



CQ400 User Guide



Simple Communication™

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Contact CQ Simple

Contact Sales

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Contact Technical Support

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1. Overview of CQ400



1.1 Interface

Power Input	DC 5V-2000mA or PoE
LAN Port	RJ45
PC Port	RJ45
EXPAN Port	RJ45
Headset Jack	RJ9
Handset Jack	RJ9

1.2 Hardware

LCD	461*278 4.3" TFT
FLASH	64M
RAM	64M
CPU	CQ400 262MHz Dual-Core
	CQ400 393MHz Dual-Core
LED Indicator	1 Status Light , 4 line indicators, 8 BLF indicators, 1 voicemail indicator, 1 headset indicator, 1 mute indicator

1.3 Software

- Sip 2.0 (RFC3261) and other related SIP RFCs
- 4 SIP lines registration
- STUN
- Jitter Buffer, VAD,CNG
- G.711A/u, G722, G.723, G.726-16, G.726-24, G.726-32, G.726-40, G.729, Lin16-16, iLBC
- Echo Cancellation
- SIP Domain name, Authentication and Backup SIP Server
- DTMF (Inband, RFC2833, SIP INFO)

-
- Call transfer, Call forward, 3-way conference, Call hold, Call back
 - DND(Do Not Disturb), Auto answer, Blacklists, Block Call-ID, Block Anonymous call, Dial plan, IP call
 - Phone book with 200 records, 200 answered calls, 200 missed calls, 200 dialed calls
 - Auto update via HTTP, FTP, TFTP, PNP
 - Syslog
 - SNTP,NTP
 - Customized Ringtone
 - Daylight Saving time
 - VLAN, VPN
 - WEB access with different login level
 - Multi-language: English, Chinese, Farsi, French, German, Hebrew, Italian, Portuguese, Russian, Spanish, Turkish

1.4 Network

- LAN/PC: Support Bridge mode
- Support VLAN
- Support L2TP VPN
- Support DHCP, STATIC, PPPoE
- Primary/Secondary DNS Server
- Support QoS
- Web access via HTTP&HTTPS

1.5 Management and Maintenance

- Support safe mode and firmware updating under safe mode
- Support different level user management
- Configuration via web , keyboard
- Support multi-language
- Firmware and configuration file auto provision
- Support system log

1.6 Protocol

- IEEE 802.3 /802.3 u 10 Base T / 100Base TX
- PPPoE: PPP over Ethernet

- DHCP: Dynamic Host Configuration Protocol
- SIP RFC3261, RFC3262, RFC3263, RFC3264, RFC3265, RFC2543, RFC3489, RFC3842, RFC3515, RFC2976, RFC3428, RFC2327, RFC2782, RFC1889
- TCP/IP: Transfer Control Protocol/Internet Protocol
- RTP: Real-time Transport Protocol
- RTCP: RTP Control Protocol
- DNS: Domain Name Server
- TFTP: Trivial File Transfer Protocol
- HTTP: Hypertext Transfer Protocol
- FTP: File Transfer Protocol

1.7 Compliant and Certified Standard

- CE: AGC01180140201E2, AGC01180140202E2
- Comply with ROHS in EU
- Comply with ROHS in China



