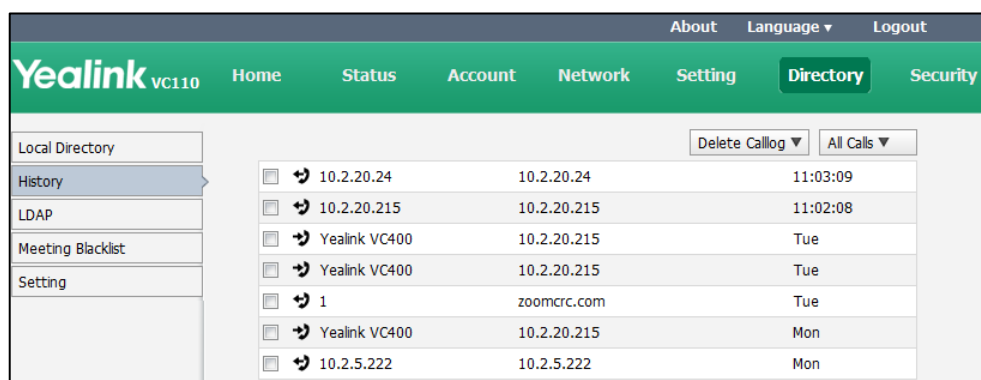
You can view the call history, place a call or delete an entry from the call history list. You can view the call history and place a call from the call history list via web user interface or the remote control, but you can delete call history only via web user interface.

History record feature is enabled by default. If it is disabled, the call history won't be saved. For more information, refer to [History Record](#) on page 161.

### To view call history via web user interface:

1. Click on **Directory**->**History**.

The web user interface displays all call history.





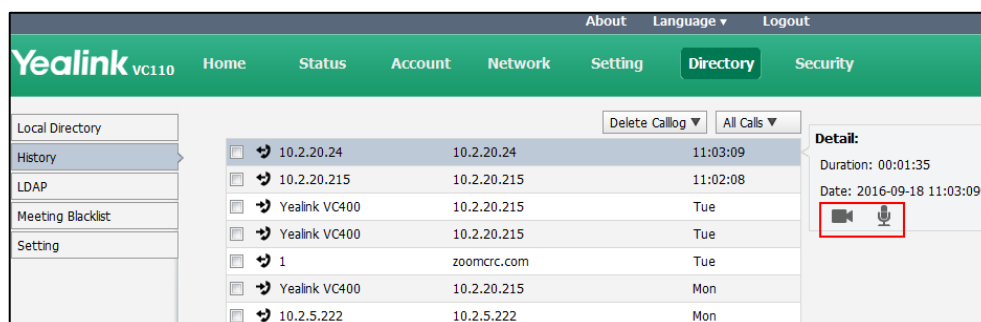
2. Click **All Calls**, select the desired call history list.

#### To place a call from the call history list via web user interface:

1. Click on **Directory**->**History**.

The web user interface displays all call history.

2. Hover your cursor over the entry you want to call.
3. Click  or  in the pop-up detail box to place a video or audio call.



The web user interface prompts "Connecting, please wait!" and jumps automatically to the **Home** screen.

#### To delete an entry from the call history list via web user interface:

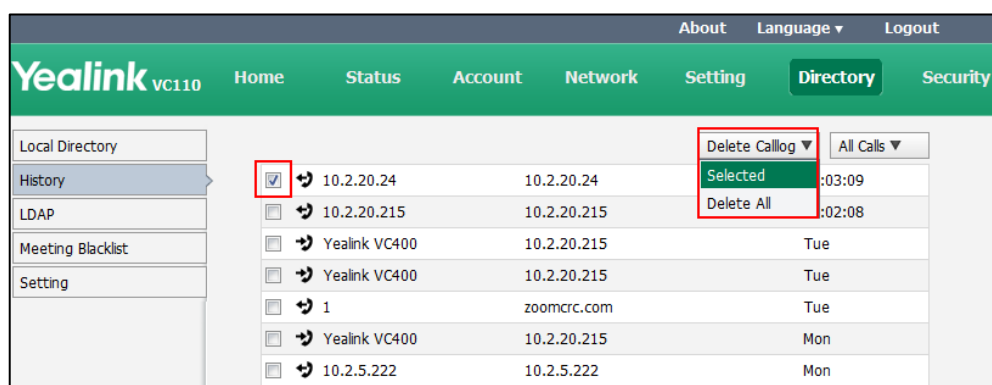
1. Click on **Directory**->**History**.

The web user interface displays all call history.

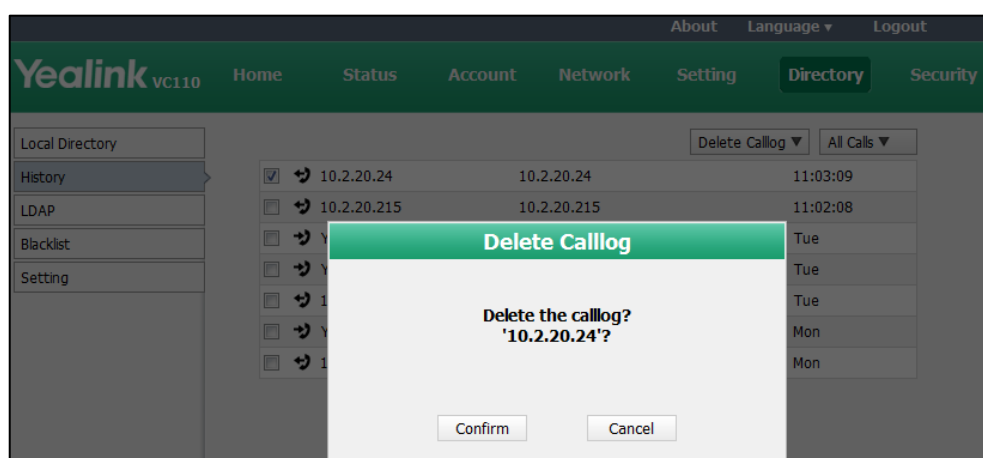
2. Check the checkbox for the entry you want to delete.



- Click **Delete Callog**, and select **Selected**.



The web user interface prompts "Delete the callog 'xxx'? "



- Click **Confirm** to delete the call log.


You can also select **Delete All** from the pull-down list of **Delete Callog** to delete all call log.

## Search Source List in Dialing




When you enter a few characters in the dialing screen, the endpoint will search for contacts from the enabled search source lists, and display the result in the dialing screen. The lists can be History, Local Directory, Cloud Contact (including your Yealink Cloud contacts and YMS contacts) and LDAP.

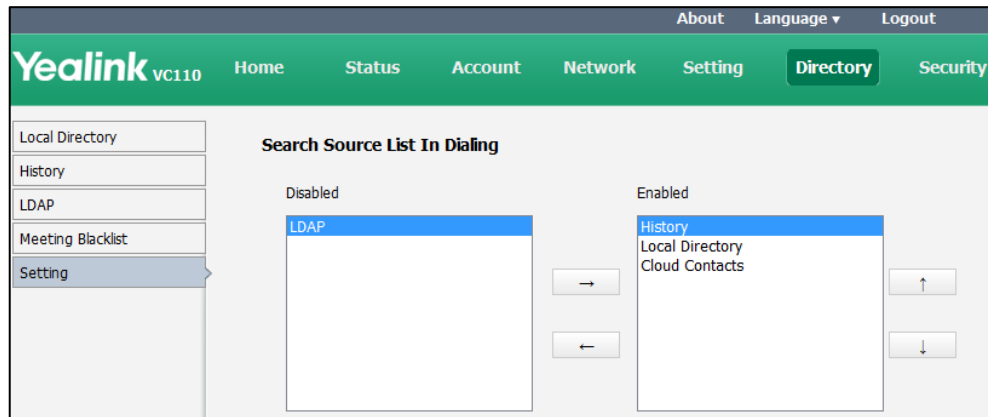
To match the desired list, you need to enable the search source list first. If you want to match the LDAP list, make sure LDAP is already configured. For more information on how to configure LDAP, refer to [LDAP](#) on page 235.

**To configure search source list in dialing via web user interface:**

- Click on **Directory->Setting**.
- In the **Search Source List In Dialing** block, select the desired list from the **Disabled** column and click  .


The selected list appears in the **Enabled** column.

3. Repeat step 2 to add more lists to the **Enabled** column.
4. (Optional.) To remove a list from the **Enabled** column, select the desired list and then click .
5. To adjust the display order of the enabled list, select the desired list, and click  or .



6. Click **Confirm** to accept the change.

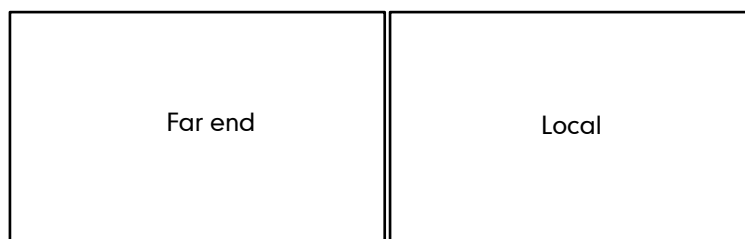
## Dual Display Screen Layouts

The VC110 has two display ports. When connecting only one display device to the VC110 all-in-one unit, Display1 port is the only available port. To make it easier for users to view video images, users can connect two display devices to Display1 and Display2 ports respectively. When two display devices are connected to the VC110 all-in-one unit, the status bar of the primary display device will display  icon.

## Two-way Video Calls

In the primary display device, the remote video image is shown in full size.

In the secondary display device, the local video image is shown in full size.



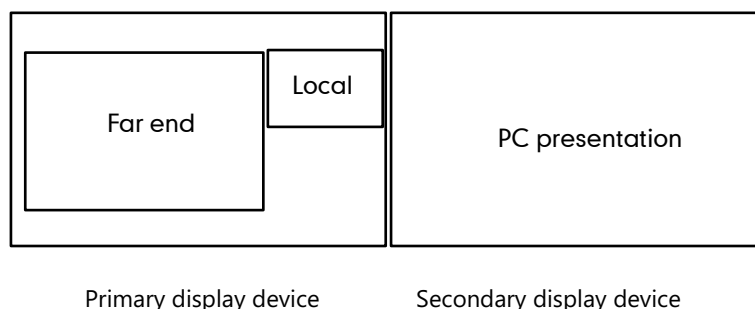
Primary display device

Secondary display device

## Two-way Video Call with Presentation

In the primary display device, the remote video image is shown in big size, and the local video image along the right side of the screen is shown in small size.

In the secondary display device, the presentation is shown in full size.



## Endpoint Integrated with Control Systems

The Yealink video conferencing endpoints provide an API interface for the third-party control system. The API commands can be sent to Yealink video conferencing endpoints over LAN or serial port, to realize controlling the Yealink video conferencing endpoints.

## Using the API with a LAN Connection

API commands can be sent to video conferencing endpoint through TCP protocol. The control system needs to know the IP address and port of the Yealink video conferencing endpoint. For security, you can configure an authentication password for TCP connection.

LAN Connection parameters are described below.

Parameter	Description	Configuration Method
<b>Current Control TCP Port</b>	Control TCP port (read-only). <b>Default:</b> 6024	Web User Interface
<b>Control Security Enabled</b>	Enables or disables an authentication password for TCP connection <b>Default:</b> Enabled	Web User Interface
<b>Control Security Password</b>	Configures the authentication password for TCP connection.	Web User Interface

**To configure LAN Connection parameters via web user interface:**

1. Click on **Security->Security Control**.
2. Select the desired value from the pull-down lists of **Control Security Enabled**.

- Enter the desired password in the **Control Security Password** field.

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes links for About, Language, and Logout. The main menu has tabs for Home, Status, Account, Network, Setting, Directory, and Security. The left sidebar shows a tree view with Security, Trusted Certs, Server Certs, and Security Control (selected). The main content area is titled 'Center Control Config' and contains a red-bordered box around the following fields:

- Current Control TCP Port: 6024
- Control Security Enabled: Enabled (dropdown)
- Control Security Password: [masked]

Below this box is the 'Center Control Parameter' section with the following settings:

- Baud Rate: 115200 (dropdown)
- Data Bits: 8 (dropdown)
- Parity: Space (dropdown)
- Stop Bits: 1 (dropdown)

- Click **Confirm** to accept the change.

## Using the API with a Serial Connection

You can use the API with a serial connection to control Yealink video conferencing endpoint. The USB port on the Yealink video conferencing endpoint can be connected to the serial port on the control system through a USB to RS-232 cable.

You must connect and configure the control system and the video conferencing endpoint for serial communication.

Serial Connection parameters are described below.

