User Manual
W610H

Version: 1.0.0 | Release Date: 2024.09.11

Directory

1   Safety Instruction

1.1   Safety Instructions

Please read the following safety notices before installing or using this unit. They are crucial for the safe and reliable operation of the device.

● Please use the external power supply that is included in the package. Other power supply may cause damage to the device and affect the behavior or induce noise.

● Before using the external power supply in the package, please check the home power voltage. Inaccurate power voltage may cause fire and damage.

● Please do not damage the power cord. If power cord or plug is impaired, do not use it because it may cause fire or electric shock.

● Do not drop, knock or shake the device. Rough handling can break internal circuit boards.

● This phone is designed for indoor use. Do not install the device in places where there is direct sunlight. Also do not put the device on carpets or cushions. It may cause fire or breakdown.

● Avoid exposure the device to high temperature or below 0℃ or high humidity.

● Avoid wetting the unit with any liquid.

● Do not attempt to open it. Non-expert handling of the device could damage it. Consult your authorized dealer for help, or else it may cause fire, electric shock and breakdown.

● Do not use harsh chemicals, cleaning solvents, or strong detergents to clean it. Wipe it with a soft cloth that has been slightly dampened in a mild soap and water solution.

● When lightning, do not touch power plug, it may cause an electric shock.

● Do not install this phone in an ill-ventilated place. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents.

1.2　　　Battery Warning

- To prevent the battery pack from leaking, overheating and catching fire.Please observe the following precautions:
- Soft aluminum packaging foil is easily damaged by sharp edged parts such as nickel sheets, pins and needles.
- Do not hit the battery pack with any sharp parts.
- Do not immerse the battery pack in water or seawater.
- Do not use and place the battery pack near heat sources such as fire or heaters.
- Do not reverse the positive and negative poles.
- Do not connect the battery pack to the power outlet.
- Do not throw the battery pack into fire or heat.
- Do not connect the positive and negative poles directly to metal objects such as wires, which may cause a short circuit of the battery pack.
- Do not transport and store batteries together with metal items such as necklaces and hairpins.
- Do not knock or throw the battery pack.
- Do not directly solder the battery pack or battery, and do not pierce the battery with nails or other sharp objects.
- Please use the charger configured at the time of purchase when charging.

2 Overview

W610H is the terminal device in the IPCT (IP Cordless Telecommunications) system. After connecting to the Manager/Base, it can communicate and seamlessly switch between roaming.

For users, the IPCT system is a cost-effective wireless office system that provides convenient operation while achieving environmental protection. For enterprise and home users who pursue reliable, long-distance, and efficient wireless networks, it will be a very ideal choice.

2.1 Specification

Model	W610H
Screen	240 * 320 color screen
SIP Line	4
Internal Extension	1
Local Contacts	1000
XML Contacts	1000
LDAP Contacts	1000
Call logs	600
Virtual Dsskey	8x2=16
Talk Duration	8h
Standby Duration	160h

3 Installation

3.1 Packing Contents

Power Adapter   Charging Base   Quick Start Guide

Phone   Rechargeable Battery   Belt Clip
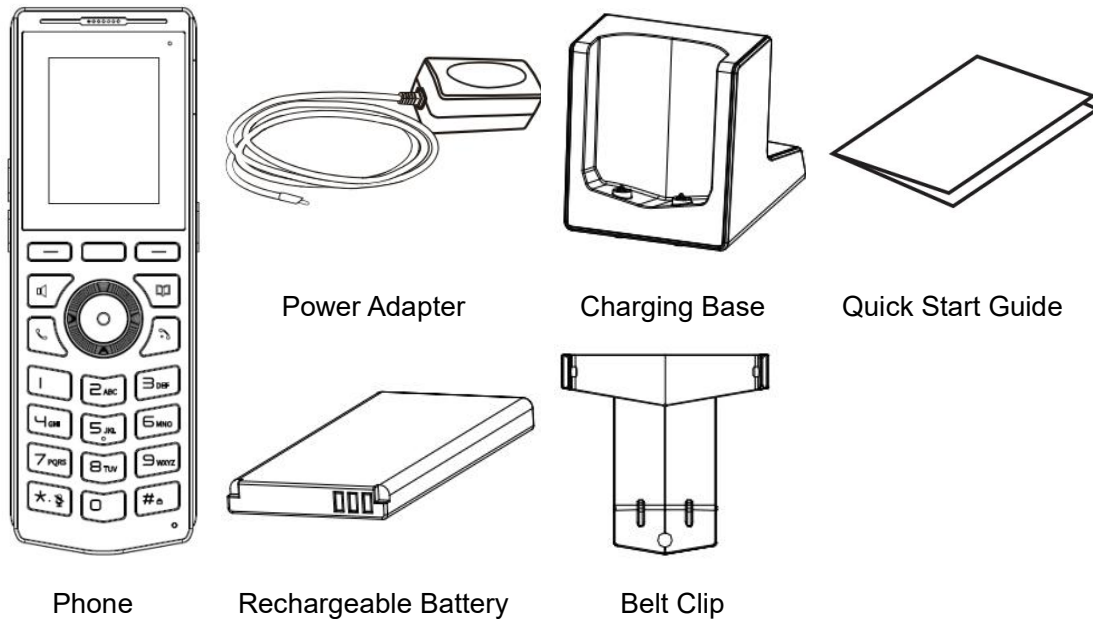
3.2 Install

3.2.1 Install the battery

1. Removing the rear case: Remove the rear case of the whole machine with a little force from the handset position of the rear case of the main unit.

2. Install the battery: Take out the battery from the packaging box, with the battery with the notch facing up, put the battery C at the battery compartment C, and pull the battery key until it completely fits the underside of the battery.

3. Install the back cover: Align the back cover with the buckle on the back of the main unit, press your hands along the edge of the main unit from top to bottom (there will be a "click" sound during the process), and ensure that there is no gap, it means that the back cover is fastened.
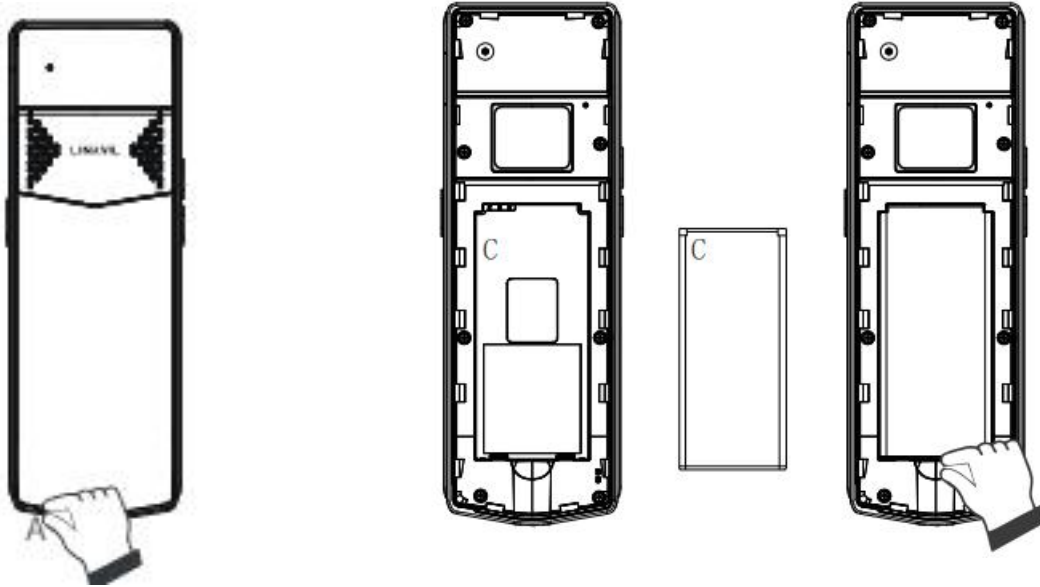
Removing the rear case   Installing the battery
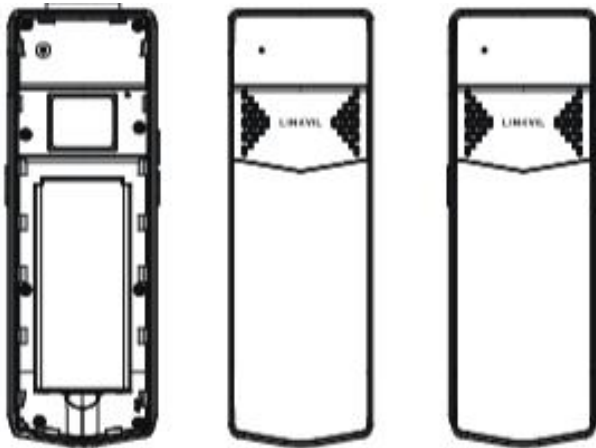
Installing the rear case

3.2.2   Battery Replacement

1. Remove the rear case: Remove the rear case of the whole machine with A. Little force from the handset position of the rear case of the main unit.