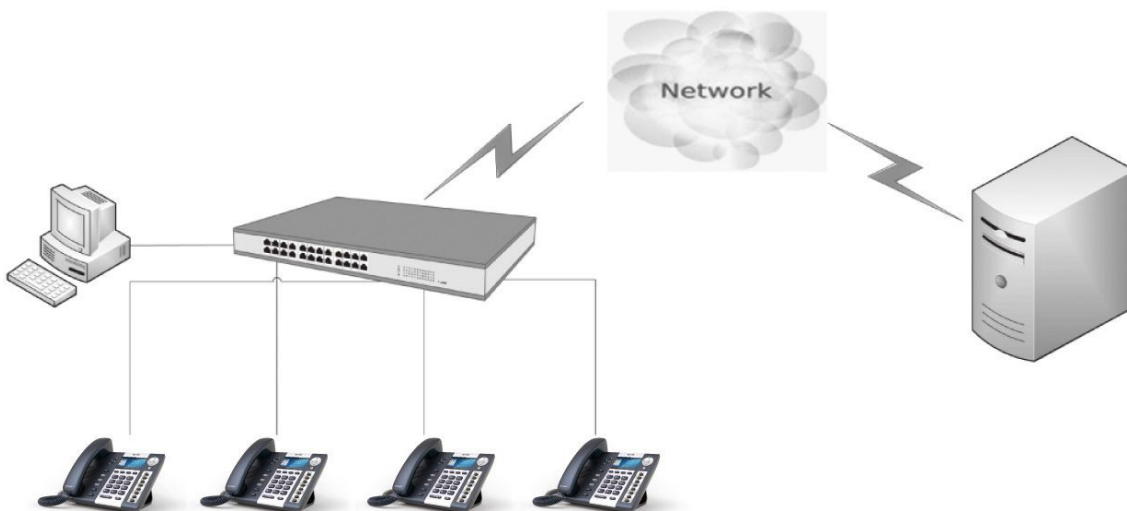
- Operation temperature: lower than 60° C
- Storage temperature: lower than 60° C
- Humidity: 10 to 90% no dew

1.8 Packing list

Model	CQ400
Telephone	1Unit
Handset	1 Unit
Handset cable	1 Unit
Stand bracket	1Unit
Power adapter	Optional
Network Cable	1 unit, 1.5 meters

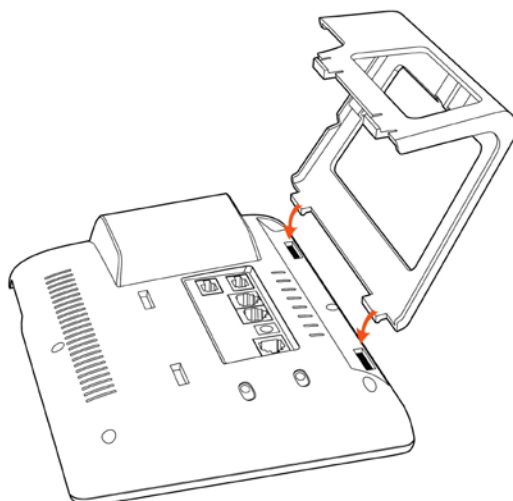
1.9 Installation

The CQ400 is able to be connected with network via LAN port. Under the Bridge mode, other devices (Laptop, CQ400) is able to access network via the PC port of CQ400.

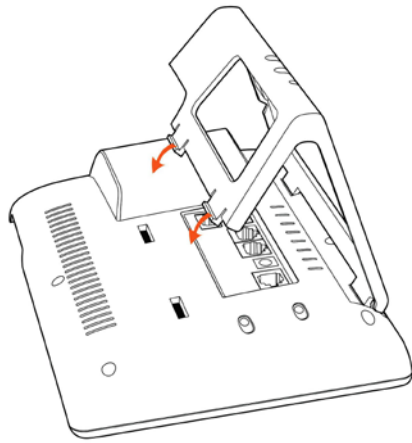


1. Stand bracket installation instruction

A. Put the bottom side of the CQ400 upside and press one-side joints of stand bracket into the slot, please refer the picture as below