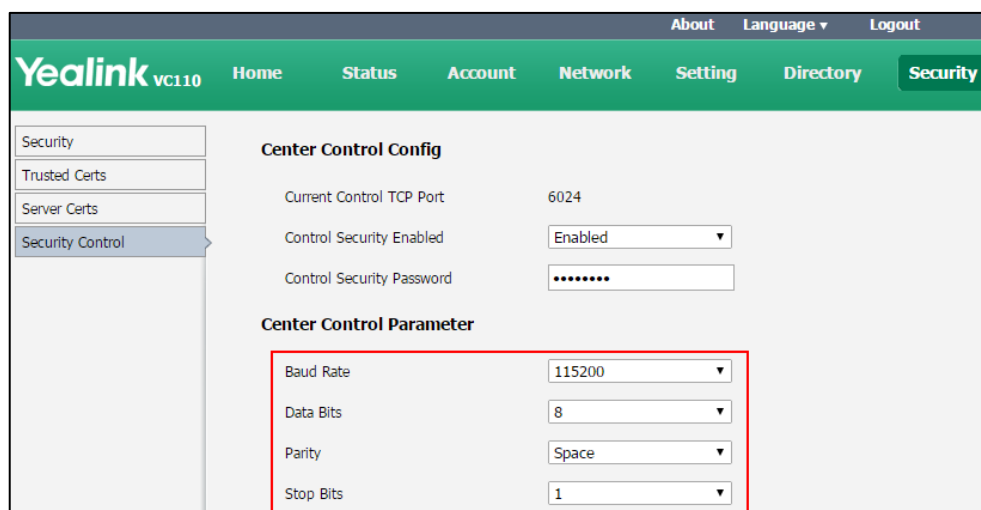
Parameter	Description	Configuration Method
<b>Baud Rate</b>	<p>Configures the baud rate.</p> <p>Available baud rates are:</p> <ul style="list-style-type: none"> <li>2400</li> <li>4800</li> <li>9600</li> <li>19200</li> <li>38400</li> <li>115200</li> </ul> <p><b>Default:</b> 115200</p> <p><b>Note:</b> It must be the same rate for both devices.</p>	Web User Interface
<b>Data Bits</b>	Configures the data bits.	Web User Interface

Parameter	Description	Configuration Method
	<p>Available data bits are:</p> <ul style="list-style-type: none"> <li>• 7</li> <li>• 8</li> </ul> <p><b>Default:</b> 8</p> <p><b>Note:</b> It must be the same data bits for both devices.</p>	
<b>Parity</b>	<p>Configures the parity.</p> <p>Available parity are:</p> <ul style="list-style-type: none"> <li>• None</li> <li>• Odd</li> <li>• Even</li> <li>• Space</li> </ul> <p><b>Default:</b> Space</p> <p><b>Note:</b> It must be the same parity for both devices.</p>	Web User Interface
<b>Stop Bits</b>	<p>Configures the stop bits.</p> <p>Available stop bits are:</p> <ul style="list-style-type: none"> <li>• 1</li> <li>• 2</li> </ul> <p><b>Default:</b> 1</p> <p><b>Note:</b> It must be the same stop bits for both devices.</p>	Web User Interface

**To configure serial connection parameters via web user interface:**

1. Click on **Security->Security Control**.
2. Select the desired value from the pull-down lists of **Baud Rate**.
3. Select the desired value from the pull-down lists of **Data Bits**.
4. Select the desired value from the pull-down lists of **Parity**.

5. Select the desired value from the pull-down lists of **Stop Bits**.



The screenshot displays the Yealink VC110 web interface. The top navigation bar includes links for About, Language, and Logout. The main menu on the left lists Security, Trusted Certs, Server Certs, and Security Control (which is selected). The main content area is titled 'Center Control Config' and contains the following settings:

- Current Control TCP Port: 6024
- Control Security Enabled: Enabled
- Control Security Password: [masked]

Below this is the 'Center Control Parameter' section, which is highlighted with a red box. It contains the following settings:

- Baud Rate: 115200
- Data Bits: 8
- Parity: Space
- Stop Bits: 1

6. Click **Confirm** to accept the change.

When you successfully deploy environment and configure the third-party control system, the Yealink video conferencing endpoints and the control devices, you can remotely manage certain features of your video conferencing endpoint via the control device.

For more information, refer to [Yealink VC Deployment and User Manual for Control Systems](#).



## Configuring Security Features

This chapter provides information for making configuration changes for the following security-related features:

- [User Mode](#)
- [Administrator Password](#)
- [Web Server Type](#)
- [Transport Layer Security](#)
- [Secure Real-Time Transport Protocol](#)
- [H.235](#)
- [Defending against Attacks](#)

### User Mode

Users can access the endpoint menus directly (except the “Advanced” menu) on the display device. The “Advanced” menu requires administrator credentials. You can enable the user mode to provide two levels of access for the menus. You need to configure a password for the user when the user mode is enabled. Users are prompted to enter the password when accessing the menus (except the “Status” menu). After the user mode is enabled, the user can log into the web user interface of the endpoint with user credentials. The default user name is “user”.

User mode parameters on the endpoint are described below:

Parameter	Description	Configuration Method
<b>User Type</b>	Specifies the user type. <b>Default:</b> Administrator <b>Note:</b> To enable the user type, you need to select User for this parameter.	Web User Interface
<b>User Mode</b>	Enables or disables the user mode. <b>Default:</b> Disabled <b>Note:</b> It is only applicable to the user mode. The administrator mode is enabled by default.	Web User Interface
<b>User Password</b>	Configures a password for the user to access the menus or log into the web user interface.	Web User Interface



Parameter	Description	Configuration Method
	<b>Note:</b> It can only be configured when the user mode is enabled. The endpoint supports ASCII characters 32-126(0x20-0x7E) in passwords. You can leave the password blank.	

**To configure user mode via web user interface:**

1. Click on **Security**->**Security**.
2. Select **User** from the pull-down list of **User Type**.
3. Select **Enabled** from the pull-down list of **User Mode**.
4. Configure a password or leave it blank in the **User Password** field.

5. Click **Confirm** to accept the change.

## Administrator Password

The default enabled user type is administrator. Users can log into the web user interface and access the "Advanced" menu with administrator privilege by default. The default administrator password is "0000" and can be only changed by an administrator. For security reasons, the administrator should change the default administrator password as soon as possible. The endpoint supports ASCII characters 32-126(0x20-0x7E) in passwords.

Administrator password parameters on the endpoint are described below:

Parameter	Description	Configuration Method
<b>User Type</b>	Specifies the user type. <b>Default:</b> Administrator <b>Note:</b> To configure a new administrator password, you need to select Administrator for this parameter.	Web User Interface
<b>Old Password</b>	Enters the old administrator password. <b>Note:</b> The default administrator password is "0000".	Remote Control Web User Interface

Parameter	Description	Configuration Method
<b>New Password</b>	Configures a new administrator password. <b>Note:</b> You can leave the password blank.	Remote Control Web User Interface
<b>Confirm Password</b>	Enters the new configured administrator password. <b>Note:</b> The entered password must be the same as the one configured by the parameter "New Password".	Remote Control Web User Interface

**To configure administrator password via web user interface:**

1. Click on **Security**->**Security**.
2. Select **Administrator** from the pull-down list of **User Type**.
3. Enter the old administrator password in the **Old Password** field.
4. Enter a new password in the **New Password** field.
5. Enter the new password or leave it blank in the **User Password** field.

6. Click **Confirm** to accept the change.

**To configure administrator password via the remote control:**

1. Select **Menu**->**Advanced** (default password: 0000)->**Password Reset**.
2. Enter the old password in the **Current Password** field.
3. Configure a new password in the **New Password** and **Confirm Password** fields.
4. Press the **Save** soft key to accept the change.

## Web Server Type

Web server type determines the access protocol of the endpoint's web user interface. The endpoint supports both HTTP and HTTPS protocols for accessing the web user interface. HTTP is an application protocol that runs on top of the TCP/IP suite of protocols. HTTPS is a web protocol that encrypts and decrypts user page requests as well as the pages returned by the web server. Both the HTTP and HTTPS port numbers are configurable.

Web server type parameters on the endpoint are described below:

Parameter	Description	Configuration Method
<b>HTTP</b>	Enables or disables the user to access the web user interface of the endpoint using the HTTP protocol. <b>Default:</b> Enabled	Remote Control Web User Interface
<b>HTTP Port</b>	Specifies the HTTP port for the user to access the web user interface of the endpoint. <b>Valid Values:</b> 1-65535 <b>Default:</b> 80 <b>Note:</b> Ensure that the configured port is not used.	Web User Interface
<b>HTTPS</b>	Enables or disables the user to access the web user interface of the endpoint using the HTTPS protocol. <b>Default:</b> Enabled	Remote Control Web User Interface
<b>HTTPS Port</b>	Specifies the HTTPS port for the user to access the web user interface of the endpoint. <b>Valid Values:</b> 1-65535 <b>Default:</b> 443 <b>Note:</b> Ensure that the configured port is not used.	Web User Interface

**To configure web server type via web user interface:**

1. Click on **Network->Advanced**.
2. Select the desired value from the pull-down list of **HTTP**.
3. Enter the desired HTTP port in the **HTTP Port** field.
4. Select the desired value from the pull-down list of **HTTPS**.

5. Enter the desired HTTPS port in the **HTTPS Port** field.

The screenshot shows the Yealink VC110 configuration interface. The 'Network' tab is selected. On the left, a sidebar contains 'LAN Configuration', 'NAT/Firewall', 'Advanced' (highlighted), and 'Diagnose'. The main content area is titled 'Web Server'. A red rectangle highlights the 'Web Server' settings: 'HTTP' is set to 'Enabled' (port 80) and 'HTTPS' is set to 'Enabled' (port 443). Below this, the '802.1x' section shows '802.1x Mode' set to 'Disabled'. There are also fields for 'Identity', 'MD5 Password', 'CA Certificates', and 'Device Certificates', each with a 'Browse...' button and an 'Upload' button.

6. Click **Confirm** to accept the change.

**To configure web server type via the remote control:**

1. Select **Menu->Advanced** (default password: 0000) -> **Advanced Network**.
2. Select the desired value from the pull-down list of **Web Server Type**.
3. Press the **Save** soft key to accept the change.

## Transport Layer Security

TLS is a commonly-used protocol for providing communications privacy and managing the security of message transmission, allowing the endpoint to communicate with other remote parties and connect to the HTTPS URL for provisioning in a way that is designed to prevent eavesdropping and tampering.

TLS protocol is composed of two layers: TLS Record Protocol and TLS Handshake Protocol. The TLS Record Protocol completes the actual data transmission and ensures the integrity and privacy of the data. The TLS Handshake Protocol allows the server and client to authenticate each other and negotiate an encryption algorithm and cryptographic keys before data is exchanged.

The endpoint supports TLS 1.0. A cipher suite is a named combination of authentication, encryption, and message authentication code (MAC) algorithms used to negotiate the security settings for a network connection using the TLS/SSL network protocol. The endpoint supports the following cipher suites:

- DHE-RSA-AES256-SHA
- DHE-DSS-AES256-SHA
- AES256-SHA

- EDH-RSA-DES-CBC3-SHA
- EDH-DSS-DES-CBC3-SHA
- DES-CBC3-SHA
- DHE-RSA-AES128-SHA
- DHE-DSS-AES128-SHA
- AES128-SHA
- IDEA-CBC-SHA
- DHE-DSS-RC4-SHA
- RC4-SHA
- RC4-MD5
- EXP1024-DHE-DSS-DES-CBC-SHA
- EXP1024-DES-CBC-SHA
- EDH-RSA-DES-CBC-SHA
- EDH-DSS-DES-CBC-SHA
- DES-CBC-SHA
- EXP1024-DHE-DSS-RC4-SHA
- EXP1024-RC4-SHA
- EXP1024-RC4-MD5
- EXP-EDH-RSA-DES-CBC-SHA
- EXP-EDH-DSS-DES-CBC-SHA
- EXP-DES-CBC-SHA
- EXP-RC4-MD5

The following figure illustrates the TLS messages exchanged between the endpoint and TLS server to establish an encrypted communication channel:

No.	Time	Source	Destination	Protocol	Info
1	0.000000	192.168.3.86	192.168.0.230	SSLV3	Client Hello
2	0.021345	192.168.0.230	192.168.3.86	SSLV3	Server Hello, Certificate, Server Key Exchange, Server Hello Done
3	0.954947	192.168.3.86	192.168.0.230	SSLV3	Client Key Exchange, Change Cipher Spec, Encrypted Handshake Message
4	0.970099	192.168.0.230	192.168.3.86	SSLV3	Change Cipher Spec, Encrypted Handshake Message
5	1.012295	192.168.3.86	192.168.0.230	SSLV3	Application Data, Application Data
6	1.013562	192.168.0.230	192.168.3.86	SSLV3	Application Data
7	1.013667	192.168.0.230	192.168.3.86	SSLV3	Application Data

# Frame 13: 652 bytes on wire (5216 bits), 652 bytes captured (5216 bits)  
 # Ethernet II, Src: Vmware\_72:c9:2e (00:0c:29:72:c9:2e), Dst: Xiamenye\_11:12:b7 (00:15:65:11:12:b7)  
 # Internet Protocol, Src: 192.168.0.230 (192.168.0.230), Dst: 192.168.3.86 (192.168.3.86)  
 # Transmission Control Protocol, Src Port: https (443), Dst Port: rnmserver (2244), Seq: 1482, Ack: 437, Len: 586  
 # Secure Socket Layer

**Step1:** The endpoint sends “Client Hello” message proposing SSL options.

**Step2:** Server responds with “Server Hello” message selecting the SSL options, sends its public key information in “Server Key Exchange” message and concludes its part of the negotiation with “Server Hello Done” message.

**Step3:** The endpoint sends key session information (encrypted by server’s public key) in the “Client Key Exchange” message.

**Step4:** Server sends “Change Cipher Spec” message to activate the negotiated options for all future messages it will send.

The endpoint can encrypt SIP with TLS, which is called SIPS. When TLS is enabled for the SIP account, the message of the SIP account will be encrypted after the successful TLS negotiation.