2. Remove the battery: Pull the battery key down to remove the old battery.

3. Install the battery: Take out the battery from the packaging box, with the battery with the notch facing up, put the battery C at the battery compartment C, and pull the battery key until it completely fits the underside of the battery.

4. Install the back cover: Align the back cover with the buckle on the back of the main unit, press your hands along the edge of the main unit from top to bottom (there will

be a "click" sound during the process), and ensure that there is no gap, it means that the back cover is fastened.
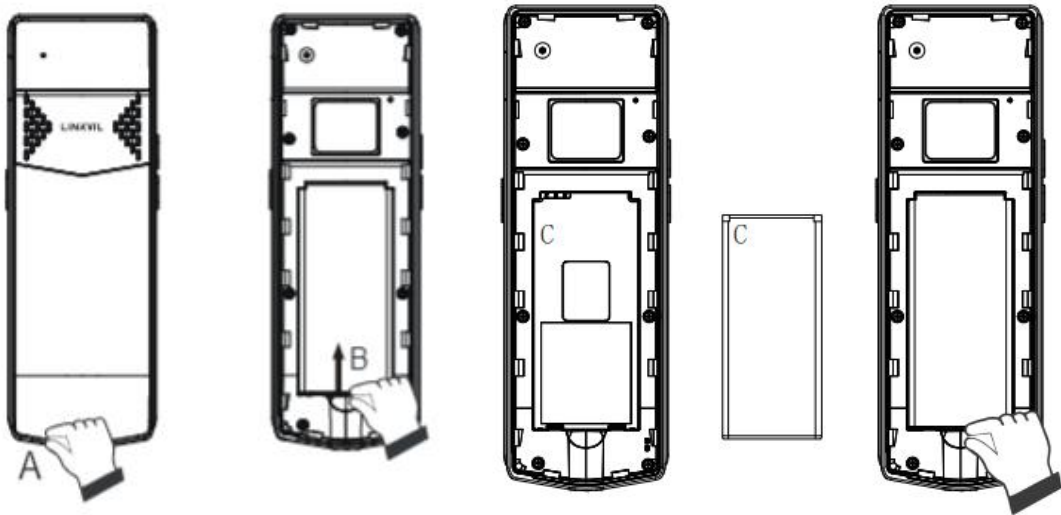
Remove the rear case   Remove the   Install the battery

battery
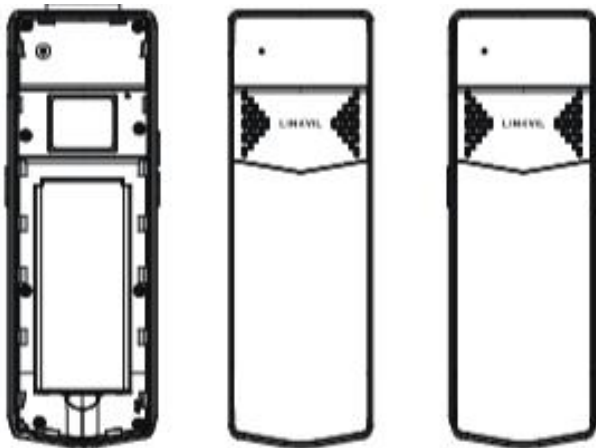
Install the back cover

3.2.3   Connect the charging base
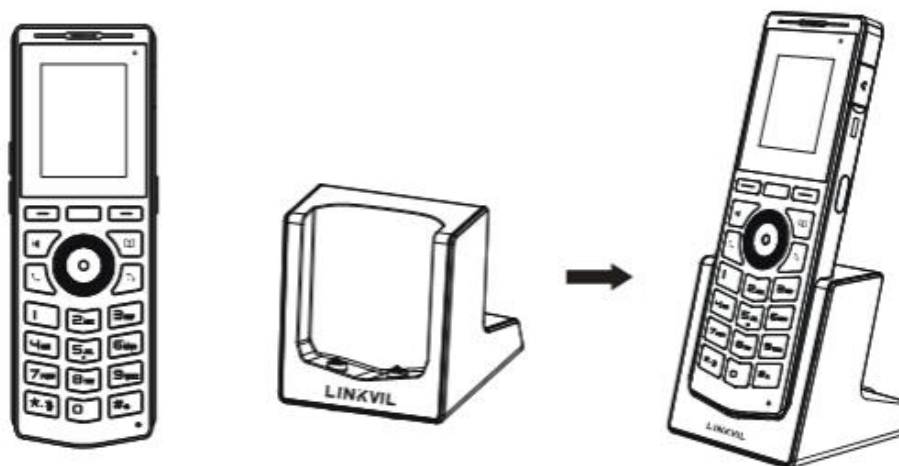
> ⓘ **Note:**
>
> 1. Please use the power adapter provided by Fanvil (5V/2A). A third-party power adapter
>
> may damage the handset.
>
> 2. Check the charging status in the top-right corner of the LCD screen.