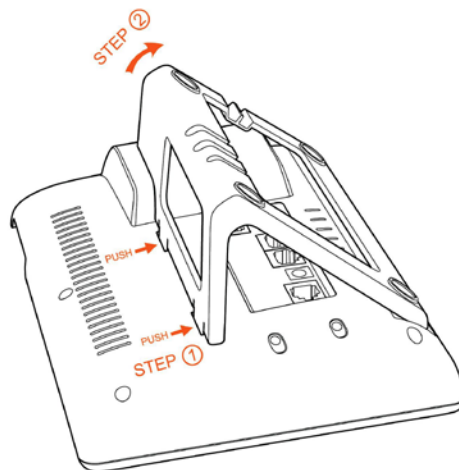


B. Press the other side joints into the slot according to the direction of the arrow:



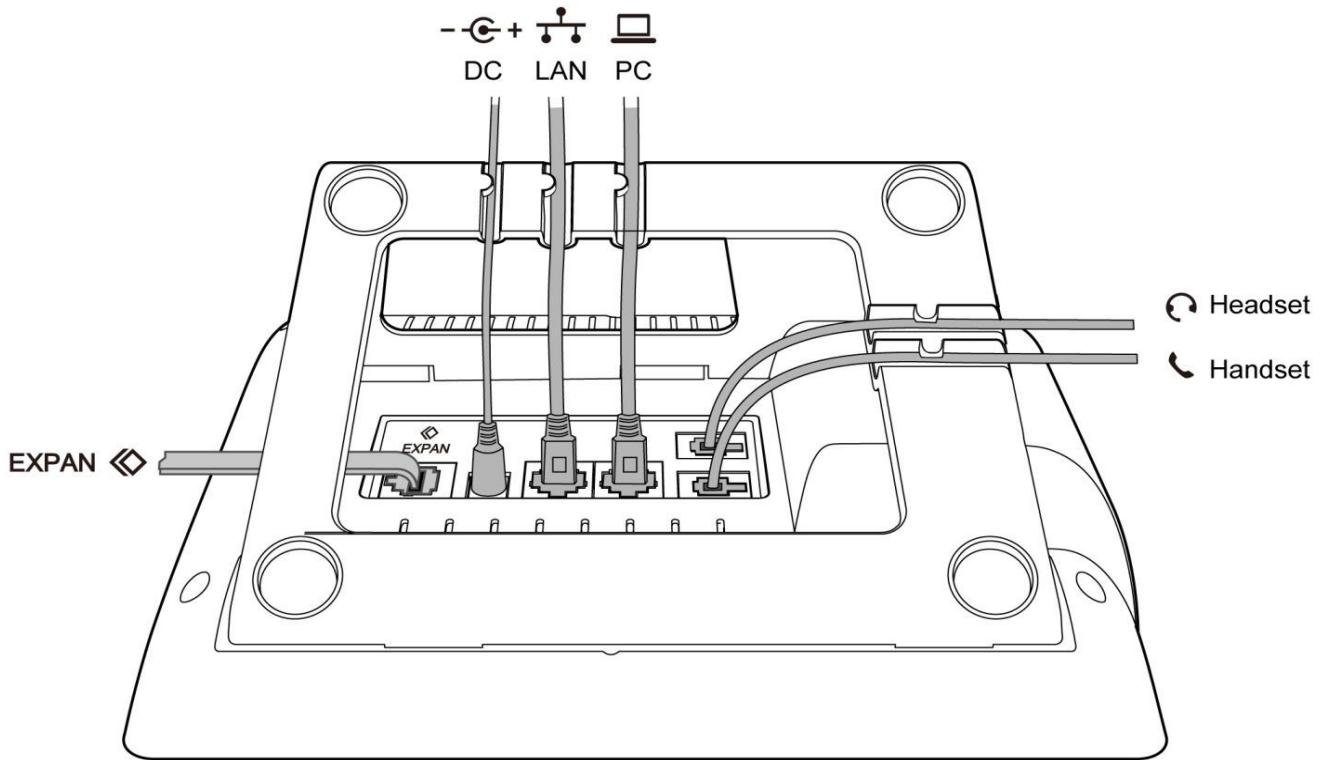
C. Disassemble the stand bracket:

Push the spring joint of stand and pull the stand according to the direction of the arrow. When the joints are pulled out of the slot, you can take off the stand bracket