## Certificates

The endpoint can serve as a TLS client or a TLS server. The TLS requires the following security certificates to perform the TLS handshake:

- Trusted Certificate:** When the endpoint requests a TLS connection with a server, the endpoint should verify the certificate sent by the server to decide whether it is trusted based on the trusted certificates list. The endpoint has 36 built-in trusted certificates. You can upload up to 10 custom certificates to the endpoint. The format of the certificates must be \*.pem, \*.cer, \*.crt and \*.der. For more information on 36 trusted certificates, refer to [Appendix B: Trusted Certificates](#) on page 300.
- Server Certificate:** When clients request a TLS connection with the endpoint, the endpoint sends the server certificate to the clients for authentication. The endpoint has two types of built-in server certificates: a unique server certificate and a generic server certificate. You can only upload one server certificate to the endpoint. The old server certificate will be overridden by the new one. The format of the server certificate files must be \*.pem and \*.cer.
  - A unique server certificate:** It is installed by default and is unique to a endpoint (based on the MAC address) and issued by the Yealink Certificate Authority (CA).
  - A generic server certificate:** It is installed by default and is issued by the Yealink Certificate Authority (CA). Only if no unique certificate exists, the endpoint may send a generic certificate for authentication.

The endpoint can authenticate the server certificate based on the trusted certificates list. The trusted certificates list and the server certificates list contain the default and custom certificates. You can specify the type of certificates the endpoint accepts: default certificates, custom certificates, or all certificates.

Common Name Validation feature enables the endpoint to mandatorily validate the common name of the certificate sent by the connecting server. And Security verification rules are compliant with RFC 2818.

TLS parameters on the endpoint are described below:

Parameter	Description	Configuration Method
<b>Transport</b>	<p>Configures the type of transport protocol. You can configure it for the Zoom/Pexip/BlueJeans/Mind/Custom platform, or SIP account separately.</p> <ul style="list-style-type: none"> <li>• <b>UDP</b>—provides best-effort transport via UDP for the SIP signaling.</li> <li>• <b>TCP</b>—provides reliable transport via TCP for SIP signaling.</li> <li>• <b>TLS</b>—provides secure communication for SIP signaling.</li> <li>• <b>DNS-NAPTR</b>—performs the DNS NAPTR and SRV queries for the service type and port if no server port is given.</li> </ul> <p><b>Default:</b> For Zoom/Pexip/BlueJeans/Mind/Custom platform, the default value is TCP. For SIP account, the default value is UDP.</p> <p><b>Note:</b> You cannot configure it for the Yealink/StarLeaf Cloud platform.</p>	<p>Remote Control Web User Interface</p>
<b>Only Accept Trusted Certificates</b>	<p>Enables or disables the endpoint to only trust the server certificates in the Trusted Certificates list.</p> <p><b>Default:</b> Enabled</p> <p><b>Note:</b> If it is enabled, the endpoint will authenticate the server certificate based on the trusted certificates list. Only when the authentication succeeds, will the endpoint trust the server.</p> <p>If you change this parameter, the endpoint will reboot to make the change take effect.</p>	<p>Web User Interface</p>

Parameter	Description	Configuration Method
<b>Common Name Validation</b>	<p>Enables or disables the endpoint to mandatorily validate the CommonName or SubjectAltName of the certificate sent by the server.</p> <p><b>Default:</b> Disabled</p> <p><b>Note:</b> If you change this parameter, the endpoint will reboot to make the change take effect.</p>	Web User Interface
<b>CA Certificates</b>	<p>Configures the type of certificates in the Trusted Certificates list for the endpoint to authenticate for the TLS connection.</p> <ul style="list-style-type: none"> <li>• <b>Default Certificates</b></li> <li>• <b>Custom Certificates</b></li> <li>• <b>All Certificates</b></li> </ul> <p><b>Default:</b> Default Certificates</p> <p><b>Note:</b> If you change this parameter, the endpoint will reboot to make the change take effect.</p>	Web User Interface
<b>Upload Trusted Certificate File</b>	<p>Upload the custom CA certificate to the endpoint.</p> <p><b>Note:</b> A maximum of 10 CA certificates can be uploaded to the endpoint. The certificate you want to upload must be in *.pem, *.crt, *.cer or *.der format.</p>	Web User Interface
<b>Device Certificates</b>	<p>Upload the customized CA certificate to the endpoint.</p> <ul style="list-style-type: none"> <li>• <b>Default Certificates</b></li> <li>• <b>Custom Certificates</b></li> </ul> <p><b>Default:</b> Default Certificates</p> <p><b>Note:</b> If you change this parameter, the endpoint will reboot to make the change take effect.</p>	Web User Interface
<b>Upload Server Certificate File</b>	<p>Upload the custom device certificate to the endpoint.</p> <p><b>Note:</b> Only one device certificate can be uploaded to the endpoint. The device certificate you want to upload must be in</p>	Web User Interface



Parameter	Description	Configuration Method
	*.pem or *.cer format.	

**To configure the trusted certificate feature via web user interface:**

1. Click on **Security->Trusted Certs.**
2. Select the desired value from the pull-down list of **Only Accept Trusted Certificates.**
3. Select the desired value from the pull-down list of **Common Name Validation.**
4. Select the desired value from the pull-down list of **CA Certificates.**

5. Click **Confirm** to accept the change.  
A dialog box pops up to prompt that the settings will take effect after a reboot.
6. Click **Confirm** to reboot the endpoint immediately.

**To configure TLS for the Zoom/Pexip/BlueJeans/Mind/Custom platform via web user interface:**

1. Click on **Account->VC Platform**
2. Select **Zoom/Pexip/BlueJeans/Mind/Custom** from the pull-down list of **Platform Type.**

3. Select **TLS** from the pull-down list of the **Transport**.

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes 'About', 'Language', and 'Logout'. The main menu has 'Home', 'Status', 'Account', 'Network', 'Setting', 'Directory', and 'Security'. The left sidebar shows 'VC Platform' with sub-items: 'H.323', 'SIP Account', 'SIP IP Call', and 'Codec'. The main content area is titled 'Video Conference Platform'. It shows 'Status' as 'Registered'. Under 'Advanced Setting', the 'Transport' dropdown is highlighted with a red box and set to 'TLS'. Other settings include 'Cloud Account' (Enabled), 'Platform Type' (Zoom), 'Server Host' (zoomcrc.com), 'Server Expires' (3600), and 'SRTP' (Disabled).

4. Click **Confirm** to accept the change.

**To configure TLS for the SIP account via web user interface:**

1. Click on **Account->SIP Account**.
2. Select **TLS** from the pull-down list of the **Transport**.

The screenshot shows the Yealink VC110 web interface with the 'SIP Account' sub-item selected in the left sidebar. The main content area shows 'Register Status' as 'Registered'. The 'SIP Account' dropdown is set to 'Enabled'. Other fields include 'Username' (8081), 'Register Name' (8081), 'Password' (masked with dots), 'Server Host' (10.2.1.48), 'Port' (5060), 'Enable Outbound Proxy Server' (Disabled), 'Outbound Proxy Server' (empty), 'Port' (5060), and 'Server Expires' (3600). The 'Transport' dropdown is highlighted with a red box and set to 'TLS'.

3. Click **Confirm** to accept the change.

### To upload a CA certificate via web user interface:

1. Click on **Security**->**Trusted Certs**.
2. Click **Browse** to locate the certificate (\*.pem,\*.crt, \*.cer or \*.der) from your local endpoint.

Yealink VC110 Home Status Account Network Setting Directory **Security**

Security  
Trusted Certs  
Server Certs

Index ID	Issued To	Issued By	Expiration	Delete
1				<input type="checkbox"/>
2				<input type="checkbox"/>
3				<input type="checkbox"/>
4				<input type="checkbox"/>
5				<input type="checkbox"/>
6				<input type="checkbox"/>
7				<input type="checkbox"/>
8				<input type="checkbox"/>
9				<input type="checkbox"/>
10				<input type="checkbox"/>

Delete

Only Accept Trusted Certificates: Enabled  
Common Name Validation: Disabled  
CA Certificates: All Certificates

**Import Trusted Certificates**

Upload Trusted Certificate File: C:\fakepath\ca.crt

3. Click **Upload** to upload the certificate.

### To configure the device certificate via web user interface:

1. Click on **Security**->**Server Certs**.
2. Select the desired value from the pull-down list of **Device Certificates**.

Yealink VC110 Home Status Account Network Setting Directory **Security**

Security  
Trusted Certs  
Server Certs

Issued To	Issued By	Expiration	Delete
			<input type="checkbox"/>

Device Certificates: Default Certificates

**Import Server Certificates**

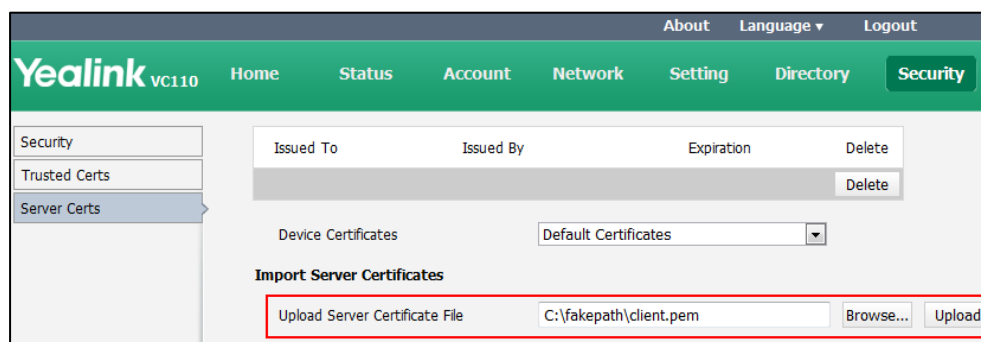
Upload Server Certificate File:

3. Click **Confirm** to accept the change.  
A dialog box pops up to prompt that the settings will take effect after a reboot.
4. Click **Confirm** to reboot the endpoint immediately.

### To upload a device certificate via web user interface:

1. Click on **Security**->**Server Certs**.

- Click **Browse** to locate the certificate (\*.pem or \*.cer) from your local endpoint.



- Click **Upload** to upload the certificate.

## Secure Real-Time Transport Protocol

During a confidential call, you can configure Secure Real-Time Transport Protocol (SRTP) to encrypt RTP streams to avoid interception and eavesdropping. Both RTP and RTCP signaling may be encrypted using an AES algorithm as described in RFC3711. Encryption modifies the data in the RTP streams so that, if the data is captured or intercepted, it cannot be understood—it sounds like noise. Only the receiver knows the key to restore the data. To use SRTP encryption for SIP calls, the participants in the call must enable SRTP simultaneously. When this feature is enabled on both endpoints, the encryption algorithm utilized for the session is negotiated between the endpoints. This negotiation process is compliant with RFC 4568.

When a site places a call on the SRTP enabled endpoint, the endpoint sends an INVITE message with the RTP encryption algorithm to the destination endpoint.

The following is an example of the RTP encryption algorithm carried in the SDP of the INVITE message:

```
m=audio 11780 RTP/SAVP 0 8 18 9 101
a=crypto:1 AES_CM_128_HMAC_SHA1_80 inline:NzFINTUwZDk2OGVIOTc3YzNkYTkWZWVhMTM1YWVj
a=crypto:2 AES_CM_128_HMAC_SHA1_32
inline:NzkyM2FjNzQ2ZDgxYjg0MzQwMGVhMGUxMzdmNWVm
a=crypto:3 F8_128_HMAC_SHA1_80 inline:NDliMWIzZGE1ZTAwZjA5ZGFhNjQ5YmEANTMzYzA0
a=rtpmap:0 PCMU/8000
a=rtpmap:8 PCMA/8000
a=rtpmap:18 G729/8000
a=fmtp:18 annexb=no
a=rtpmap:9 G722/8000
a=fmtp:101 0-15
a=rtpmap:101 telephone-event/8000
a=ptime:20
```

```
a=sendrecv
```

The callee receives the INVITE message with the RTP encryption algorithm, and then answers the call by responding with a 200 OK message which carries the negotiated RTP encryption algorithm.

The following is an example of the RTP encryption algorithm carried in the SDP of the 200 OK message:


```
m=audio 11780 RTP/SAVP 0 101
a=rtpmap:0 PCMU/8000
a=rtpmap:101 telephone-event/8000
a=crypto:1 AES_CM_128_HMAC_SHA1_80 inline:NGY4OGViMDYzZjQzYTNiOTNkOWRiYzRiMjM0Yzcz
a=sendrecv
a=ptime:20
a=fmtp:101 0-15
```

The SRTP parameter on the endpoint is described below:

Parameter	Description	Configuration Method
<b>SRTP</b>	<p>Specifies the SRTP type. You can configure it for the Zoom/Pexip/BlueJeans/Mind/Custom platform, SIP account or SIP IP call separately.</p> <ul style="list-style-type: none"> <li><b>Disabled</b>—do not use SRTP in SIP calls.</li> <li><b>Optional</b>—negotiate with the far site whether to use SRTP for media encryption in SIP calls.</li> <li><b>Compulsory</b>—compulsory use SRTP for media encryption in SIP calls.</li> </ul> <p><b>Default:</b> Disabled</p> <p><b>Note:</b> You cannot configure it for the Yealink/StarLeaf Cloud platform.</p>	Web User Interface

Rules of SRTP for media encryption in SIP calls:

Far \ Near	Compulsory	Optional	Disabled
Compulsory	SRTP Call	SRTP Call	Fail to establish call
Optional	SRTP Call	SRTP Call	RTP Call
Disabled	Fail to establish call	RTP Call	RTP Call

When SRTP is enabled on both endpoints, RTP streams will be encrypted, and the lock icon  is shown.

appears on the display device of each endpoint after successful negotiation.