3.2.4   Installing belt clip
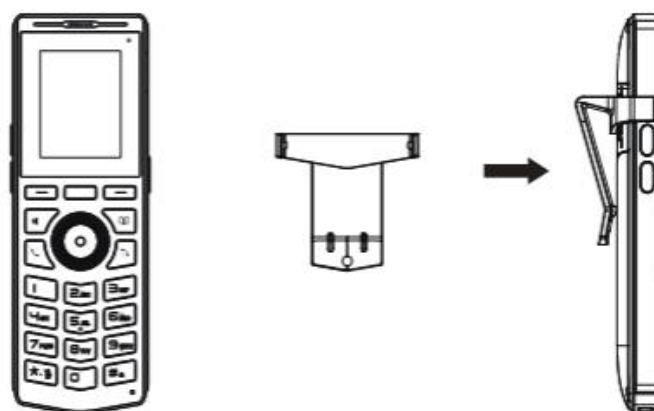
4 Introduction to the User

4.1 Instruction of Keypad
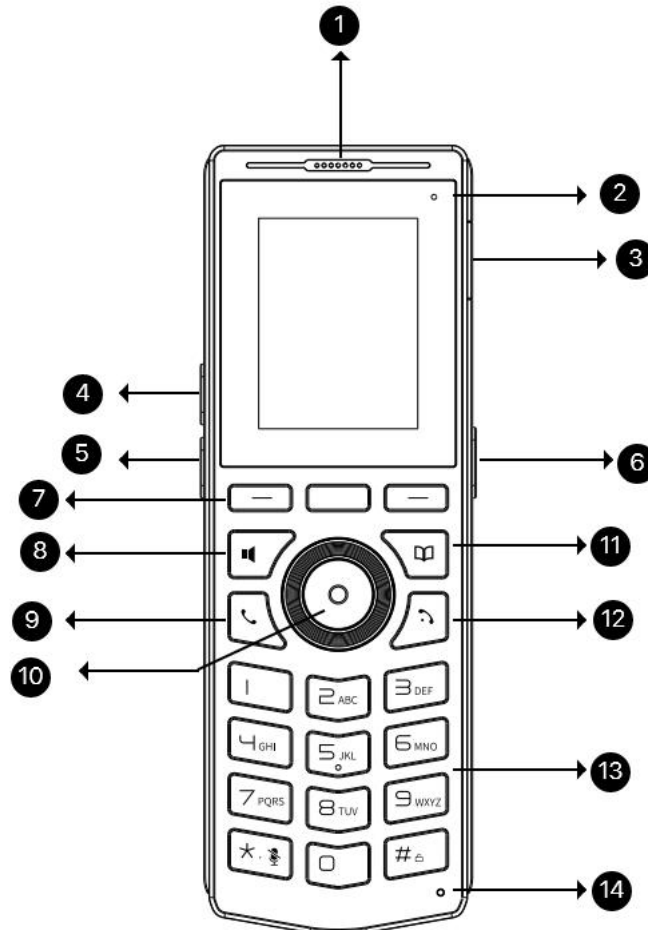
Index	Key Name	Description
①	Earpiece	Play sound when talking in handset mode.
②	Status indicator light	Indicates the status of the device during calls and charging.
③	Headphone jack	Insert headsets and open the headset channel.
④	Volume Key +	In standby mode, on the ringing and ringing configuration interface, press this key to increase the volume of the ringtone; On the call or volume adjustment interface, press this key to increase the volume.

⑤	Volume Key -	In standby mode, on the ringing and ringing configuration interface, press this key to reduce the volume of the ringtone; Press this key to decrease the volume on the call or tone/brightness adjustment interface.
⑥	PTT keys	Before configuration, short/long press to enter the function key setting interface and configure the required functions; After configuration, press to implement the corresponding function.
⑦	Function menu key	These three keys provide corresponding menu functions displayed on the screen
⑧	Handsfree key	Users can press this key to turn on the audio channel of the hands-free speaker.
⑨	Dial key	Dialing; Switch call channels.
⑩	Navigation key/ OK key	Users can press the up/down navigation keys to change the route or move the cursor in the screen list. On some settings and text editing pages, users can press the left/right navigation keys to change options or move the cursor left/right in the screen list. OK key: It is equivalent to the confirmation software key by default, and users can customize the function.
⑪	Phonebook key	By pressing the "Phone Book" key, users can enter the device book interface and select a contact person to make a call.
⑫	On-hook key	Return to the homepage; Hang up the call; Entering sleep mode; Exit sleep mode. Long press to enable/diable.
⑬	DTMF Key	These 12 standard keys provide standard device key functions. At the same time, long pressing certain keys can trigger the provision of special functions. Press and hold the key # to lock the device (enable

		keyboard lock configuration). Long press the * key on the standby interface to mute the incoming call ringtone; Long press the * key on the call interface to mute the call.
⑭	Microphone	Receiving audio during calls

4.2 Power on/off

Boot up operation

- Long press the red on-hook key until it boots up.
- Connect the charging base and it will automatically boot up.

Shutdown operation

- Soft shutdown: Long press the red on-hook key to pop up a shutdown window and select whether to shut down.
- Hard shutdown: Press and hold the red on-hook key until it shuts down.
- Automatic shutdown when low battery: When the battery is about to run out, it prompts "Low battery". The device automatically shuts down when the battery is depleted.

Reboot

- Go to [Menu]>> [Basic]>> [Reboot System], and select OK to confirm reboot.

4.3 Language settings

Users can set the language of W610H through the device interface.

Set language under factory settings

After startup under factory settings, the device will pop up a language selection box. After selecting the corresponding language, the user can click [OK] to confirm, or click [Back] to select the default language (default is English).

Set language when standby

Set the language during standby, go to [Menu]>> [Basic]>> [Language].

4.4   Standby Interface

- The following image shows the default standby screen interface, which is the state of most user interfaces.
- Users can restore the device to the default standby screen interface by pressing the on-hook key.
- The icon description is provided in 16.1 Appendix I.

Index	Description
①	The main screen status bar displays the status and information of the device, such as network connection status, battery level, voice mails, missed calls, auto answer, do not disturb, locked status, etc.
②	Display of time and date.
③	The registration status of the account
④	Function menu keys, which are also the first layer of function menu keys, allow users to operate the device through the keys

- In some screens, due to too many items or long text, the screen cannot be fully displayed. They will be combined into a list accompanied by scrolling icons. If the user sees a scrolling icon, they can use the up/down navigation keys to scroll through the list.
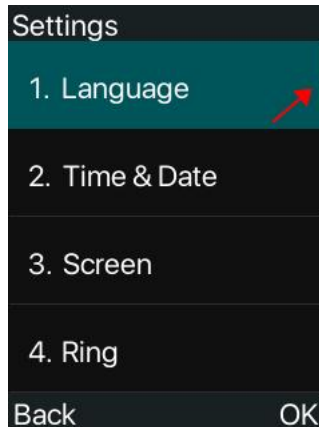
4.5 Menu

In the standby interface, users can access the main menu by pressing the [Menu] softkey; After entering the main menu, select the submenu application icon and click the [OK] key to access the submenu. The main menu displays as follows.

Index	Description
①	The status bar displays the currently selected menu item.
②	Display the application icon for the menu item. The menu item list for W610H is as follows: Status: View the status of Manager, Network, Phone, and Account. Network: Connect to Manager/Base network. Basic: Set personal preference settings. Contact: Access all contacts. Message: View voice mails and SMS servers.

	Call Log: Access the call history list.
	Features: Set call forwarding, auto answer, call waiting, DND, intercom, ban anonymous calls, and other functions.
	Application: Set up memos and export logs through a USB drive,Set the Low Battery Tone.
	Advanced settings: Set keys, upgrade online, and restore factory settings.
③	Softkey key

4.6 Device status

Users can view the status of W610H through the device screen.

View the status of W610H:

Access [Menu]>> [Status] to obtain the following status information for W610H:

● Manager: displays the IP address, firmware version, MAC address, and area information of manager which the device connected.

● Network: displays the device's network mode, network IP, connected network name, BSSID, and signal strength information.

● Phone: Display device MAC address, Bluetooth MAC address, model, hardware version, software version, Uboot version, memory size, and uptime information of the device.

● Account: Display the name/number of the device's registered account and registration status information. Account 1-4 is the SIP external line number, and account 5 is the internal extension number.

5   Terminal networking

To use the basic communication functions of the IPCT system, it is necessary to first connect the terminal device W610H to Manager/Base. The steps are as follows:

1. The system administrator has added authorized devices to W710H. Please confirm with the administrator.

2. Terminal user connection device

● Under factory settings, after the user starts the W610H device and manually selects the device language and country/region (which must be the same as the Manager), the device can automatically connect to Manager/Base using the default username and password.

● If the administrator changes the Manager's SSID and password, the user can operate W610H to enter [Menu]>> [Network]>> [Available Networks], select the Manager's SSID name, click Link, and enter the password to successfully connect.

● After a successful connection, the terminal automatically obtains the configuration (assigned SIP account and internal extension number) and can perform calls and other operations.

6   Call Features

6.1   Using Handset / Hands-free Speaker / Headset

● **Using of Handset**

Regarding the use of the handset: Users can press the green dial key to enter the number, then press the dial key or "#" key; Or enter the number first and then press the dialing key, the number will be dialed out. When the speaker is turned on, users can switch device audio channels by pressing the green dial key.

● **Using Hands-free Speaker**

Regarding the use of the hands-free speaker: Users can first press the hands-free key ◀ to dial the number, or dial the number first and then press the hands-free key. When the voice channel of the controller is open, users can switch the device's audio channel by pressing the hands-free speaker key.

● **Using Headset**

Regarding the use of headsets: In the default state, the headset channel is turned on by default after inserting the headsets. When the headsets are inserted, users can enter the number by pressing the dial key, then press the dial key or "#" key; Alternatively, by entering the number first and then pressing the dial key, the number will be dialed out and a call can be established through the headset channel. When the speaker is turned on, users can switch device audio channels by pressing the dial key.