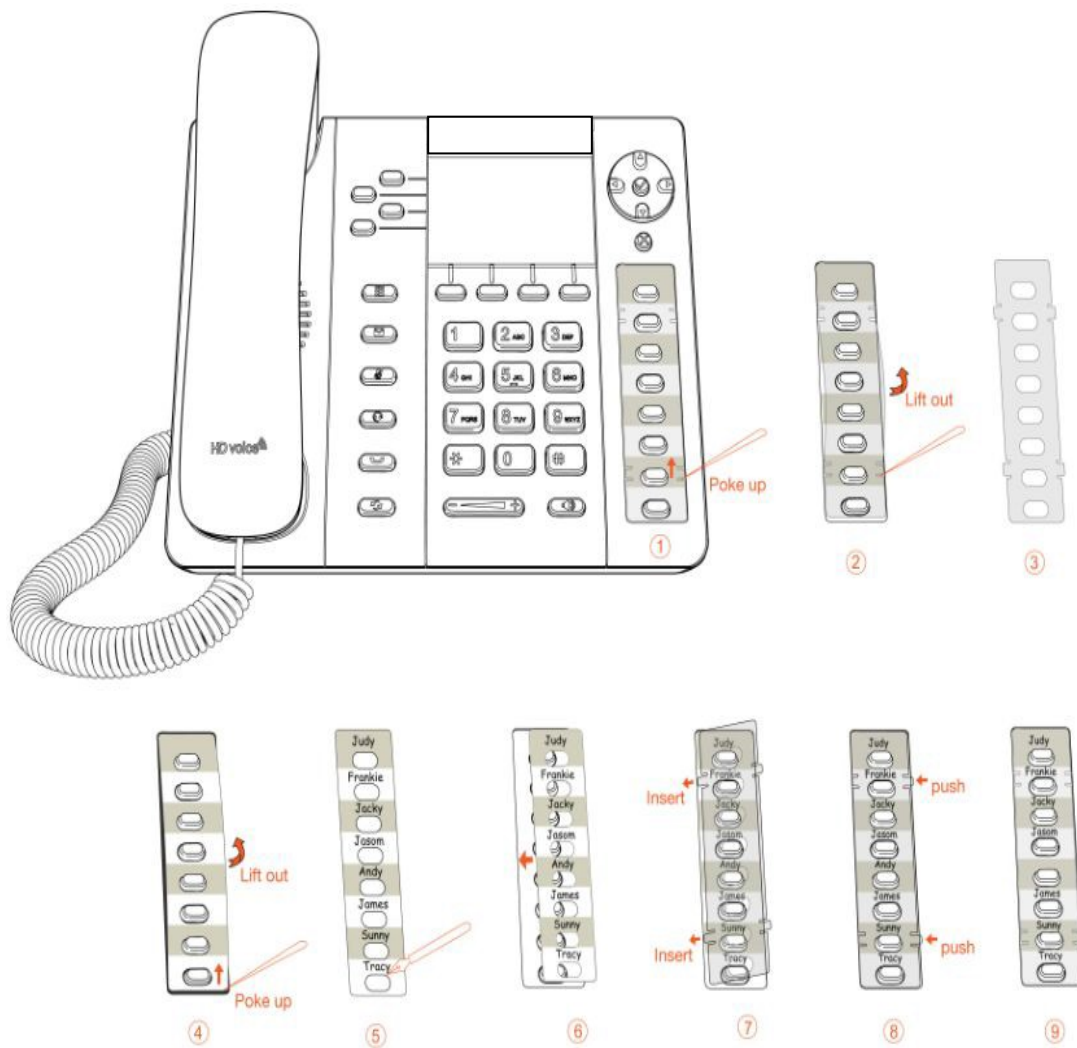


2. Wiring instruction

Plug in the power adapter, cable and handset or headset to the corresponding ports as below picture and press them to the slots on the stand bracket.



DESI Strips Instructions



Step1. Use needle or some other tools to insert into the hole of the plastic sheet, press up on the plastic sheet.

Step2. Lift out the plastic sheet

Step3. Take off the plastic sheet

Step4. Use needle or some other tools to insert into the edge of the paper strip, press up and lift out.