**Note**

If SRTP is enabled for the Cloud platform or SIP account, you should also configure the transport type to TLS. This ensures the security of SRTP encryption. For more information on TLS, refer to [Transport Layer Security](#) on page 253.

**To configure SRTP for Zoom/Pexip/BlueJeans/Mind/Custom platform via web user interface:**

1. Click on **Account->VC Platform**.
2. Select **Zoom/Pexip/BlueJeans/Mind/Custom** from the pull-down list of **Platform Type**.
3. Select the desired value from the pull-down list of **SRTP**.

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes 'About', 'Language', and 'Logout'. The main menu has 'Home', 'Status', 'Account' (selected), 'Network', 'Setting', 'Directory', and 'Security'. On the left, a sidebar shows 'VC Platform' selected, with options for 'H.323', 'SIP Account', 'SIP IP Call', and 'Codec'. The main content area is titled 'Video Conference Platform'. It contains the following settings:

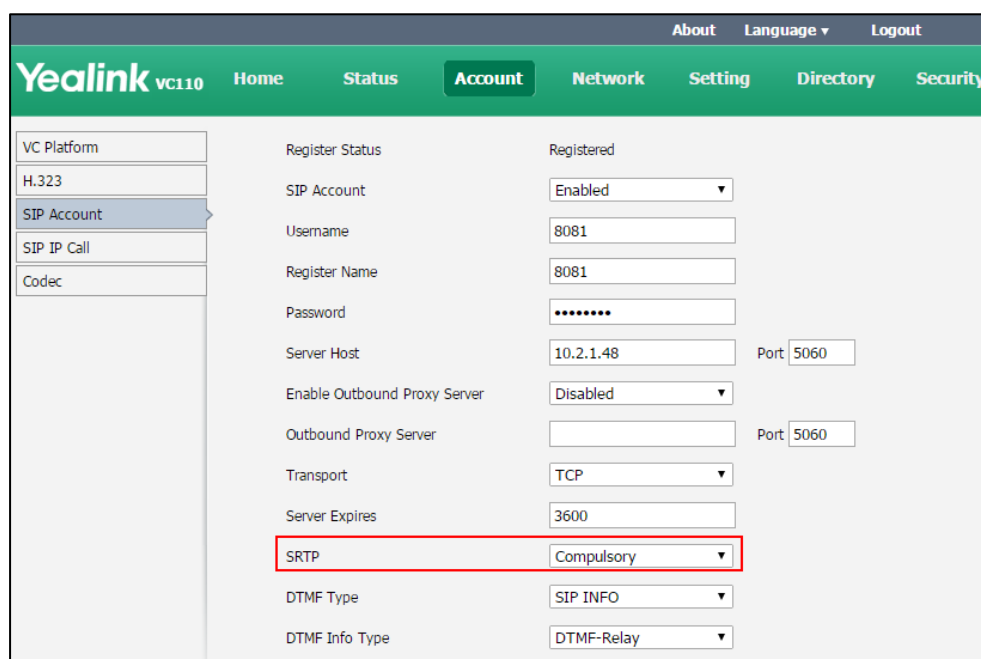
- Status: Registered
- Cloud Account: Enabled
- Platform Type: Zoom
- Server Host: zoomcrc.com
- Advanced Setting**
  - Transport: TLS
  - Server Expires: 3600
  - SRTP: Compulsory** (highlighted with a red box)
  - DTMF Type: RFC2833

4. Click **Confirm** to accept the change.

**To configure SRTP for SIP account via web user interface:**

1. Click on **Account->SIP Account**.

2. Select the desired value from the pull-down list of **SRTP**.



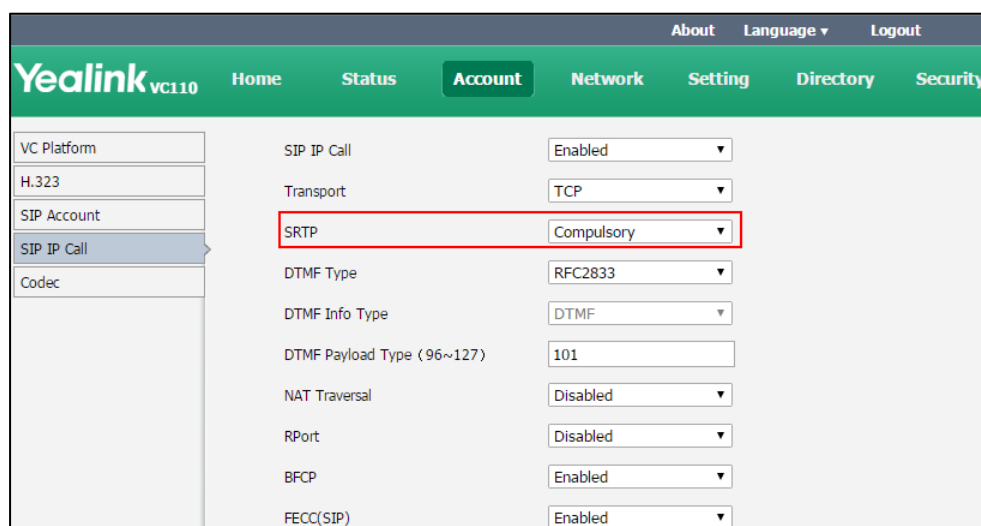
The screenshot shows the Yealink VC110 web interface. The 'Account' tab is selected. On the left, the 'SIP Account' menu item is highlighted. The main content area displays various settings for the SIP account. The 'SRTP' setting is highlighted with a red box, and its value is 'Compulsory'.

Setting	Value
Register Status	Registered
SIP Account	Enabled
Username	8081
Register Name	8081
Password	*****
Server Host	10.2.1.48
Port	5060
Enable Outbound Proxy Server	Disabled
Outbound Proxy Server	
Port	5060
Transport	TCP
Server Expires	3600
<b>SRTP</b>	<b>Compulsory</b>
DTMF Type	SIP INFO
DTMF Info Type	DTMF-Relay

3. Click **Confirm** to accept the change.

**To configure SRTP for SIP IP call via web user interface:**

1. Click on **Account->SIP IP Call**.
2. Select the desired value from the pull-down list of **SRTP**.



The screenshot shows the Yealink VC110 web interface. The 'Account' tab is selected. On the left, the 'SIP IP Call' menu item is highlighted. The main content area displays various settings for the SIP IP call. The 'SRTP' setting is highlighted with a red box, and its value is 'Compulsory'.

Setting	Value
SIP IP Call	Enabled
Transport	TCP
<b>SRTP</b>	<b>Compulsory</b>
DTMF Type	RFC2833
DTMF Info Type	DTMF
DTMF Payload Type (96~127)	101
NAT Traversal	Disabled
RPort	Disabled
BFCP	Enabled
FECC(SIP)	Enabled

3. Click **Confirm** to accept the change.

## H.235

Yealink VC110 video conferencing endpoints support H.235 128-bit AES algorithm using the Diffie-Hellman key exchange protocol in H.323 calls. To use H.235 feature for H.323 calls, the participants in the call must enable the H.235 feature simultaneously. When a site places a call


on the H.235 feature enabled endpoint, the endpoint negotiates the encryption algorithm with the destination endpoint.

The H.235 parameter on the endpoint is described below:

Parameter	Description	Configuration Method
<b>H.235</b>	<p>Specifies the H.235 type. You can configure it for the StarLeaf Cloud platform or H.323 call separately.</p> <ul style="list-style-type: none"> <li>• <b>Disabled</b>—do not use H.235 in H.323 calls.</li> <li>• <b>Optional</b>—negotiate with the far site whether to use H.235 in H.323 calls.</li> <li>• <b>Compulsory</b>—compulsively use H.235 in H.323 calls.</li> </ul> <p><b>Default:</b> Disabled</p>	Web User Interface

Rules of H.235 security in H.323 calls:

Far \ Near	Compulsory	Optional	Disabled
Compulsory	H.235 Call	H.235 Call	Fail to establish call
Optional	H.235 Call	H.235 Call	RTP Call
Disabled	Fail to establish a call	RTP Call	RTP Call

When H.235 is enabled on both endpoints, calls will be encrypted, and the lock icon  appears on the display device of each endpoint during a call.

**To configure H.235 for StarLeaf Cloud platform via web user interface:**

1. Click on **Account->VC Platform**.
2. Select **StarLeaf** from the pull-down list of **Platform Type**.



3. Select the desired value from the pull-down list of **H.235**.

The screenshot shows the Yealink VC110 web interface. The 'Account' tab is selected. Under the 'Video Conference Platform' section, the 'H.235' dropdown menu is highlighted with a red box, showing 'Disabled' as the selected value. Other settings include Status (Registered), Cloud Account (Enabled), Platform Type (StarLeaf), QCP Code (367032222222), and various advanced settings like H.323 Tunneling (Disabled), Protocol Monitor Port (1720), DTMF Type (Auto), Local Early Media (Disabled), H.239 (Enabled), FECC(H.323) (Enabled), and a Log Out Account button.

4. Click **Confirm** to accept the change.

**To configure H.235 for H.323 via web user interface:**

1. Click on **Account**->**H.323**
2. Select the desired value from the pull-down list of **H.235**.

The screenshot shows the Yealink VC110 web interface with the 'H.323' settings page. The 'H.235' dropdown menu is highlighted with a red box, showing 'Enabled' as the selected value. Other settings include H.323 Account (Enabled), H.323 Name (9000), H.323 Extension (9000), Gatekeeper Mode (Manual), Gatekeeper IP Address 1 (10.2.1.42), Gatekeeper IP Address 2 ( ), Gatekeeper Authentication (Disabled), Gatekeeper Username ( ), Gatekeeper Password ( ), H.460 Active (Disabled), H.323 Tunneling (Disabled), and Protocol Monitor Port (1720).

3. Click **Confirm** to accept the change.

## Defending against Attacks

VCS sometimes receives calls from unknown caller, and the calls may be unable to answer. To ensure the communications security of the VCS, you can configure abnormal call answering feature for handling abnormal SIP incoming calls. For incoming H.323 calls, you can configure Safe Mode Call feature.

### Abnormal Call Answering

When destination address of the incoming SIP call does not match local address, the call is considered to be an abnormal call. You can reject the abnormal SIP incoming call, or answer it using IP address or SIP account randomly.

The abnormal call answering parameter on the endpoint is described below:

Parameter	Description	Configuration Method
<b>Abnormal Call Answering</b>	<p>Specifies the account type for answering abnormal SIP incoming calls.</p> <ul style="list-style-type: none"> <li>• <b>Disabled</b>—reject the abnormal SIP incoming calls.</li> <li>• <b>Account Answer</b>—use the SIP account to answer the abnormal SIP incoming calls.</li> <li>• <b>IP Call Answer</b>—use IP address to answer the abnormal SIP incoming calls.</li> </ul> <p><b>Default:</b> IP Call Answer</p>	Web User Interface

**To configure abnormal call answering via web user interface:**

1. Click on **Setting**->**Call Features**.

2. Select the desired value from the pull-down list of **Abnormal Call Answering**.

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes 'About', 'Language', and 'Logout'. The main menu has 'Home', 'Status', 'Account', 'Network', 'Setting' (highlighted), 'Directory', and 'Security'. On the left, a sidebar lists various settings categories: General, Date & Time, Call Features (highlighted), Video & Audio, Camera, Configuration, Upgrade, Tones, Wireless Micpod, 3rd-Party VMR, and Preset. The main content area displays the 'Call Features' settings. A list of settings is shown with their current values in dropdown menus: DND (Disabled), Auto Answer (Disabled), Auto Answer Mute (Disabled), Auto Answer Multiway (Disabled), Auto Dialout Mute (Disabled), Call Match (Enabled), History Record (Enabled), Call Protocol (Auto), Uplink Bandwidth (Auto), Downlink Bandwidth (Auto), Share Resolution (1080P), Share Frame Rate (15fps), Abnormal Call Answering (IP Call Answer, highlighted with a red box), and Safe Mode Call (Enabled).

3. Click **Confirm** to accept the change.

## Configuring Safe Mode Call

Safe Mode Call feature is used to verify whether the incoming H.323 call is coming from a video conferencing endpoint.

The Safe Mode Call parameter on the endpoint is described below:

Parameter	Description	Configuration Method
<b>Safe Mode Call</b>	<p>Enables or disables the Safe Mode Call feature</p> <ul style="list-style-type: none"> <li>• <b>Disabled</b>—Answer incoming H.323 calls directly without validation.</li> <li>• <b>Enabled</b>—Verify whether the incoming H.323 call is coming from a video conferencing endpoint. If it is, the VC110 video conferencing endpoint will answer it. If not, the incoming call will be rejected.</li> </ul> <p><b>Default:</b> Enabled</p>	Web User Interface

**To configure Safe Mode Call via web user interface:**

1. Click on **Setting**->**Call Features**.
2. Select the desired value from the pull-down list of **Safe Mode Call**.

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes 'About', 'Language', and 'Logout'. Below this is a green header with 'Yealink VC110' and a menu with 'Home', 'Status', 'Account', 'Network', 'Setting' (highlighted), 'Directory', and 'Security'. On the left, a sidebar lists various settings categories: General, Date & Time, Call Features (highlighted), Video & Audio, Camera, Configuration, Upgrade, Tones, Wireless Micpod, 3rd-Party VMR, and Preset. The main content area displays the 'Call Features' settings. A table lists various features with their current status in a pull-down menu. The 'Safe Mode Call' feature is highlighted with a red box and is currently set to 'Enabled'.