6.2 Initiate a call

6.2.1   Initiate a call

Dialing method

● **Open the dial to make a call:** Use the hands-free key/handset key to open the dial, enter the number, press the Hands-free key/dial key/Softkey-Dial/"#" key to make a call.

● **Pre dial dialing:** Enter the number directly, press the Hands-free key/dial key/Softkey-Dial/"#" key to make a call.

- **Calling through a phone book:** Access [Menu]>> [Contact], or press the devicebook key to access the Local Contacts/Cloud Contacts/LDAP phonebook, select a contact, press Softkey-Option>> Dial /Hands-free key/Dial key, and call out the selected contact number.
- **Calling through call log:** Access [Menu]>> [CallLog], or Softkey - CallLog.
- **Making a second call:** During the call, users can access the [More]>> [New Call]/[Transfer]/[Meeting] keys to make a second call; You can also dial out through the BLF number or speed dial function set by the function keys.

Switch line dialing:

- Open the dial using the hands-free/dial keys, or enter the number directly and switch to the line using the navigation key- Left/Right key.

6.2.2 Call through function keys

Configure function keys on terminal devices

- In standby mode, press Softkey - Dsskey/Navigation key - Left/Navigation key - Right, or the PTT key on the device right to select the function key for editing.

Calling through function keys

- In standby mode, access the list of dsskeys through Softkey - Dsskey/Navigation key - Left/Navigation key - Right, select function keys, and press the hands-free/dial keys to call out.
- Press the PTT key on the device right side in standby mode to call out.

6.2.3 IP direct dialing

Terminals can only make IP calls to devices within the same IPCT system. Call method:

- **Open dial call:** Use the hands-free key/handset to open the dial, enter the IP address of the opposing device, and press the hands-free key/dial key/Softkey-Dial/"#" key to make a call.
- **Pre dial dialing:** Enter the IP address directly, press the hands-free key/dial key/Softkey-Dial/"#" key to call out.

> ⓘ **Note:**
>
> The "." in the IP address is replaced by "*".

6.2.4 Emergency call

The emergency call function is used after enable the keyboard lock, and users can set the corresponding emergency call number on the device. When the device is locked, emergency services can also be called.

Confirm the emergency call number with the administrator. After setting the keyboard lock on the device, enter the emergency number through the keyboard, and you can call the emergency call number without unlocking it.

6.2.5 Redial

Users can use the redial key to redial the last dialed number. The steps for redialing are as follows:

Set redial key

Users can set the PTT key, function key, or Softkey on the side as the redial key. Setting method:

In standby mode, press the Softkey - dsskey/navigation key - left/navigation key - right, or the PTT key on the device right, select the function key for editing, and set the Keyevent - redial.

Redial operation

● Redial the last outgoing number:

When the device opens the dial/standby, press the redial key, and the device will call out the last dialed number.

● Use the redial key to call any number:

Enter the number on the device, press the redial key, and the device will call out the entered number.

6.2.6　Callback

Users can use the callback key to call out the last miss incoming call number (if there is no call record, press the callback key and the device will prompt "cannot process"). The callback steps are as follows:

Set callback key

In standby mode, press the Softkey - Dsskey/navigation key - left/navigation key - right, or the PTT key on the device right, select the function key for editing, and set the Keyevent - Callback.

Callback

When the device opens the dial/standby, press the callback key, and the device will call out the number of the last incoming call.

6.2.7　Anonymous call

The device can set up anonymous calls to hide the calling number and name. Anonymous calls are set by the administrator. Please confirm with the administrator.

6.2.8　Hotline

After setting up hotline dialing, the device will automatically call according to the hotline delay time by pressing the green dialing key, hands-free key, and other methods to open the dial. Please confirm with the administrator to set up a hotline for dialing.

6.3　Answering calls

6.3.1　Manual answering

- **Idle state with incoming calls:** Users can answer calls by pressing the Softkey - Answer, dial key 📞, or hands-free key to open the headset/handset/hands-free channel.

- **Answer the second incoming call:** When there is another incoming call during the call, the device will play a call waiting tone in the voice channel of the current call,

and the LED indicator light will flash orange quickly. Users can press the Softkey key - Answer; You can also locate the second incoming call through the navigation keys, and answer the call by pressing the Softkey - Answer, dial key, or hands-free keys to open the headset/handset/hands-free channel.

6.3.2   Auto Answer

After enabling the auto answer function, the device can automatically respond to incoming calls. Auto answer can be enabled by different lines.

After enabling auto answer, an icon 🅰 is displayed in the upper right corner of the screen.

Configure on terminal devices

Access [Menu]>> [Feature]>> [Auto Answer], press the key to select the line, use the left/right navigation keys to enable/disable the auto answer, set the auto answer time, and press the [OK] key to save after completion.

6.3.3   Answer IP Calls

The device does not allow answering IP calls by default and needs to be enabled through an administrator on the Manager.

6.4 Reject incoming calls

6.4.1   Reject Call Manually

When receiving a call, you can manually reject it by pressing the Softkey - Reject or on-hook key ⤴. Rejected calls will be displayed in the missed call list in the history list.

6.4.2   Ban Anonymous Call

After enabling ban anonymous calls, the device will automatically reject anonymous calls and will not ring.

Configure on terminal devices

Access [Menu]>> [Features]>> [Ban Anonymous Call], press the key to select the line,

use the left/right navigation keys to enable/diable the option of ban anonymous calls, and press the [OK] key to save after completion.

6.4.3　DND

Users can enable the DND feature on their device to reject incoming calls (including call waiting).

Configure on terminal devices

Access [Menu]>> [Features]>> [DND], enable dnd mode through the left/right navigation keys, and press the [OK] key to save after completion.

6.5　End Call

After the user's call ends, they can press the Softkey - End key or on-hook key to end the call.

6.6　Dial Query

The device defaults to enabling dial query function. Enter two or more digits of the number, and the dialing interface will automatically match the call history and contact number list. Use the up and down navigation keys to select the number, press the dial key, or call out after timeout.

6.7　Mute

Users can enable mute mode during a call, turn off the device's microphone, and prevent the other party from hearing local sound. Under normal circumstances, the mute mode automatically turns off as the call ends. You can also enable the mute function on the standby page to automatically mute the ringtone when an incoming call occurs.

Mute mode can be activated in all call modes (headset, handset, or hands-free).

6.7.1　Mute the call

Users can mute during calls by long pressing the * key, or mute/unmute using the Softkey key.

- After muting during a call, the call interface displays a mute icon . Muting method during calls:

  ➢ Press the [More]>> [Mute] key during the call.

  ➢ Long press the * key during a call.

- Unmute call:

  ➢ Press "More">"Unmute" again on the device to unmute, and the mute icon will no longer be displayed on the call interface.

  ➢ Or long press * again to unmute the call.

6.7.2 Ringing Mute

Users can mute the ringing sound by long pressing the * key, or enable/diable the mute sound by using the volume up/down key. After mute for incoming calls, the device displays a ringtone mute icon in the upper right corner. When there is an incoming call, the device displays the call interface but does not ring.

- Turn on ringtone muting

  ➢ Press and hold the * key during device standby to mute.

  ➢ Press the volume down key to mute when the device is in standby mode.

- Unmute incoming call ringtone

  ➢ Press and hold the * key during device standby to unmute.

  ➢ Press the volume up key to unmute the ringtone when the device is in standby mode.

After cancellation, the mute icon will no longer be displayed in the upper right corner.

6.8 Call Hold/Resume

Users can press the Softkey - Hold key to hold the current call, and this key will become a resume key. Users can press the Softkey - Resume key to resume the call.

6.9   Call Forward

Call forwarding is the function of diverting incoming calls to other numbers. User can configure the call forward settings of each line.

There are three types of call forwarding:

● **Call Forward Unconditional:** Forward all incoming calls to the configured number.

● **Call Forward on Busy:** When the user is busy and call waiting is disabled, incoming calls will be forwarded to the configured number.