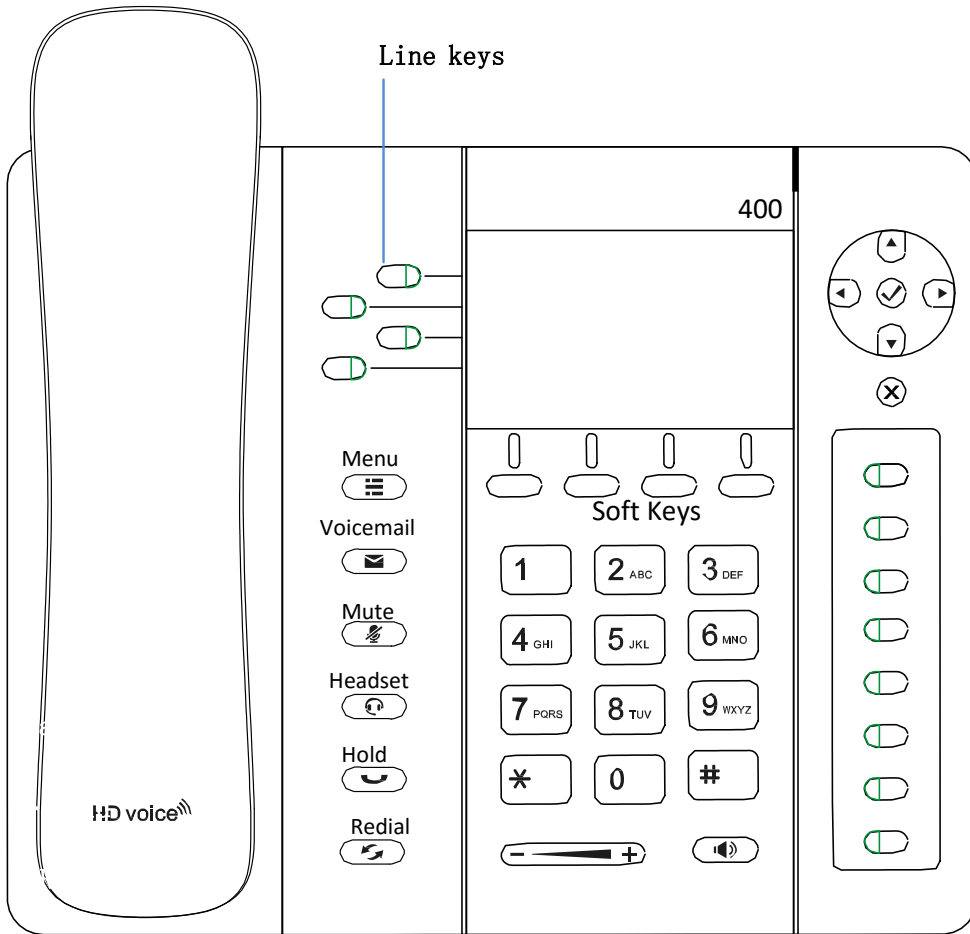
Step5. Write down the identification of each programmable key on the paper strip.

Step6. Put back the paper strip.

Step7. Insert the plastic sheet into the slot



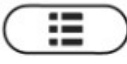



Step8. Push the other side of the plastic sheet into the other slot





2. CQ400 Keypad



2.1 Description of Buttons and Screen

Soft Keys	Press to select a function which displayed at the soft key zone of screen Display all optional functions at the last line of LCD screen
Status Indicator	Indicates the phone's status.
LCD Screen	All information such as date, time, phone number, incoming caller's ID (if available), line/call status, extension numbers and the soft key features are displayed on it.
Line Key	Show extension status and choose corresponding line. Long hold the line key will enter the editor interface.

Dial pad	Entering numbers or characters.
Memory Keys	All the memory keys can be defined as BLF key, intercom, DTMF etc. Long hold the programmable key will enter the editor interface if the programmable key has been already defined as the BLF/Speed dial/Intercom/Key event as pickup, call park, DTMF etc. Short hold the programmable key will enter the editor interface immediately if the programmable has not been defined.
Navigation keys 	Allow users to navigate (left, right, up, down). Press can enter "Directory".
	Cancel users' operation.
	Enter menu settings.
	Adjust the volume (speaker/handset/headset/ring). Volume level will be displayed on LCD when pressing volume key.
	Pick up and hang up under the speaker mode.
	Mute the mic in a conversation by pressing the Mute button; this prevents the person on the active call from hearing what you or someone else in the room is saying.