Feature	Value
DND	Disabled
Auto Answer	Disabled
Auto Answer Mute	Disabled
Auto Answer Multiway	Disabled
Auto Dialout Mute	Disabled
Call Match	Enabled
History Record	Enabled
Call Protocol	Auto
Uplink Bandwidth	Auto
Downlink Bandwidth	Auto
Share Resolution	1080P
Share Frame Rate	15fps
Abnormal Call Answering	IP Call Answer
Safe Mode Call	Enabled

3. Click **Confirm** to accept the change.



# Endpoint Maintenance

This chapter provides basic endpoint maintenance, including upgrading firmware, managing configurations, resetting endpoints and how to monitor network via SNMP. Topics include:

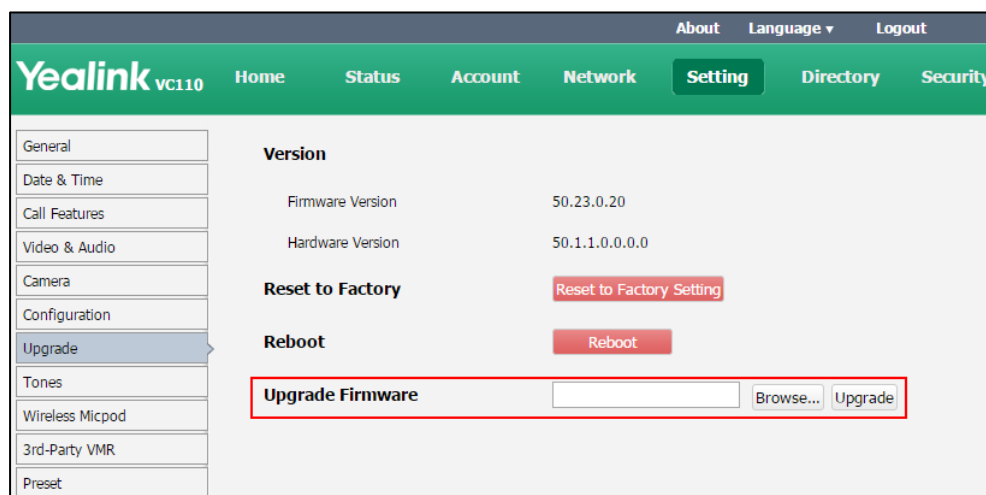
- [Upgrading Firmware](#)
- [Importing/Exporting Configuration](#)
- [Resetting to Factory](#)
- [SNMP](#)

## Upgrading Firmware

The newly released firmware version may add new features. Because of this, Yealink recommends you to update the latest firmware. You can upgrade the endpoint firmware via web user interface. The firmware name of the VC110 video conferencing endpoint is: 50.x.x.x.rom (x is the actual firmware version). You can download the latest firmware version from the Yealink website.

**To upgrade firmware via web user interface:**

1. Click on **Setting**->**Upgrade**.
2. Click **Browse** to locate the firmware from your local endpoint.



3. Click **Upgrade** to upgrade the firmware.

The browser pops up the dialog box "Firmware will be updated. It will take 5 minutes to complete. Please don't power off!".

- Click **Confirm** to confirm upgrading.

**Note**

**Caution!** Don't remove the Ethernet cable and power cord during the upgrade process. Don't close or refresh the web page when upgrading the firmware via web user interface.

## Importing/Exporting Configuration

We may need you to provide the endpoint configurations for the Yealink field application engineers to help analyze problems. You can import configurations to your endpoint to configure your endpoint quickly. The file format of configuration file must be \*.bin.

**To export the endpoint configurations via web user interface:**

- Click on **Setting**->**Configuration**.
- Click **Export**.

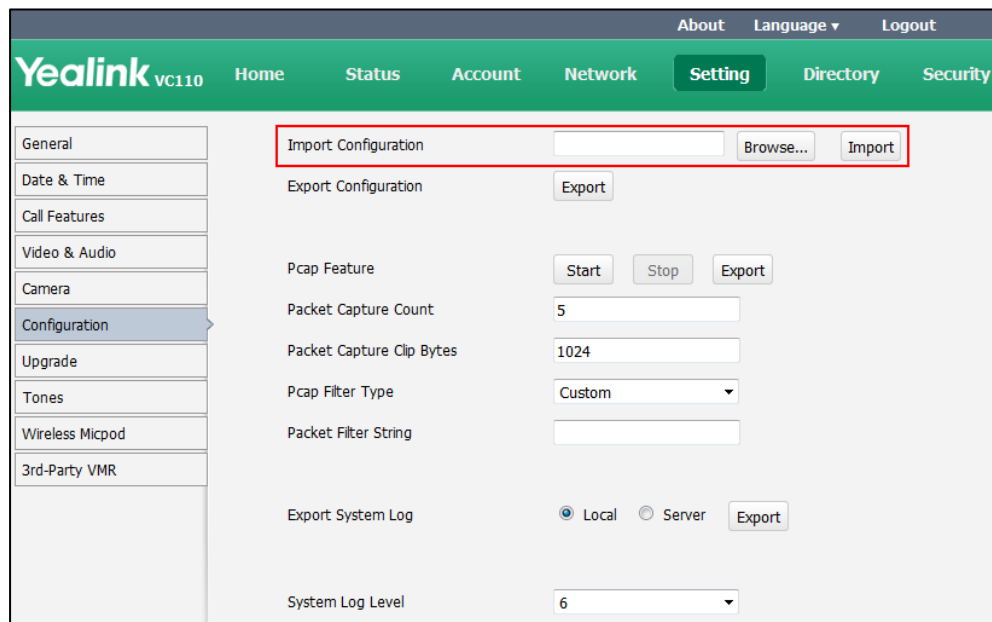
The screenshot shows the Yealink VC110 web interface. The top navigation bar includes links for About, Language, and Logout. Below this is a green header with the Yealink VC110 logo and a menu with Home, Status, Account, Network, Setting (highlighted), Directory, and Security. On the left, a sidebar lists various configuration categories: General, Date & Time, Call Features, Video & Audio, Camera, Configuration (highlighted), Upgrade, Tones, Wireless Micpod, and 3rd-Party VMR. The main content area is titled 'Configuration' and contains several settings. At the top, there are 'Import Configuration' and 'Export Configuration' buttons. The 'Export Configuration' button is highlighted with a red rectangle. Below this, there are settings for 'Pcap Feature' (Start, Stop, Export buttons), 'Packet Capture Count' (5), 'Packet Capture Clip Bytes' (1024), 'Pcap Filter Type' (Custom), and 'Packet Filter String'. At the bottom, there are 'Export System Log' options (Local, Server) and an 'Export' button, along with a 'System Log Level' dropdown set to 6.

- Click **Confirm** to export the configurations.

**To import the endpoint configurations via web user interface:**

- Click on **Setting**->**Configuration**.

- Click **Browse** to locate a configuration file from your local endpoint.



- Click **Import** to import the configuration file.

## Resetting to Factory

Reset the endpoint to factory configurations after you have tried all appropriate troubleshooting suggestions but still have not solved your problems.

When factory resetting the video endpoint, the following happens:

- The call logs will be deleted.
- Passwords will be reset to default.
- All system parameters will be reset to default values.
- All custom files will be deleted. Such as, certificates, local contacts and registered accounts.

It is not possible to undo a factory reset. But you can export the configuration first, and then you can re-import the configuration to recovery the endpoint after the reset.

You can reset the endpoint via the reset key on the VC110 all-in-one unit, remote control or web user interface.

### Note

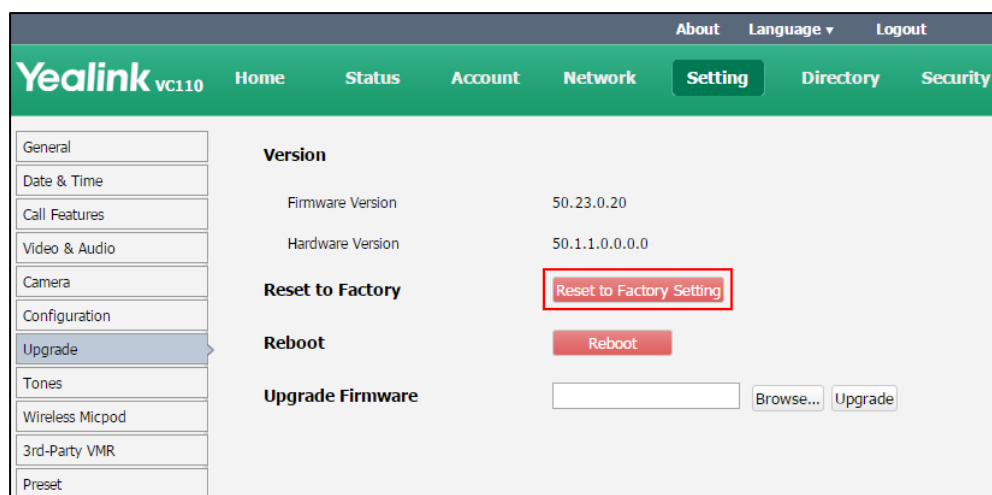
Reset of the endpoint may take a few minutes. Do not power off until the phone starts up successfully.

### To reset the endpoint via web user interface:

- Click on **Setting** -> **Upgrade**.



- Click **Reset to Factory Setting** in the **Reset to Factory** field.



The web user interface prompts the message "Reset the system?".

- Click **Confirm** to confirm the resetting.

#### To reset the endpoint via the remote control:

- Select **Menu** -> **Advanced** (default password: 0000)-> **Reboot & Reset**.
- Select **Reset**, and then press **OK**.

The display device prompts "Reset to Factory?"

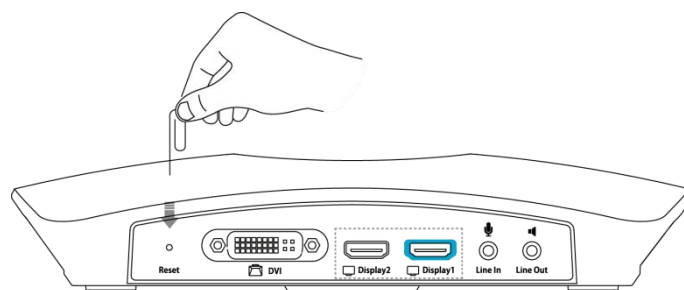
- Select **OK**, and then press **OK**.

The endpoint reboots automatically. The endpoint will reset to factory successfully after startup.

#### To reset the endpoint via the rest key on the VC110 all-in-one unit:

Using tiny objects (for example, the paper clip) to press and hold the reset button for 15 seconds until the screen turns black.

Do not power off the endpoint during the factory restore process. The endpoint reverts to the default factory settings and restarts automatically. This will take a few minutes.



## SNMP

SNMP (Simple Network Management Protocol) is an Internet-standard protocol for managing devices on IP networks. It is used mostly in network management endpoints to monitor

network-attached devices for conditions that warrant administrative attention. SNMP exposes management data in the form of variables on the managed endpoints, which describe the endpoint configuration. These variables can then be queried (and sometimes set) by managing applications. The variables accessible via SNMP are organized in hierarchies, which are described by Management Information Bases (MIBs).

Yealink endpoints support SNMPv1 and SNMPv2. They work as SNMP clients, receiving requests from the SNMP server. The SNMP server may send requests from any available source port to the configured port on the client, while the client responds to the source port on the SNMP server. Yealink endpoints only support the GET request from the SNMP server.

You can download SNMP application to monitor and manage information on a network entity.

The following table lists the basic object identifiers (OIDs) supported by the endpoint.

MIB	OID	Description
YEALINK-MIB	1.3.6.1.2.1.37459.2.1.1.0	The textual identification of the contact person for the endpoint, together with the contact information. For example, Sysadmin (root@localhost)
YEALINK-MIB	1.3.6.1.2.1.37459.2.1.2.0	An administratively-assigned name for the endpoint. If the name is unknown, the value is a zero-length string. For example, Yealink VC110.
YEALINK-MIB	1.3.6.1.2.1.37459.2.1.3.0	The physical location of the endpoint. For example, Server Room
YEALINK-MIB	1.3.6.1.2.1.37459.2.1.4.0	The time (in milliseconds) since the network management portion of the endpoint was last re-initialized.
YEALINK-MIB	1.3.6.1.2.1.37459.2.1.5.0	The firmware version of the endpoint.
YEALINK-MIB	1.3.6.1.2.1.37459.2.1.6.0	The hardware version of the endpoint.
YEALINK-MIB	1.3.6.1.2.1.37459.2.1.7.0	The endpoint's model.
YEALINK-MIB	1.3.6.1.2.1.37459.2.1.8.0	The MAC address of the endpoint.
YEALINK-MIB	1.3.6.1.2.1.37459.2.1.9.0	The IP address of the endpoint.
YEALINK-MIB	1.3.6.1.2.1.37459.2.1.10.0	The target version to which the current version is updated automatically.

MIB	OID	Description
		Format: MacVersion[*]ComVersion[*] For example, MacVersion[0.0.0.1]ComVersion[0.0.0.1]
YEALINK-MIB	1.3.6.1.2.1.37459.2.1.1 1.0	The command of the endpoint reboot. Format: snmpset -v 2c XXXX public 37459.2.1.11.0 s reboot XXXX refers to the IP address of the endpoint.