● **Call Forward on No Answer:** When user does not answer the incoming call after the configured delay time, the incoming call will be forwarded to the configured number.

Configure on terminal devices

Access [Menu]>> [Features]>> [Call forwarding], select the line by the up/down navigation keys, click OK, select the call forwarding type through the up/down navigation keys, click OK, and configure the enable/disable and delay time of call forwarding.

6.10 Call Transfer

When the user is talking with a remote party and wish to transfer the call to another remote party, there are three way to transfer the call, Blind transfer, Attended transfer and Semi-Attended transfer.

● Blind transfer: No need to negotiate with the other side, directly transfer the call to the other side.

● Semi-Attended transfer: When you hear the ring back, transfer the call to the other party.

● Attended transfer: When the caller answers the call, transfer the call to the other party.

6.10.1   Blind Transfer

During the call, the user presses the function menu key [More]>> [Transfer], enters the number to be transferred, or presses the contact key or history key to select the number. Press the transfer key again to blindly switch to a third party. After the third party rings, the device displays "Transferring"; After the third-party answers, the device shows

successful transfer and hangs up.

6.10.2   Semi-Attended Transfer

During the call, the user presses the [Transfer] key on the function menu, enters the number to be transferred, or presses the contact key or history key to select the number. When the call key is pressed, and the third party is not answering, the user presses the transfer key on the call interface to perform Semi-Attended transfer or press the end key to cancel Semi-Attended transfer.

6.10.3   Attended Transfer

Attending transfer is also known as the " courtesy mode ", which involves calling the other party and waiting for them to answer the call before transferring the call.

Calling is also the same process. In dual call mode, press the [Transfer] key to transfer the first call to the second call.

6.11 Call waiting

After enabling the call waiting function, users can accept new incoming calls during the call process; After turning off the call waiting function, new incoming calls will be automatically rejected and a busy tone will be displayed.

When the call waiting prompt is enabled, the device will play a beep tone when a new call is received during the call.

Configure on terminal devices

Access [Menu]>> [Features]>> [Call Waiting]>> [Call Waiting Settings], use the left/right navigation keys to enable/diable call waiting and call waiting tone.

6.12 Conference

The device supports creating local and network conference. The conference mode is set by the administrator. Please confirm with the administrator.

6.12.1   Local Conference

Users need to set the meeting mode to local for local conference.

Two methods for creating local conference

● The device already has two calls. Press the [More]>> [Conference] key on the call interface, select the meeting number through the navigation up and down keys, and press the [OK] key to establish a local conference.

● There is a one way call on the device. Press the conference key on the call interface, enter the number you want to join the conference, and press the dial key; After receiving the call from the other end, press the meeting key again to establish a local conference.

6.12.2   Network Conference

The user needs support from the SIP server for network conference. Please confirm with the administrator.

How to join a network conference

● Multiple party call network conference room number, enter password to enter all conference rooms.

● Two devices have established a regular call. Press the meeting key to invite new members to the meeting, and follow the voice prompts to proceed.

ⓘ **Note:**

● Network conferencing requires server support. Please confirm with the administrator whether the account supports network conference.

● The methods and steps for participating in network conferences on different servers may vary. Please confirm the specific steps with your administrator.

● The maximum number of attendees for server meetings varies depending on the server.

7　Advanced call function

7.1　Call Park

Users can suspend a call during a call and then retrieve the call on this or other devices.

> ⓘ **Note:**
> ● The call park function requires support from the server. Please confirm with the administrator.
> ● The call park or retrieve methods of different servers may vary. Please confirm with your administrator.

Set function keys

To use the call park function, it is necessary to set the function key to the Call Park key in advance. Please confirm the value of Call Park with the administrator.

Configure function keys on terminal devices

● In standby mode, press the Softkey - Dsskey/navigation key - left/navigation key - right, or the PTT key on the device right, select the function key for editing, set the function key type to memory key - Call Park to set the key value and save it.

Call park/ retrieve through function keys

● During a call, press the Call Park function key to pause the call.
● When idle, you can press the corresponding function key on this device or other devices to retrieve calls.

7.2　Intercom

After enabling the intercom function, the device can auto answer incoming calls in intercom mode.

7.2.1   Make Intercom Call

7.2.1.1   Regular intercom

To use the intercom function, it is necessary to set the function key to the Memory - Intercom key in advance.

Set intercom function keys

In standby mode, press Softkey - Dsskey/navigation key - left/navigation key - right, or the PTT key on the device right, select the function key for editing, set the function key type to Memory key - Intercom, set the key value and save it.

Make intercom calls through function keys

● Press the intercom function key to make a intercom call.

7.2.1.2   PTT Intercom

To use the PTT intercom function, it is necessary to set the function key to PTT - intercom key in advance.

Set PTT intercom function key

In standby mode, press the PTT key on the device right to edit, set the function key type to PTT intercom, set the key values and save them.

PTT intercom call through function keys

● In standby mode, press and hold the PTT key to initiate a intercom call.

● Release the key to end the call.

7.2.2   Answer Intercom Call

After enabling the intercom mode, the device can auto answer incoming calls in intercom mode.

● **Enable intercom on terminal devices**

   Access [Menu]>> [Features]>> [Intercom] to enable/diable intercom.

The explanation of the intercom configuration Parameters is as follows:

Item	Description
Intercom	When the Intercom is enabled, the device will auto answer the incoming call with the SIP header Call-Info command.
Intercom Mute	Enable mute function during intercom mode calls.
Intercom Tone	The device plays an announcement when receiving an incoming call in intercom mode.
Intercom Barge	Eanble the Intercom Barge, when the device is in calls and receives an new intercom call, it auto answers the call.

7.3 Message

7.3.1   SMS

If the service of the SIP account supports the SMS function, when the other party sends a SMS to this number, the user will receive a notification of the SMS and display a new SMS icon 😐 on the standby screen interface.

- **Send SMS**

    1.   Visit [Menu]>> [Message]>> [SMS], create a new message, select the route and the number to send it to

    2.   After editing, click send to proceed

- **View SMS**

    1.   Access [Menu]>> [Message]>> [SMS], select [Inbox], and enter the SMS inbox interface

    2.   Select the unread message and press the [OK] key to read it

- **Reply to SMS**

    1.   Access [Menu]>> [Message]>> [SMS], select [Inbox], and enter the SMS inbox interface

    2.   Select the message you want to reply to, select [Option]>> [Reply], edit it, and click send to proceed

7.3.2　Voice Message

If the server of this line supports voice mail function, the calling party can keep the voice mail to the server when the user does not respond. The user will receive a notification of the server's voice mail and a new voice mail icon will be displayed on the standby screen interface.

To listen to voice mails, users must first configure a voice mailbox number. After configuring the voice mailbox number, users can retrieve voice mails for the default SIP line.

Steps for listening to voice mails:

1.　Select [Menu]>> [Message]>> [Voice Message]

2.　Select [OK] to open the voice mail configuration interface, and select the desired route by pressing the up/down navigation keys.

3.　Press the [Edit] key to edit the number for the voice mail. Once completed, press the [OK] key to save the configuration.

4.　SIP1 (m/n) Line: "m" before parentheses represents unread voice mails, and "n" represents the total number of voice mails.

5.　Call the voice mail number, enter the PIN code according to the prompt tone, and listen to the voice mail.

8　Phonebook

8.1　Local phonebook

Users can save contact information in their phone book and directly dial the contact's phone number in the device book. Users can open their phone book by pressing [Menu]>[Contact] or the preset key on the device [Contact].

By default, the device book is empty, and users can manually add or add contacts to the device book from their call history (or cloud phone book).

The contacts will be sorted alphabetically. Users can browse by pressing the up/down navigation keys. The current record indicator tells the user the specific location of the currently located contact. Users can view contact information by pressing the [OK] key.

8.1.1　Add/edit/delete contacts

To add a contact, the user needs to enter the contact group and press the "Add" button to open the interface for adding a contact.