	<p>If the call is muted, the mute LED is lighted in red.</p> <p>To un-mute, press the Mute button again.</p>
	<p>Pick up and hung up under headset mode. The LED button will be lighted when talking in headset mode.</p>
	<p>Check the Voicemail status. The LED button will be lighted when there is a new message. Long hold will enter the editor interface to configure the voicemail number.</p>
	<p>Hold the current call.</p>
	<p>Redial the last dialed number.</p>

2.2 Line Keys

LED Status	Description
Off	The line is idle or disabled for register
Blink in green at 120ms off, 120ms on	The line has an incoming call
Green	The line is talking
Blink in red at 600ms off, 600ms on	The line is held
















2.3 Status Indicator

LED Status	Description
On	CQ400 is being started
Off	CQ400 is standby
Blink in red at 120ms on, 120ms off	There is an incoming call

2.4 DSS or Memory Keys

LED Status	Description
Off	The monitored account is unregistered
Green	The monitored account is idle
Red	The monitored account is talking
Fast blink in red	The monitored account is ringing

2.5 LCD screen icons

Icon	Description
	The extension is registered
	The extension is unregistered
	There is a new voice mail
	CQ400 is dialing
	CQ400 is talking
	CQ400 is calling
	There is an incoming call
	The call is held
	CQ400 is in speaker mode
	CQ400 is in handset mode
	CQ400 is in headset mode
	CQ400 is in conference
	The line key is used as the BLF key and the BLF monitored number is registered
	The line key is used as the BLF key and the BLF monitored number is unregistered
	The line key is used as Speed Dial key

3. Call Functions

3.1 Answer the calls


A. Answer by handset

Pick up the handset and talk with the caller. If you want to hang up, just put back the handset. When you are talking with the handset and want to switch to speaker or headset mode, please

press  key or  key, and then put down the handset.

B. Answer by speaker



Press  key and talk with callers by built-in Micro-phone and Speaker. If you want to


hang up, please press  key again. Switch calling or talking into handset mode by

lifting the handset under speaker mode. Press  key will switch calling or talking into headset mode.

C. Answer by headset

Keep your microphone connected with the RJ9 headset jack, when there is an incoming call,

press  and talk with the caller. If you want to hang up, please press  again.

Pressing  can change calling or talking into speaker mode, and lifting the handset switches to handset mode.


3.2 Make Calls

A. Use the handset


Pickup the handset, the LCD will show the current lines (user is able to switch from line1 to line6 by pressing the line key beside the LCD). Press soft key "**Send**" to dial the number.

When you hear the tones of "du~ ~du~ ~" and the phone number your dialed is being displayed on the LCD, the phone at the side of being called should be ringing. If the called party answers this calling, the call is established and the calling timer is started immediately.


B. Use the speaker


Press  key, the LCD will show the current lines (user is able to switch from line1 to line6 by pressing the line key beside the LCD). Input the phone number and press soft key "**Send**" to dial the number. When caller hear the tones of "du~ ~du~ ~" and the phone number your dialed is being displayed on the LCD, the phone at the side of being called should be ringing. If the called party answers this calling, the call is established and the calling timer is started immediately.

C. Use the headset



Press  Key, the LCD will show the current lines (user is able to switch from line1 to line6 by pressing the line key beside the LCD). Input the phone number and press soft key "**Send**" to dial the number. When caller hear the tones of "du~ ~du~ ~" and the phone number your dialed is being displayed on the LCD, the phone at the side of being called should be ringing. If the called party answers this calling, the call is established and the calling timer is started immediately.

D. Dial from phone book

1. Press  key to enter the menu and choose "**Directory**" option. Press "**Enter**" soft key and then find the contact person by navigation keys. When the certain contact person is highlighted, press "**Dial**" or just pick up the handset to call this number.
2. Pick up the handset, press "**Directory**" soft key, then find the contact person and press "**Dial**" soft key.



-
3. Pick up the handset, press  and enter "**Directory**", then find the contact person and press "**Dial**" soft key.

E. Dial from call history

1. Press  key to enter the menu and choose "**History**" option, then select one of call history entry, and press "**Dial**" soft key or pickup the handset to call this number.
2. Pickup the handset, press "**History**" soft key, then select one of call history entry, and press "**Dial**" soft key to call this number.
3. Pickup the handset, press  and enter "**Call History**", then select one of call history entry, and press "**Dial**" soft key to call this number.



3.3 Pre-dial

- A. Dial-up the phone number at standby mode.