SNMP parameters on the endpoint are described below:

Parameter	Description	Configuration Method
<b>SNMP-&gt;Active</b>	Enables or disables SNMP feature on the endpoint. <b>Default:</b> Disabled <b>Note:</b> If you change this parameter, the endpoint will reboot to make the change take effect.	Web User Interface
<b>Port</b>	Specifies the SNMP port. <b>Valid Values:</b> 1-65535 <b>Default:</b> 161 <b>Note:</b> If you change this parameter, the endpoint will reboot to make the change take effect.	Web User Interface
<b>Trusted Address</b>	Configures IP address(es) or domain name of the trusted SNMP server. Multiple IP addresses or domain names should be separated by spaces. <b>Note:</b> If it is left blank, the endpoint accepts and handles GET requests from any SNMP server. If you change this parameter, the endpoint will reboot to make the change take effect.	Web User Interface

**To configure SNMP via web user interface:**

1. Click on **Network->Advanced**.

2. In the **SNMP** block, select **Enabled** from the pull-down list of **Active**.
3. Enter the SNMP port in the **Port** field.
4. Enter the IP address or domain name of the SNMP server in the **Trusted Address** field.  
Multiple IP addresses or domain names should be separated by spaces.

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes 'About', 'Language', and 'Logout'. The main menu has 'Home', 'Status', 'Account', 'Network' (selected), 'Setting', 'Directory', and 'Security'. On the left, a sidebar lists 'LAN Configuration', 'NAT/Firewall', 'Advanced' (selected), and 'Diagnose'. The main content area displays various settings:

- QoS**: Audio Priority (60), Video Priority (34), Data Priority (63).
- MTU**: Video MTU (1500).
- SNMP** (highlighted with a red box):
  - Active: Enabled (dropdown)
  - Port: 161
  - Trusted Address: 192.168.10.50 192.168.1.3
- Web Server**: HTTP (Enabled), HTTP Port (80), HTTPS (Enabled), HTTPS Port (443).
- 802.1x**: 802.1x Mode (Disabled), Identity, MD5 Password, and CA Certificates (with 'Browse...' and 'Upload' buttons).

5. Click **Confirm** to accept the change.  
A dialog box pops up to prompt that the settings will take effect after a reboot.
6. Click **Confirm** to reboot the endpoint immediately.



# Troubleshooting

This chapter provides an administrator with general information for troubleshooting some common problems that he (or she) may encounter while using the VC110 video conferencing endpoint.

## Troubleshooting Methods

The endpoint can provide feedback in a variety of forms, such as log files, packets, status indicators and so on, which can help an administrator to find the endpoint problem more easily and resolve it.

The following sections will help you to better understand and resolve the working status of the endpoint.

- [Viewing Log Files](#)
- [Capturing Packets](#)
- [Getting Information from Status Indicators](#)
- [Analyzing Configuration Files](#)
- [Viewing Call Statistics](#)
- [Using Diagnostic Methods](#)

## Viewing Log Files

The log files are Yealink specific debug files which may be requested by the Yealink support organization if you need technical support. The current log files are time stamped event log files. You can export the log files to a syslog server or the local endpoint. The administrator can specify the location where the log will be exported to and the severity level of the log.

Endpoint Log Level specifies the log level to be recorded. The default endpoint log level is 6.

Endpoint log level parameters are described below:

Parameter	Description	Configuration Method
<b>Export System Log</b>	<p>Specify where the endpoint log will be exported.</p> <p><b>Valid values:</b></p> <ul style="list-style-type: none"><li>• <b>Local</b>-export the endpoint log to the local computer.</li><li>• <b>Server</b>-export the endpoint log to the specified server.</li></ul>	Web User Interface

Parameter	Description	Configuration Method
	<b>Default:</b> Local	
<b>Server Name</b>	Specify the server address where the log will be exported. <b>Note:</b> It only works if the parameter "Export System Log" is set to Server.	Web User Interface
<b>System Log Level</b>	Specify the endpoint log level. <b>Note:</b> The supported level is 0-9. Higher value indicates more detailed content. <b>Default:</b> 6	Web User Interface

To configure the endpoint log level via web user interface:

1. Click on **Setting**->**Configuration**.
2. Select the desired level from the pull-down list of **System Log Level**.

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes links for About, Language, and Logout. The main navigation bar has tabs for Home, Status, Account, Network, Setting (selected), Directory, and Security. On the left, a sidebar lists various configuration categories: General, Date & Time, Call Features, Video & Audio, Camera, Configuration (selected), Upgrade, Tones, Wireless Micpod, and 3rd-Party VMR. The main content area displays the Configuration page with various settings. At the bottom, the 'System Log Level' is set to 6, which is highlighted with a red rectangular box.

3. Click **Confirm** to accept the change.

To export a log file to the local endpoint via web user interface:

1. Click on **Setting->Configuration**.
2. Mark the **Local** radio box in the **Export System Log** field.

The screenshot shows the Yealink VC110 web interface. The top navigation bar includes links for About, Language, and Logout. The main menu has tabs for Home, Status, Account, Network, Setting (selected), Directory, and Security. On the left, a sidebar lists various configuration categories: General, Date & Time, Call Features, Video & Audio, Camera, Configuration (selected), Upgrade, Tones, Wireless Micpod, and 3rd-Party VMR. The main content area displays the 'Configuration' page. Under the 'Export System Log' section, the 'Local' radio button is selected, and the 'Export' button is visible. Other settings like 'Packet Capture Count' (5) and 'System Log Level' (6) are also shown.

3. Click **Export** to open the file download window, and then save the file to your local endpoint.

The following figure shows a portion of a log file:

```

496 root      8876 SW  /yealink/bin/ggsvca_ipp
497 root      8876 SW  /yealink/bin/ggsvca_ipp
498 root      8876 SW  /yealink/bin/ggsvca_ipp
499 root      8876 SW  /yealink/bin/ggsvca_ipp
500 root      8876 SW  /yealink/bin/ggsvca_ipp
501 root      8876 SW  /yealink/bin/ggsvca_ipp
507 root      16424 SW  /yealink/bin/Screen.exe
508 root      10344 SW  /yealink/bin/sipServer.exe
509 root      10344 SW  /yealink/bin/sipServer.exe
515 root      16424 SW  /yealink/bin/Screen.exe
517 root      16424 SW  /yealink/bin/Screen.exe
519 root      10344 SW  /yealink/bin/sipServer.exe
521 root      16424 SW  /yealink/bin/Screen.exe
522 root      16424 SW  /yealink/bin/Screen.exe
523 root      16424 SW  /yealink/bin/Screen.exe
524 root      10344 SW  /yealink/bin/sipServer.exe
525 root      SW< [IRQ 45]
526 root      10344 SW  /yealink/bin/sipServer.exe
527 root      16424 SW  /yealink/bin/Screen.exe
528 root      16424 SW  /yealink/bin/Screen.exe
529 root      16424 SW  /yealink/bin/Screen.exe
1147 root     1788 SWN  sleep 1000
1227 root     10120 SWN  ConfigManApp.com
1228 root      4624 SW  /yealink/bin/mini_httpd -p 80 -d /yealink/html -c cgi
1229 root      2812 SWN  sh -c cd /tmp;ifconfig >> Messages;ps >> Messages;tar
1230 root      2812 RWN  ps
Feb 29 06:01:09 mini_httpd[388]: mini_httpd.c(1510):child process 1227 exit!
Feb 29 06:01:12 mini_httpd[1232]: mini_httpd.c(1997):path:/cgi-bin/ConfigManApp.com, query:Id=27
Feb 29 06:01:12 mini_httpd[388]: mini_httpd.c(1510):child process 1232 exit!
Feb 29 06:01:12 mini_httpd[1233]: mini_httpd.c(1997):path:/cgi-bin/ConfigManApp.com, query:Id=27
Feb 29 06:01:12 mini_httpd[388]: mini_httpd.c(1510):child process 1233 exit!
Feb 29 06:01:12 mini_httpd[1234]: mini_httpd.c(1997):path:/cgi-bin/ConfigManApp.com, query:Id=27
Feb 29 06:01:12 mini_httpd[388]: mini_httpd.c(1510):child process 1234 exit!

```

To export a log file to a syslog server via web user interface:

1. Click on **Setting->Configuration**.
2. Mark the **Server** radio box in the **Export System Log** field.



- Enter the IP address or domain name of the syslog server in the **Server Name** field.

The screenshot shows the Yealink VC110 web interface. The 'Configuration' menu is selected on the left sidebar. In the main content area, the 'Export System Log' section is highlighted with a red rectangle. It contains two radio buttons: 'Local' (unselected) and 'Server' (selected). To the right of these buttons is an 'Export' button. Below the radio buttons is a text field labeled 'Server Name' with the value '10.3.6.118' entered. Other visible settings include 'Pcap Feature' (Start/Stop/Export buttons), 'Packet Capture Count' (5), 'Packet Capture Clip Bytes' (1024), 'Pcap Filter Type' (Custom), and 'Packet Filter String'.

A dialog box pops up to prompt that settings will take effect after a reboot.

- Click **Confirm** to reboot the endpoint immediately.

## Capturing Packets

The administrator can capture packets in three ways: capturing the packets via web user interface, remote control or using the Ethernet software. Engineers can analyze the packets to troubleshoot problems.

Packets parameters are described below:



Parameter	Description	Configuration Method
<b>Pcap Feature</b>	Start and stop capturing packets or export the captured packets.	Web User Interface
<b>Packet Capture Count</b>	Configures the count of the number of packets to capture. <b>Default:</b> 5	Web User Interface
<b>Packet Capture Clip Bytes</b>	Configures the number of bytes (in kb) of the packet to capture. <b>Default:</b> 1024	Web User Interface
<b>Pcap Filter Type</b>	Configures the filter type of the packet to capture. <b>Valid Values:</b> <ul style="list-style-type: none"> <li><b>Custom</b>—Customize the packet</li> </ul>	Web User Interface

Parameter	Description	Configuration Method
	<p>filter string.</p> <ul style="list-style-type: none"> <li>• <b>SIP or H245 or H225</b>—Capture SIP, H245 and H225 packets.</li> <li>• <b>RTP</b>—Capture RTP packets.</li> </ul> <p><b>Default:</b> Custom</p>	
<b>Packet Filter String</b>	<p>Customizes the packet filter string.</p> <p><b>Syntax:</b></p> <p>Protocol+Direction+Host(s)+ Value +Logical Operations+Other Expression</p> <p><b>Protocol:</b></p> <p>Values: ether, fddi, ip, arp, rarp, decnet, lat, sca, moprc, mopdl, tcp and udp.</p> <p>Application-level protocol, such as http, dns and sip are not supported.</p> <p>If no protocol is specified, all the protocols are used.</p> <p><b>Direction:</b></p> <p>Values: src, dst, src and dst, src or dst</p> <p>If no source or destination is specified, the "src or dst" keywords are applied.</p> <p>For example: "host 10.2.2.2" is equivalent to "src or dst host 10.2.2.2".</p> <p><b>Host(s):</b></p> <p>Values: net, port, host, portrange.</p> <p>If no host(s) is specified, the "host" keyword is used.</p> <p>For example: "src 10.1.1.1" is equivalent to "src host 10.1.1.1".</p> <p><b>Logical Operations:</b></p> <p>Values: not, and, or.</p> <p>Negation ("not") has highest precedence. Alternation ("or") and concatenation ("and") have equal precedence and associate left to right.</p> <p>For example:</p> <p>"not tcp port 3128 and tcp port 23" is equivalent to "(not tcp port 3128) and</p>	Web User Interface

Parameter	Description	Configuration Method
	<p>tcp port 23".</p> <p>"not tcp port 3128 and tcp port 23" is NOT equivalent to "not (tcp port 3128 and tcp port 23)".</p> <p><b>Example:</b> (src host 10.4.1.12 or src net 10.6.0.0/16) and tcp dst port range 200-10000 and dst net 10.0.0.0/8</p> <p>Displays packets with source IP address 10.4.1.12 or source network 10.6.0.0/16, the result is then concatenated with packets having destination TCP port range from 200 to 10000 and destination IP network 10.0.0.0/8.</p> <p><b>Default:</b> Blank</p> <p><b>Note:</b> It only works if the parameter "Pcap Filter Type" is set to Custom.</p>	

#### To capture packets via the remote control:

Before capturing packets, you need to insert a USB flash drive to the USB port on the VC110 all-in-one unit to store packets. Make sure the USB feature is enabled.

1. Long press  when the endpoint is idle or during a call.  
The display device prompts "Onekey-capture is running, press the Backspace key for 2s to turn off it".
2. Long press  for 2 seconds to stop capturing packets.  
The packets are saved in the yealink.debug folder on your USB flash driver.

#### To capture packets via web user interface:

1. Click on **Setting->Configuration**.
2. Enter the desired value in the **Packet Capture Count** field.
3. Enter the desired value in the **Packet Capture Clip Bytes** field.
4. Select the desired value from the pull-down list of **Pcap Filter Type**.  
If **Custom** is selected, enter the desired packet filter string in the **Packet Filter String** field.
5. Click **Start** to start capturing signal traffic.
6. Reproduce the issue to get stack traces.
7. Click **Stop** to stop capturing.