- Name
- Office number
- Mobile
- Other
- Line
- Ring type
- Group

Users can edit contacts by pressing the [Option]>> [Edit] key.

To delete a contact, the user should first move the indicator to the contact they want to delete, press the [Option]>> [Delete] key, and confirm by pressing [OK].

8.1.2　Add/Edit/Delete Groups

By default, the group list is empty Users can create their own groups, edit group names, add or remove contacts from groups, and delete groups.

- Add Group: Access [Menu] >> [Contact] >> [Local Contacts], and press the [Add] key.

- Delete the group: Select the group, press the [Option]>> [Delete] key, and press [OK] to confirm.

- Edit the group: Press the [Option]>> [Edit] key.

    The total number of contacts in this group is indicated in parentheses.

8.1.3   View/Add/Delete Contacts

Open the group list, and users can view the contacts in the group by pressing the [OK] key.

When viewing contacts in a group, users can enter the add contact interface by pressing the [Option]>> [Add] key, and then click [OK] to save the contact. This contact will also be synchronized and saved to the [local contacs]>> [All Contacts]. You can also delete contacts in the group through [Option]>> [Delete].

8.2   Cloud Contacts

Cloud phone book allows users to download phone books from cloud servers to their devices. This is very convenient for office users to use the device book. The phone book can be downloaded from the cloud phone book server with just one click, making it very convenient for creating and maintaining contact lists.

> ⓘ **Note:**
> Cloud phone was originally designed to ensure that its content is the latest version, and each time it is opened, it only temporarily downloads its contacts to the device. However, downloading may take a few seconds depending on the network connection quality during device use. Therefore, in order to save waiting time for downloading, it is recommended that users save important contact information from the cloud phone book to the local location.

After the administrator has configured the cloud phone book, the user can access the list

of cloud phone books and access [Menu]>> [Contacts]>> [Cloud Contacts] through W610H. The XML directory is the directory of cloud phone books.

8.3 LDAP Contacts

After the administrator has configured the LDAP phone book, the user can access the list of cloud phone books through W610H and access [Menu]>> [Contacts]>> [Cloud Contacts], where the LDAP directory is the directory of the LDAP phone book.

8.4 Blocked List

The device supports block lists. If a number is added to the Blocked List, the incoming call from that number will be directly rejected by the other end, and the local device will display missed calls. (Prevent the number in the call list from being called out normally)

- There are multiple ways to add a device to the Blocked List, which can be directly added in [Menu]>> [Contacts]>> [Blocked List].
- Select any number in the device book (both local and network) to add.
- Select any number in the call history to add.

8.5 Allowed List

The device supports the allowed list, such as adding a number to the allowed list. Even when DND/forwarding is enabled, the device can still receive calls from that number (numbers outside the allowed list will be automatically rejected/forwarded, etc.).

- You can directly add allowed list in [Menu]>> [Contacts]>> [Allowed List], set the number/prefix, and the type of allowed call.
- Select any number in the device book (both local and network) for configuration and addition.
- Select any number in the call history to configure and add.

9   Call history

Viewing call logs on the device

- **View call logs:** The phone can store call logs (the number of stored calls varies depending on the specifications). Users can click [Menu]>> [Call Log]>> [Local Call Log] to open call logs and view all incoming, outgoing, and missed call logs.

  In the call history screen interface, users can browse call logs by pressing the up/down navigation keys.

- **Delete call logs:** Users can delete call logs by pressing the [Option]>> [Delete] key, or [Option]>> [Delete All] to delete all call logs.

- **Add to Phone Book:** Each call record will display "Call Type", "Caller Number/Name", and "Call Time". Users can further check the details of call logs by pressing the [OK] key and dial by pressing the [Option]>> [Dial] key, or add numbers from call logs to the device book by pressing [Option]>> [Add to Contacts].

10 Upgrade

> **Note:**
> - During the process of uploading and upgrading software, do not disconnect the power or network.
> - To prevent the W610H battery from running low during the upgrade process, it is recommended to place the W610H on the charging dock during the upgrade.

10.1 Upgrade From Web Page

Upgrade the W610H device by the administrator.

> (!) **Note:**
> - When upgrading the W610H through Manager webpage, only one device can be selected for upgrade at a time.
> - Users can only perform web upgrades for online devices.

10.2 Online Upgrade

Set up online upgrade configuration by the administrator. After the update interval is reached, the W610H UI prompts for a new software file, and users can click to upgrade to the new software of W610H.

11 Preferences

11.1 Time Setting

Setting method:

When the device is in standby mode, access the device function menu key [Menu]>> [Basic] key>> [Time&Date] key, use the up/down navigation keys to edit/time Parameters, and then press [OK] to save.

Configuration Parameter description:

Parameter	Description
Mode	Choose the synchronization server time or manually set it
SNTP Server	SNTP service address
Time Zone	Select Time Zone
Format	Choose a time format from the following formats: ● DD MMM WW ● MMM DD WW ● WW DD MMM ● WW MMM DD ● DD MM YY ● DD MM YYYY ● MM DD YY ● MM DD YYYY ● YY MM DD ● YYYY MM DD
Separator	Select the separator between year, month, and day
12 Hours Clock	Display 12 hour clock
Daylight Saving Time	Daylight Saving Time Settings, Disable/Auto/Manual (Web Settings)

11.2 Screen Setting

Users can edit screen Parameters by accessing the function menu keys [Menu]>> [Basic]>> [Screen]. After editing, click [OK] to save.

11.2.1　Backlight

- Set the Backlight Active Level from 1 to 16 when in use, and switch the brightness level between [<] or [>].

- Set the Backlight Inactive Level from 0 to 16 in energy-saving mode, and switch the brightness level between [<] or [>].

- Set the Backlight Time, the value is 1 minute by default, which can be turned off or selected as 15 S/ 30 S/ 1 min/ 2 min/ 5 min/ 10 min/ 30 min/ 1 h/ 2h/ 3h/ 6h/ 15h or customized.

11.2.2　Screensaver

Access [Menu]>> [Basic]>> [Screen], edit the [Screensaver] Parameters, press the [Left]/[Right] keys to enable/diable the screen saver, set the timeout time, default to 15 seconds, and press the [OK] key to save after completion

11.2.3　Sleep

Entering sleep mode
- When there is no operation on W610H, it defaults to entering sleep mode for 30 seconds.

- Press the red on-hook key 　 in standby mode to enter sleep mode.

Exit sleep mode
- The device will automatically exit sleep mode upon receiving notifications such as incoming calls.

- Press any key on the device to exit sleep mode.

Sleep Mode Settings
- Access the device [Menu]>> [Basic]>> [Screen], edit the [Time Out To Sleep] item,

which defaults to 30 seconds. You can disable it or set it to 15 S/30 S/1 min/2 min/5 min/10 min/20 min/30 min.

11.3 Audio Setting

11.3.1   Ringing Tone

Set ring type

● Access the device>> [Menu]>> [Basic]>> [Ring], edit the parameters for [Ringtone Type], use the left and right navigation keys to edit the ring type, and press [OK] to save after completion.

Set ring volume

● Access the device>> [Menu]>> [Basic]>> [Ring], edit the [Headset] and [Handfree] Parameters, use the left and right navigation keys to edit the ringtone volume, and press [OK] to save after completion.

Set vibrate mode

● Access the device>> [Menu]>> [Basic]>> [Ring], edit the [Vibrate Mode] parameters, use the left and right navigation keys to select enable/disable vibration mode, and press [OK] to save after completion.

11.3.2   Voice Volume Setting

Set voice volume

● Access the device>> [Menu]>> [Basic]>> [Voice Volume], edit the parameters of [Handset Volume], [Handsfree Volume], and [Headset Volume], use the left and right navigation keys to edit the audio volume, and press [OK] to save after completion.

11.3.3   Noise Reduction

W610H supports AI Noise Cancellation and Acoustic Shield, which can effectively reduce background noise, even in noisy environments such as streets, factories, or parking lots, to provide users with high-quality calls.

● Acoustic Shield: It's like separating the user's voice from other noises, suitable for

situations where the user is close to the device;

- Noise Cancellation: It reduces noise by algorithm, suitable for situations where the noise and the user's voice are about the same size, after the algorithm processing, the call quality may be slightly affected.

Users can choose different noise reduction types in different situations, for example, using the handset for a call is more suitable for using the Acoustic Shield function; using hands-free calling is suitable for using Noise Cancellation. Or choose the appropriate noise reduction technology according to the actual situation.

Set Acoustic Shield/Noise Cancellation

- Configure on W610H

  During a call, press Softkey- More, select the Noise Cancellation or Acoustic Shield, and press the OK key to enable the feature.

Note: The Noise Cancellation and Acoustic Shield features are both disabled by default.

11.4 Greeting Words settings

Set greeting words

- Access the device>> [Menu]>> [Basic]>> [Greeting Words], edit the greeting words and press [OK] to save.

12   Function key settings

Function key settings

● In standby mode, press Softkey - Dsskey/Navigation key - Left /Navigation key - Right, or the PTT key on the device right to select the function key for editing.

Function key type

Dsskeys support the following types:

● Memory key

  ● Speed Dial: In standby mode, press this key to directly dial the speed dial number.

  ● Intercom: Call out the number through intercom, and when the other party is set to receive intercom calls, they can automatically answer the intercom calls.

  ● Voice Mail: Used to configure voice mail numbers and lines. When the indicator light is on, it indicates that there is new voice information.

  ● Call Forwarding: After the configuration, you can press this key to enable Call Forward Unconditional to a specified number when the device is idle. When the device receives an incoming call, press this key to forward the call to a specified number.

  ● Call Park: Used to switch to other devices or locations during a call.

  ● BLF (New Call/BXFER/XFER/CONF/DTMF): Used to indicate the status of the subscribed extension (idle, ringing, or talking); Answer the incoming call from the extension when it is called; If the pick up code is configured, incoming calls can be picked up when the extension rings. The subtypes of BLF are as follows:

    ➢ BLF/NEW CALL: During a call, pressing this key can initiate a new call to the subscribed extension without hanging up the current call.

    ➢ BLF/BXFER: During a call, press this key to blind transfer the call to the subscribed extension.

    ➢ BLF/AXFER: During a call, press this key to transfer the call attendance to the subscribed extension.

    ➢ BLF/CONF: During a call, press this key to invite the subscribed extension to attend the conference.

➢ BLF/DTMF: During a call, press this key to send DTMF.

● Presence: Similar to the BLF function key, it is used to indicate the status of subscribed extension numbers. Note that different servers do not support different subscription types.

● Key Event

● Voice Mail: Display detailed information of voice mails for all SIP lines.

● DND: Enter the DND settings interface and enable/diable the DND function.

● Hold: Keep/resume the current call.

● Xfer: Enter the transfer interface, with the same function as the Softkey - Xfer key.

● Phonebook: Enter the device book interface.

● Redial: Redial the last dialed number.

● Pick Up: When other devices ring, press this key to enter the dialing interface. Enter the ringing extension number to pick up the call.

● Join: Join an existing call.

● Call Forwarding: Enter the call forwarding settings interface.

● Call Log: Enter the call history viewing interface.

● Flash: Pressing this key during a call will keep the current call, and another line will start dialing. You can hear the dialing tone.

● Memo: Enter the memo interface.

● Headset: Answer incoming calls or switch to the headset channel during calls through headset mode.

● Release: Press this key to return to the standby interface when there is no call; Pressing this key during a call can end all calls and return to the standby interface.

● Lock Phone: When the keyboard lock function is enabled, press this key to manually lock the keyboard.

● SMS: Enter the SMS interface.

● Call Back: Callback the number of the last incoming call.

● Hide DTMF: Enter the Hide DTMF settings interface.

● Intercom: Call out the entered number through intercom.

● Group Listening: Press this key during a call to play the audio through the handset/headset and hands-free.

● Prefix: Configuration number prefix. When dialing, press this key to automatically add a prefix number.

● End: Ends the current call.

● Disposition: This feature relies on Broadsoft servers and is a method of recording call information in the call center.

● Escalate: This feature is related to Broadsoft servers, and during a call, press to send the corresponding SIP message to the server.

● Trace: This feature is related to Broadsoft servers and sends call information during or after a call.

● Handsfree: Enter the hands-free dialing number or switch the hands-free channel.

● Answer: Press the key to answer an incoming call.

● Local contacts: Enter the local contact interface.

● XML Group: Enter the cloud phone book interface.

● Auto Headset: Enable/Disable the Auto Headset mode, which is enabled by default.

● Dsskey Page 1: Enter the Dsskey settings interface on the first page.

● Dsskey Page 2: Enter the Dsskey settings interface on the second page.

● DTMF: Press this key during a call to send the configured values in sequence to the remote end.

● URL: Access the configured remote URL address, which can be set to an XML phone book address, etc.

● BLF List key: This function depends on the Broadsoft server. Add the numbers that need to be subscribed to in the server to the group, use the URL address of the group to subscribe to all the numbers in the group, and display the corresponding number, name, and status on the indicator light of the BLF List key. The BLF List is automatically issued by the server based on configuration, without the need for users to manually configure values and names.

● XML Browser: Place the configured XML file on the HTTP/HTTPS server, press this key to retrieve the XML content and perform corresponding actions based on the content.

13 Connecting peripherals

13.1 USB flash drive

W610H can export log files and perform upgrades through USB. Please refer to 15 Troubleshooting for methods of upgrading and exporting logs through USB.

> ⓘ **Note:**
> ● The W610H device does not provide power to the USB device, so a USB hub is needed to connect the USB drive and W610H phone.
> ● The USB Hub interface needs to be Type-C.

13.2 Wired Headset

The device supports a wired headset with a 3.5mm headset port. Users can play incoming call rong tone and make calls through the headset.

After the device is connected to the headsets, the status bar displays the headset icon, indicating that the headset channel is available.

13.3 Bluetooth Headset

The W610H device is equipped with BT5.0 built-in.

Setting method

● When the device is in standby mode, go to [Menu]>> [Basic]>> [Bluetooth], select Bluetooth headset, and use the navigation keys - left/right to enable it. If no pairing is displayed, press the [Scan] key to enter the Bluetooth search interface for scanning, select the scanned Bluetooth device to connect.

14   Security

14.1 Menu password

The menu password is used to access the [Menu]>> [Advanced] directory, and users can customize the menu password. Access the device [Menu]>> [Advanced], enter the current menu password (default password is 123), access [Security]>> [Menu Password], and set the Parameters:

● Current password: It's the password you set, with a default password of 123.

● New password: It is the new menu password you want to reset.

● Confirm password: Enter the new menu password again that must be exactly the same as the new password.

After setting, the password will take effect immediately, and a new password is required to enter the device menu.

14.2 Keyboard Password

The keyboard password is used to unlock the keyboard after the device keyboard is locked.

Set keyboard password

● Access the device [Menu]>> [Advanced], enter the current menu password (default password is 123), access [Security]>> [Keyboard Password], select the keyboard lock status, and set the keyboard lock timeout time.

  ➢ Keyboard lock status: Menu /DSSkeys/All Keys. The keyboard lock will lock for the selected keyboard range after timeout.

  ➢ Keyboard lock timeout: Lock the keyboard after the timeout period.

Set keyboard password

● Access the device [Menu]>> [Advanced], enter the current menu password (default password is 123), access [Security]>> [Keyboard Password]>> [Set Password], and modify the keyboard password.

➢ Current password: Enter the current keyboard password

➢ New password: Enter the keyboard password that needs to be modified

➢ Password confirmation: Enter the keyboard password that needs to be modified again

Unlock

● After the keyboard is locked, the device status bar will display a keyboard lock icon. At this time, pressing any key will prompt for a password. After entering the keyboard password, the keyboard can be unlocked.