8. Click **Export** to open the file download window, and then save the file to your local endpoint.


The screenshot shows the Yealink VC110 web interface. The top navigation bar includes links for About, Language, and Logout. The main menu has tabs for Home, Status, Account, Network, Setting (selected), Directory, and Security. On the left, a sidebar lists various configuration categories: General, Date & Time, Call Features, Video & Audio, Camera, Configuration (selected), Upgrade, Tones, Wireless Micpod, and 3rd-Party VMR. The main content area is titled 'Configuration' and contains several sections. The 'Pcap Feature' section is highlighted with a red box and includes buttons for Start, Stop, and Export. Below it are input fields for Packet Capture Count (set to 5), Packet Capture Clip Bytes (set to 1024), a dropdown for Pcap Filter Type (set to Custom), and a text field for Packet Filter String. Other sections include 'Import Configuration' with a 'Browse...' button, 'Export Configuration' with an 'Export' button, 'Export System Log' with radio buttons for Local (selected) and Server, and 'System Log Level' set to 6.

#### To capture packets using the Ethernet software:

Connect the Internet ports of the endpoint and the PC to the same HUB, and then use Sniffer, Ethereal or Wireshark software to capture the signal traffic. You can also set mirror port on a switch to monitor the port connected to the endpoint.

## Getting Information from Status Indicators

In some instances, status indicators are helpful for finding endpoint troubles. Status indicators may consist of the power LED, icons on the status bar of the display device or prompt messages. The following shows two examples of obtaining the endpoint information from status indicators:

- If a LINK failure of the endpoint is detected, the icon  will appear on the status bar of the display device, indicating the current network is not available.
- If the power LED does not light, it indicates the endpoint is not powered on.

For more information on the icons, refer to [Icon Instructions](#) on page 33.

## Analyzing Configuration Files

Wrong configurations may have an impact on your endpoint use. You can export configuration file to check the current configuration of the endpoint and troubleshoot if necessary. For more information on how to export endpoint configuration, refer to [Importing/Exporting Configuration](#) on page 272.

## Viewing Call Statistics

You can enter the view call statistics screen during an active call. Information includes:

- **Total Bandwidth:** Uplink Bandwidth and Downlink Bandwidth.
- **Video:** Resolution, Codec, Bandwidth, Frame Rate, Jitter, Total Packet Lost, Packet Lost(%).
- Protocol used during a call.
- Device information of the far site.
- **Audio:** Codec, Bandwidth, Sample Rate, Jitter, Total Packet Lost, Packet Lost(%)
- **Share:** Resolution, Codec, Bandwidth, Frame Rate.

Use the remote control to select **More->Call Statistics** during an active call to view call statistics.



## Using Diagnostic Methods

The endpoint supports the following diagnostic methods:


- **Audio Diagnose:** Check whether the audio input device and audio output device are working properly.
- **Camera Diagnose:** Check whether the camera can pan and change focus normally.
- **Ping:** Check whether the endpoint can establish contact with the IP address that you specify.
- **Trace Route:** Display the route (path) and measure transit delays of packets across an Internet Protocol (IP) network.



Above diagnostic methods can be configured using remote control. Ping and Trance Route can also be configured via web user interface.

### To diagnose audio via the remote control:


1. Select **Menu->Diagnose** menu.
2. Select **Audio Diagnose**, and then press .
3. Speak into the microphone.
4. Check whether the microphone can pick up audio and play back the audio properly.  
If the endpoint plays back the audio normally, it means that audio works well.
5. Press  to stop audio diagnostics.

### To diagnose the camera via the remote control:


1. Select **Menu->Diagnose** menu.
2. Select **Camera Diagnose**, and then press .
3. Press navigation keys to adjust the camera position.

4. Press  or  to adjust the focus.  
If the camera can move and zoom normally, it means that the camera works properly.
5. Press the **Back** soft key to stop camera diagnose.

**To diagnose network via the remote control:**

1. Select **Menu->Diagnose->Ping**.
2. Select **Start**, and then press .
3. The endpoint will Ping **yealinkvc.com** address by default. This will check whether the endpoint can establish contact with the public IP address.
4. You can also enter any IP address (for example, the IP address of the remote endpoint) in the **Ping** field.  
It measures the round-trip time from transmission to reception and reports errors and packet loss. The results of the test include a statistical summary of the response packets received, including the minimum, maximum, and the mean round-trip times.
5. Press the **Back** soft key to return to the Diagnose menu.

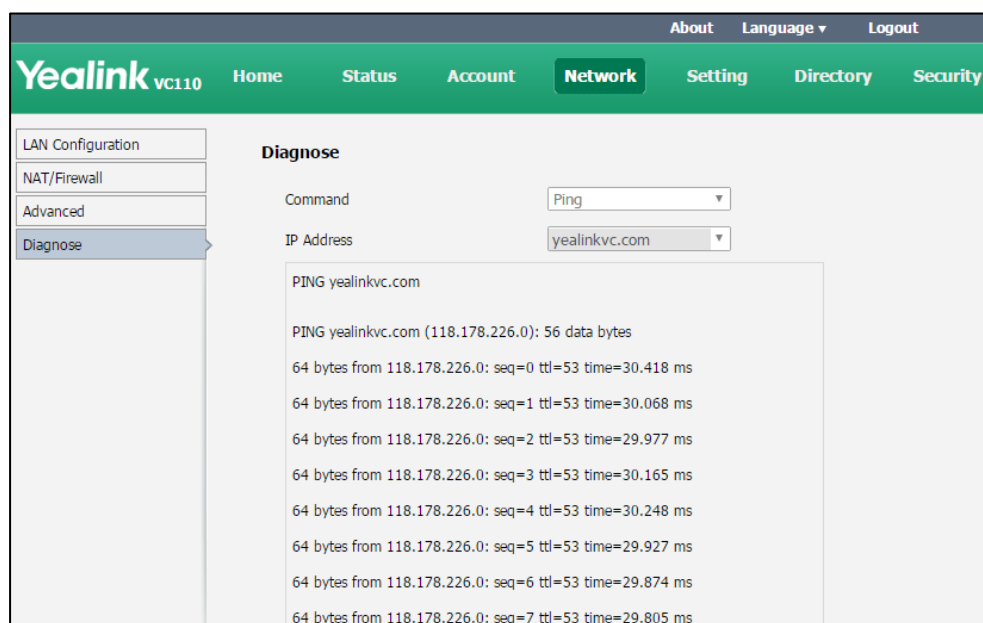
**Trace Route:**

1. Select **Menu->Diagnose->Trace Route**.
2. Select **Start**, and then press .
3. The endpoint will trace **8.8.8.8** address by default.
4. You can also enter any IP address (for example, the IP address of the remote endpoint) in the **Trace Route** field.  
If the test is successful, the endpoint lists the hops between the endpoint and the IP address you entered. You can check whether congestion happens via the time cost between hops.
5. Press the **Back** soft key to return to the Diagnose menu.

**To diagnose network via web user interface:**

1. Click on **Network ->Diagnose**.
2. Select the desired diagnostic method from the pull-down list of **Command**.
3. Click **Start** to start diagnosing.  
You can also enter any IP address in the **IP Address** field.

The web page displays the diagnosis:



4. Click **Stop** to complete diagnosing.

You can click **Copy** to copy the content to the clipboard.

## Troubleshooting Solutions

This chapter provides general troubleshooting solutions to help you solve the problems you might encounter when using your endpoint.

Ensure that the endpoint has not been physically damaged when experiencing a problem. Check whether the cables are loose and the connections are correct and secure. These are common causes of problems.

If problems you encounter are not mentioned in this chapter, you can contact your distributor or Yealink FAE.

## General Issues

### Why is the display device black?

- Check whether the display device is connected properly to the VC110 all-in-one unit.
- Check whether the endpoint is in sleep mode. Press any key on the video conferencing phone or remote control to resume endpoint operation.
- Check whether the display device is in sleep mode or is turned off. Press the power button on the remote control or on the display device.
- Check whether you have selected the correct video input source. You can try to change video input source.

### Why doesn't the display device display time and date correctly?

- If you have configured the endpoint to obtain the time and date from the NTP server automatically, ensure that SNTP server and time zone are configured correctly in the endpoint and whether the connection between the endpoint and NTP server is working properly.
- If you have configured the endpoint to obtain the time and date manually, ensure that you have configured the time and date correctly.

### Why doesn't the remote control work?

- Check whether the endpoint is powered on.
- Check whether the positive and negative charges of the battery are connected correctly.
- Check whether the battery has sufficient power left.
- Check whether no special fluorescent or neon signs nearby.

### Why does the endpoint fail to call the far site?

- Check whether the network of the local site is available.
- Check whether the network of the far site is available.
- Check whether the far site enables the DND feature.
- Check whether the accounts have been registered correctly, and the endpoint uses the appropriate account to call the far site.
- Ensure that the number you are calling is correct.
- Check whether the far site rejects your call.
- Check whether the firewall blocks the inbound traffics from the other site.
- Check whether the far site has already up to maximum call-in limitation.
- If the local site is forced to use encryption, ensure that the far site enables encryption too. For more information on call encryption, refer to [Secure Real-Time Transport Protocol](#) on



page [261](#) and [H.235](#) on page [264](#).

- Ensure that the far site supports the same call protocol as the local site.

### Why does the endpoint fail to call the far site via IP address?

- Ensure that at least one call protocol is enabled on both sites. For more information, refer to [Configuring SIP Settings](#) on page [134](#) and [Configuring H.323 Settings](#) on page [138](#).
- Ensure that the network is connected correctly.
- Ensure that the network is configured correctly. For more information, refer to [Configuring LAN Properties](#) on page [56](#).
- Ping the IP address of the far site. Contact your system administrator if it fails. For more information, refer to [Using Diagnostic Methods](#) on page [286](#).

### Why doesn't the status bar of the display device display IP address?

- Check whether the network is available.
- Check whether the LAN property is configured correctly. For more information on LAN property configuration, refer to [Configuring LAN Properties](#) on page [56](#).
- Check whether the endpoint has enabled the hide IP address feature. For more information on disabling the hide IP address feature, refer to [Hiding IP Address](#) on page [183](#).
- Check whether the endpoint has configured firewall and NAT correctly. For more information on, refer to [Configuring the Endpoint for Use with a Firewall or NAT](#) on page [86](#).

### Why does the network keep losing packets?

- Check whether the network is available and the LED indicator on the left of the Internet port illuminates green.
- Try to use the low speed connection to check whether packets are lost. Deficient bandwidth is an important reason for packet loss.
- Check the configuration of the network speed and duplex mode on the endpoint, switch and router.

## Camera Issues

### Why can't I adjust the camera angle and focus?

- You can adjust the camera when the endpoint is idle or during a call. The camera cannot be adjusted when the endpoint is in the menu screen.
- Ensure that the batteries in the remote control are in good working condition, and installed correctly.
- Aim the remote control at the sensor when operating the unit.

- Ensure that no objects are obstructing the sensor on the front of the camera.
- Ensure that the LED on the front of the camera flashes green when you use the remote control to operate the unit.
- Ensure that what you are controlling is the local camera.
- Reboot the endpoint.
- If the above suggestions cannot solve your problem, perhaps the remote control is broken. You can contact your endpoint administrator for help.

### Why can't adjust the remote camera during an active call?

- Use the remote control to control the local camera to check whether the remote control can be used normally.
- Ensure that the far site has enabled the far-end camera control feature. For more information, refer to [Far-end Camera Control](#) on page 214.
- Ensure that what you are controlling is the remote camera. Select **More->Near/Far Camera** during an active call and then select the remote video image.
- Ensure that the far site supports the same call protocol as the local site. For more information, refer to [Camera Control Protocol](#) on page 215.

### Why is the video quality bad?

- Ensure that the display device has suitable resolution.
- Check whether the packet has been lost. For more information on packet loss, refer to [Viewing Call Statistics](#) on page 286.
- Ensure that camera settings are configured correctly, such as brightness and white balance.
- Avoid high-intensity indoor light or direct sunlight on the camera.

## Video & Audio Issues

### Why can't I hear the audio during a call?

- Ensure that the local audio output device is connected correctly.
- Use audio diagnose to check whether the audio device is working normally.
- Ensure that the ringer volume is not set to the minimum.
- Check whether the far site is muted.

### Why can't the far site hear the local audio?

- Ensure that the local audio input device is connected correctly.
- Check whether the local site is muted.
- Check whether the endpoint has enabled the auto answer mute feature.

- Check whether the endpoint has enabled the auto dialout mute feature.

### Why can't I hear the other site clearly during a call?

- Ensure that the speaker volume of the far site is not set too low.
- Muffled audio reception from the far side may be caused by highly reverberant rooms. Speak in close proximity to the phone.
- Adjust the priority order for your audio codec if you have chosen a low-bandwidth audio codec to be first. For more information, refer to [Audio Codecs](#) on page 150.
- Dust and debris may cause audio quality. Do not use any kind of liquid or aerosol cleaner on the phone. A soft, slightly damp cloth should be sufficient to clean the top surface of the phone if necessary.

### Why is the voice quality poor?

Users may receive poor voice quality during a call, such as intermittent voice, low volume, echo or other noise. It is difficult to diagnosis the root causes of the voice anomalies. The possible reasons are:

- Users sit too far from or near to the microphone.
- The audio pickup device is moved frequently.
- Intermittent voice is probably caused by voice packet loss or jitter. Voice packet loss may occur due to network congestion. Jitter may occur due to information reorganization of the transmission or receiving equipment, such as, delay processing, retransmission mechanism or buffer overflow.
- Noise devices, such as computers or fans, may make it difficult to hear each other's voices clearly.
- Wires may also cause this problem. Replace the old with the new cables, and then reconnect to check whether the new cables provide better connectivity.

### Why can't I view the local video image?

- Check whether the local site camera is connected to the VC110 all-in-one unit correctly.
- Check whether camera is powered on, and the LED indicator illuminates green.
- Check whether the camera is selected for the current video input source.
- Check the screen layout to see whether the remote video image is shown in full size.