● When the Keyboard Status is disabled, long press the "#" key to lock and then long press the "#" key again to unlock.

● When the Keyboard Status is enabled the Keyboard Timeout is 0, long press the "#" key to lock and enter the keyboard password to unlock.

15 Troubleshooting

15.1 System information

Access the device's [Menu]>> [Status] to obtain the following status information for W610H:

● Manager: displays the IP address, Software Version, MAC address, Area, and other information of the device connection manager.

● Network: displays the device's network mode, network IP, connected network name, BSSID, signal strength, and other information.

● Device: Display the MAC address, Bluetooth MAC address, Model, Hardware Version, Software Version, Uboot Version, memory size, runtime, and other information of the device.

● Account: displays the account name/number, registration status, and other information registered on the device. Account 1-4 is the SIP external line number, and account 5 is the internal extension number.

15.2 Power on/off

Please refer to 4.2 Power on/off operation.

15.3 Reboot device

● Visit the W710H Manager webpage>> [Handset]>> [Maintenance], select the online terminal, and click the Reboot key. Multiple terminals can be selected at once for reboot.

● Visit W610H>> [Menu]>> [Basic]>> [Reboot System], select OK to reboot.

15.4 Factory Reset

Resetting the device will delete all configurations, preferences, databases, and configuration files on the device, and the device will be restored to its factory default state.

● Visit W610H>> [Menu]>> [Advanced], then enter the password to enter the interface,

select [Factory Reset], click OK to reset.

● Long press the OK key on the standby interface of W610H to reset.

ⓘ **Note:**

If Manager/Base uses the default SSID and password, and the MAC of the terminal device has not been removed, after the terminal is reset, it will still automatically connect to Manager and obtain configuration.

15.5 Get log from USB drive

Log information can help technicians analyze and locate problems.

Connect the device to a USB drive, access the device>> [Menu]>> [Applications]>[U-Disk Log Export], click OK, and the folder named with the date will be exported to the USB drive. Analyze or send logs to technical personnel to locate issues.

ⓘ **Note:**

W610H does not provide external power and needs to be connected to the USB flash drive and W610H through a USB Hub with a Type C interface.

15.6 USB/USB drive upgrade

When there are some abnormal problems with the device, you can try to upgrade and recover the software through USB under the guidance of technical support personnel. Please obtain the steps and tools for upgrading USB/USB drives from technical support personnel.
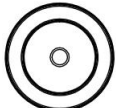
15.7 Common Trouble Cases

Trouble Case	Solution
Device could not boot up	1. First consider the situation that the battery has been

	exhausted, and charge the device. Please use the charger configured at the time of purchase when charging. 2. If you see the phone enter "POST mode", it means that the phone system is damaged. Please contact technical support to help you restore the phone system.
Device could not register to a service provider	1. Please check whether the phone is connected to the network. The phone needs to be connected to a wireless network, and check whether the wireless icon is normal. If the icon shows 📶 or 📶, the network is unavailable, please check the network facilities. 2. Please check whether the phone has an IP address. Check the system information. If the IP address is **Negotiating**…, it means that the phone has not obtained an IP address. Please check whether the network configuration is correct. 3. If the network connection is good, please check your line configuration again. If all configurations are correct, please contact your service provider for support.
No Audio or Poor Audio in Handset	1.Please check whether the headset is connected, the headset icon 🎧 is displayed in the upper right corner. After connecting the headset, the earpiece channel cannot be used; after unplugging the headset, the earpiece channel can be used. 2.At this point the network bandwidth and latency may not be suitable for audio calls.
Poor Audio or Low Volume in Headset	1. Please use the Headset provided by manufacturer. 2. The network bandwidth and delay may be not suitable for audio call at the moment.
Audio is chopping at far-end in Hands-free speaker mode	This is usually due to loud volume feedback from speaker to microphone. Please lower down the speaker volume a little bit, the phenomenon will be gone.

16　Appendix

16.1 Appendix I - Key Icons

Icon	Description
	Programmable keys, the default is PTT key, which can be set to function key/speed dial key, etc.
	Volume key, in standby or ringing mode: increase or decrease ringtone volume In call mode: increase or decrease the headset, handset, and hands-free volume
	Soft keys
	Up, down, left, right navigation keys, and OK key By default, the functions of each key during standby: Up key: Call history Dsskey Down key: status Dsskey Left key: Enter the DSSKEY Page1 settings page Right key: Enter the DSSKEY Page2 settings page OK key: Long press to restore factory settings.
	Return to the homepage; Hang up the call; Entering sleep mode; Exit sleep mode Long press to power on/off
	Dialing; Switching call channels
	Phone book keyboard
	Handsfree key, enable/diable the hands-free channel

16.2 Appendix II - Status and Notification Icons

Screen Icon	Description

🔊	In hands-free mode
🎧	In headset mode
📞	In handset mode
🎙️	Mute activated
🔇	Silent mode
⏸	Call is on hold
𝖠𝖠	Auto-answering activated
(→	Call forward activated
⊖	Do not disturb activated (Red)
ᛒ	Bluetooth device paired connection
🔀	Keypad locked
(→	Forward call(s)
📞 ↙	Missed call(s)
↙📞	Received call(s)
↗📞	Dialed call(s)
📶	Network connected
📶x	Network disconnected
📶!	Network failure

16.3 Appendix III - W610H LED State Definition

Type	LED lights	State
Status indicator light	Yellow On	Charging
	Green On	Fully charged
	Red and Yellow Blinking alternately	Low battery/abnormal charging
	Yellow Breathing Blinking	Missed calls or unread messages
	Yellow Blinking Quickly	Ringing

16.4 Appendix IV - Menu Icons

Icon	Describe
Status	View the status of Manager, Network, Devices, and Accounts.
Network	Connect to Manager/Base network
Basic	Set preference settings.
Contact	Access all contacts.
Messages	View Voice Mails and SMS servers.

CallLog	Access the call history list.	
Features	Set functions such as Call Forwarding, Auto Answer, Call Waiting, DND, Intercom, and Ban Anonymous Call.	
Application	Set up Memo and Export logs through USB drive	
Advanced	Set Security, Upgrade, and Factory Reset.	

16.5 Appendix V - Keyboard Character Query Table

Icon	Input Method	Keys	Characters Of Each Press
123	Number	1	1
		2	2
		3	3
		4	4
		5	5
		6	6
		7	7
		8	8
		9	9
		0	0
		*	*.:/@ [],+- _='? \ "|; ()<>{}#
		#	#
abc	Lowercase	1	@:; ()<>[] {}

	letters	2	a b c
		3	d e f
		4	g h i
		5	j k l
		6	m n o
		7	p q r s
		8	t u v
		9	w x y z
		0	(space)
		*	.,*/+-:_='?\"|
		#	#^!&$% pound
ABC	Upper Case Alphabets	1	@:;()<>[]{}
		2	A B C
		3	D E F
		4	G H I
		5	J K L
		6	M N O
		7	P Q R S
		8	T U V
		9	WZYX
		0	(space)
		*	.,*/+-:_='?\"|
		#	#^!&$%£¤~¡¿§
2aB	Number/Letter Keyboard	1	1
		2	2 a b c A B C
		3	3 d e f D E F
		4	4 g h I G H I
		5	5 j k l J K L
		6	6 m n o M N O
		7	7 p q r s P Q R S
		8	8 t u v T U V

		9	9 w z y x W Z Y X
		0	0
		*	.*:/@[],+-_='?\"|;()<>{}
		#	# ^!&$%£¥¤~¡¿§
aB2	Number/Letter Keyboard	1	1
		2	a b c A B C2
		3	d e f D E F3
		4	g h I G H I4
		5	j k l J K L5
		6	m n o M N O6
		7	p q r s P Q R S7
		8	t u v T U V8
		9	w z y x W Z Y X9
		0	0
		*	.*:/@[],+-_='?\"|;()<>{}
		#	# ^!&$%£¥¤~¡¿§