### Why can't I view the menu?

- Check whether the Display1 port of VC110 all-in-one unit is connected to the HDMI port on the display device.

## Why can't I start presentation?

- Check whether a PC is connected to the VC110 all-in-one unit.
- Check whether the PC is sending a signal.
- Check the call statistics to see whether the endpoint is sharing content.
- Ensure that dual-stream is configured correctly. For more information, refer to [Dual-Stream Protocol](#) on page 200.

## Why does the far-site display black screen when local starts a presentation?

This situation may be due to the difference between Signaling Server address and the Media Server address.

The actual address is different from the negotiated address, so that starting a presentation in this situation will result in the failure of sending packets to the correct address. You can disable the network adaptive feature, so that the endpoint will send packets to the negotiated address other than the actual address.

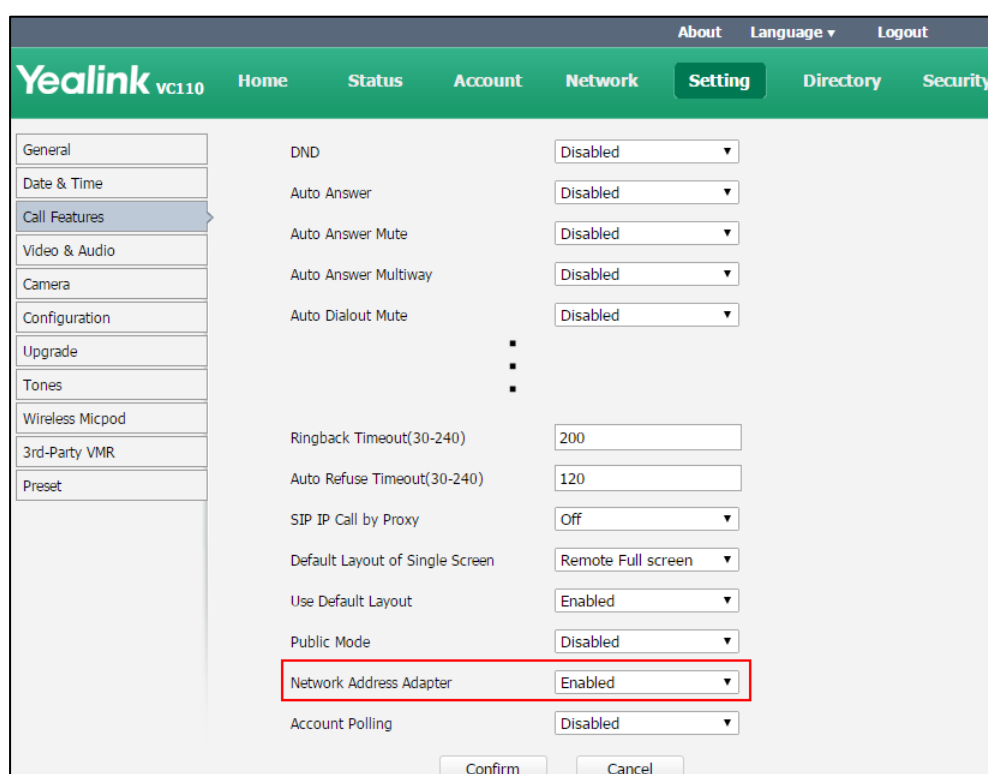
Network address adapter parameter is described below:

Parameter	Description	Configuration Method
<b>Network address adapter</b>	<p>Enable or disable the network address adapter feature.</p> <p><b>Valid values:</b></p> <ul style="list-style-type: none"> <li>• <b>Enabled</b>-send packets to the actual address.</li> <li>• <b>Disabled</b>- send packets to the negotiated address other than the actual address.</li> </ul> <p><b>Default:</b> Enabled</p>	Web User Interface

**To configure the network address adapter via web user interface:**

1. Click on **Setting**->**Call Features**.

2. Select the desired level from the pull-down list of **Network Address Adapter**.



The screenshot shows the Yealink VC110 web interface. The top navigation bar includes 'About', 'Language', and 'Logout'. The main navigation bar has 'Home', 'Status', 'Account', 'Network', 'Setting' (highlighted), 'Directory', and 'Security'. On the left, a sidebar lists various settings categories: General, Date & Time, Call Features (highlighted), Video & Audio, Camera, Configuration, Upgrade, Tones, Wireless Micpod, 3rd-Party VMR, and Preset. The main content area displays various settings. The 'Network Address Adapter' setting is highlighted with a red box and is set to 'Enabled'. Other settings include DND (Disabled), Auto Answer (Disabled), Auto Answer Mute (Disabled), Auto Answer Multiway (Disabled), Auto Dialout Mute (Disabled), Ringback Timeout(30-240) (200), Auto Refuse Timeout(30-240) (120), SIP IP Call by Proxy (Off), Default Layout of Single Screen (Remote Full screen), Use Default Layout (Enabled), Public Mode (Disabled), and Account Polling (Disabled). At the bottom, there are 'Confirm' and 'Cancel' buttons.

3. Click **Confirm** to accept the change.

## Endpoint Maintenance

### How to prevent monitor burn-in?

Refer to your monitor's documentation for specific recommendations and instructions. The following guidelines help prevent image burn-in:

- Ensure that static images are not displayed for long periods.
- Be aware that meetings that last more than an hour without much movement can have the same effect as a static image.
- Configure the automatic sleep time to be 1 hours or less.
- Consider decreasing the monitor's sharpness, brightness, and contrast settings if they are set to their maximum values.


### How to reboot the endpoint?

When you do one of the following, the endpoint will reboot:

- Reboot endpoint
- Reset endpoint
- Upgrade firmware

- Configure some features need to take effect after a reboot

You can reboot the endpoint in the following ways:

- Select **Menu->Advanced** (default password: 0000) ->**Reboot & Reset->Reboot**, and then press .
- Log into web user interface and click on **Setting->Upgrade->Reboot**, and then click **Confirm**.

### Why does the endpoint fail to upgrade?

- Ensure that the firmware is different from the firmware currently in use.
- Ensure that the downloaded firmware applies to the endpoint.
- Ensure that the endpoint is powered on normally, and the network is available during the upgrade process.
- When upgrading firmware via web user interface, ensure that the web user interface is not refreshed or closed during the upgrade process.



## Appendix

### Appendix A: Time Zones

Time Zone	Time Zone Name
-11:00	Samoa
-10:00	United States-Hawaii-Aleutian
-10:00	United States-Alaska-Aleutian
-09:30	French Polynesia
-09:00	United States-Alaska Time
-08:00	Canada(Vancouver, Whitehorse)
-08:00	Mexico(Tijuana, Mexicali)
-08:00	United States-Pacific Time
-07:00	Canada(Edmonton, Calgary)
-07:00	Mexico(Mazatlan, Chihuahua)
-07:00	United States-Mountain Time
-07:00	United States-MST no DST
-06:00	Canada-Manitoba(Winnipeg)
-06:00	Chile(Easter Islands)
-06:00	Mexico(Mexico City, Acapulco)
-06:00	United States-Central Time
-05:00	Bahamas(Nassau)
-05:00	Canada(Montreal, Ottawa, Quebec)
-05:00	Cuba(Havana)
-05:00	United States-Eastern Time
-04:30	Venezuela(Caracas)
-04:00	Canada(Halifax, Saint John)
-04:00	Chile(Santiago)
-04:00	Paraguay(Asuncion)
-04:00	United Kingdom-Bermuda(Bermuda)
-04:00	United Kingdom(Falkland Islands)
-04:00	Trinidad&Tobago
-03:30	Canada-New Foundland(St.Johns)
-03:00	Denmark-Greenland(Nuuk)
-03:00	Argentina(Buenos Aires)
-03:00	Brazil(no DST)
-03:00	Brazil(DST)
-02:30	Newfoundland and Labrador
-02:00	Brazil(no DST)
-01:00	Portugal(Azores)



Time Zone	Time Zone Name
0	GMT
0	Greenland
0	Denmark-Faroe Islands(Torshavn)
0	Ireland(Dublin)
0	Portugal(Lisboa, Porto, Funchal)
0	Spain-Canary Islands(Las Palmas)
0	United Kingdom(London)
0	Morocco
+01:00	Albania(Tirane)
+01:00	Austria(Vienna)
+01:00	Belgium(Brussels)
+01:00	Caicos
+01:00	Chad
+01:00	Spain(Madrid)
+01:00	Croatia(Zagreb)
+01:00	Czech Republic(Prague)
+01:00	Denmark(Kopenhagen)
+01:00	France(Paris)
+01:00	Germany(Berlin)
+01:00	Hungary(Budapest)
+01:00	Italy(Rome)
+01:00	Luxembourg(Luxembourg)
+01:00	Macedonia(Skopje)
+01:00	Netherlands(Amsterdam)
+01:00	Namibia(Windhoek)
+01:00	Poland (Warsaw)
+02:00	Estonia(Tallinn)
+02:00	Finland(Helsinki)
+02:00	Gaza Strip(Gaza)
+02:00	Greece(Athens)
+02:00	Israel(Tel Aviv)
+02:00	Jordan(Amman)
+02:00	Latvia(Riga)
+02:00	Lebanon(Beirut)
+02:00	Moldova(Kishinev)
+02:00	Russia(Kaliningrad)
+02:00	Romania(Bucharest)
+02:00	Syria(Damascus)
+02:00	Turkey(Ankara)
+02:00	Ukraine(Kyiv, Odessa)
+03:00	East Africa Time

Time Zone	Time Zone Name
+03:00	Iraq(Baghdad)
+03:00	Russia(Moscow)
+03:30	Iran(Teheran)
+04:00	Armenia(Yerevan)
+04:00	Azerbaijan(Baku)
+04:00	Georgia(Tbilisi)
+04:00	Kazakhstan(Aktau)
+04:00	Russia(Samara)
+04:30	Afghanistan(Kabul)
+05:00	Kazakhstan(Aqtobe)
+05:00	Kyrgyzstan(Bishkek)
+05:00	Pakistan(Islamabad)
+05:00	Russia(Chelyabinsk)
+05:30	India(Calcutta)
+05:45	Nepal(Katmandu)
+06:00	Kazakhstan(Astana, Almaty)
+06:00	Russia(Novosibirsk, Omsk)
+06:30	Myanmar(Naypyitaw)
+07:00	Russia(Krasnoyarsk)
+07:00	Thailand(Bangkok)
+08:00	China(Beijing)
+08:00	Singapore(Singapore)
+08:00	Australia(Perth)
+08:00	Russia(Irkutsk, Ulan-Ude)
+08:45	Eucla
+09:00	Korea(Seoul)
+09:00	Japan(Tokyo)
+09:00	Russia(Yakutsk, Chita)
+09:30	Australia(Adelaide)
+09:30	Australia(Darwin)
+10:00	Australia(Sydney, Melbourne, Canberra)
+10:00	Australia(Brisbane)
+10:00	Australia(Hobart)
+10:00	Russia(Vladivostok)
+10:30	Australia(Lord Howe Islands)
+11:00	New Caledonia(Noumea)
+11:00	Russia(Srednekolymsk Time)
+11:30	Norfolk Island
+12:00	New Zealand(Wellington, Auckland)
+12:00	Russia(Kamchatka Time)
+12:45	New Zealand(Chatham Islands)

Time Zone	Time Zone Name
+13:00	Tonga(Nukualofa)
+13:30	Chatham Islands
+14:00	Kiribati

## Appendix B: Trusted Certificates

Yealink video conferencing endpoint trusts the following CAs by default:

- Symantec Class 3 Secure Server CA
- Class 1 Public Primary Certification Authority
- Deutsche Telekom AG Root CA 2
- VeriSign Class 1 Public Primary Certification Authority - G5
- VeriSign Class 3 Public Primary Certification Authority - G4
- VeriSign Class 3 Public Primary Certification Authority - G3
- VeriSign Class 1 Public Primary Certification Authority - G3
- GeoTrust Primary Certification Authority - G2
- Yealink.com
- Yealinkvc.com
- Class 3 Public Primary Certification Authority - G2
- Equifax Secure Global eBusiness CA-1
- DigiCert High Assurance EV Root CA
- VeriSign Universal Root Certification Authority
- Equifax Secure Certificate Authority
- Thawte Primary Root CA
- Thawte Personal Freemail CA
- Class 3 Public Primary Certification Authority
- GeoTrust Global CA
- Quickconnect.starleaf.com
- GeoTrust Primary Certification Authority
- GeoTrust Universal CA 2
- GeoTrust Global CA 2
- thawte Primary Root CA - G3
- thawte Primary Root CA - G2
- Class 1 Public Primary Certification Authority - G2
- Thawte Premium Server CA
- VeriSign Class 4 Public Primary Certification Authority - G3
- StarLeaf CA

- VeriSign Class 2 Public Primary Certification Authority - G3
- Thawte Server CA
- Equifax Secure eBusiness CA-1
- GeoTrust Inc.
- Class 2 Public Primary Certification Authority - G2
- Class 4 Public Primary Certification Authority - G2
- VeriSign Class 3 Public Primary Certification Authority - G5

**Note**

Yealink endeavors to maintain a built-in list of most common used CA Certificates. Due to memory constraints, we cannot ensure a complete set of certificates. If you are using a certificate from a commercial Certificate Authority not in the list above, you can send a request to your local distributor. At this point, you can upload your particular CA certificate into your phone. For more information on uploading custom CA certificate, refer to [Transport Layer Security](#) on page 253.



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