- B. Press soft key "**Dial**" or Pick up the handset or Press  or  to send out the number.



3.4 Multiple line dial-up

"**Hold**" the current line on which you're talking then press "**Answer**" to receive the incoming call from another line.

Pick up a new incoming call while on calling: When a new incoming call happened on the being occupied line, press the key  or  to check details of the new incoming call, and press the soft key "**Answer**" on GUI to pick up the new call. The current calling will be hold after the new call picked up. When a new incoming call happened on another idle line, the source phone number of new incoming call will be displayed on the Screen and the LED of corresponding line key will be fast blinking (Green), Press the corresponding line key to pick up the new call, Or Press the soft key "**Hold**" to hold the current call and then press "**Answer**" key to pick up the new call.

Make a new call while on calling: To make a new call on a being occupied line, Press the key "**Hold**", then input the destination phone number and press the key "**Dial**", or Press the soft key "New", then input the destination phone number and press the key "**Dial**". To make a new call on an idle line, press the corresponding line key, input the destination phone number and press the key "**Dial**".

3.5 Call Hold

Place a call on hold by pressing the soft key "**Hold**" or , and the held call will be resumed after pressing soft key "**Resume**" or  or the corresponding line key. Even on 3-way conference calling, the conference will be held after pressing "**Hold**" key, and be resumed to 3-way conference after pressing "**Hold**" Key again. Remember the conversation is still on hold without being ended even if hung up under the status of hold.

3.6 Call Transfer

1. Attended call transfer

The attended transfer allows user to call a third-party before transferring the calling. While calling, press the "**Transfer**" soft key to hold the current call and dial the target number you want to transfer to on the activated line and press "**Send**" soft key to call that number. After the target party answers the call, press "**Transfer**" soft key again to complete the transfer.

If the target number has been setup in the current BLF list, and you have already finished the necessary setup on Webpage of CQ400, there is an easier way to complete the attend transfer. While calling, press the corresponding BLF key of the target number and then press the "**Transfer**" soft key, the attend transfer will be achieved.

Setup BLF list with attend transfer functions on Webpage:

"Phone" → "Features" → "Transfer Settings" → "Transfer Mode via DSS Key (Attend Transfer)"

2. Blind call transfer

The blind transfer allows user to transfer a call without speaking to the third party. On the user side, the call will be ended as soon as the target phone number is dialed.


Operating steps: Press "More" soft key to get more option, then press "Bxfer" soft key, input the transfer target number and press "Send" soft key.

If the target number has been setup in the current BLF list, and you have already finished the necessary setup on Webpage of CQ400, there is an easier way to complete the Blind transfer. While calling, press the corresponding BLF key of the target number, the blind transfer will be achieved.

Setup BLF list with blind transfer functions on Webpage:

"Phone"→"Features"→"Transfer Settings"→"Transfer Mode via DSS Key (Blind Transfer"

3.7 Mute calls

The input audio will be not transmitted to peer phone after pressing  key, and the phone will be muted even switched among different modes of speaker, handset and headset.

To un-mute, just press  key again.

3.8 3-Way Conference

1. While on calling, press the soft key **"Conf"**, input the 3rd party's phone number and then press the softkey **"Dial"** or press the soft key **"Conf"** and press the corresponding BLF key to invite the 3rd party to join a conference call.
2. After the third party answers the call, pressing **"Conf"** key again to establish the 3-way conference
3. The initiator of 3-way conference can press the soft key **"Hold"** to hold the conversation with other two parties, and press **"Resume"** to back to 3-way conference.
4. If the initiator hangs up the call or press the soft key **"End Conf"**, the conference will be ended and the calling between the other two parties will be hung up as well.
5. The initiator of 3-way conference can press the soft key **"Split"** to separate the conference call, and the calling between initiator and the other two parties are still active but under the status of Call hold.
6. After split the 3-way conference, press the soft key **"More"** and then press the softkey **"Join"** to resume the 3-way conference or press the softkey **"Conf"** to setup a new 3-way conference call.

3.9 Hang up the phone


1. Softkey hang up

While on calling, press the softkey **"End Call"** to hang up.


2. Handset hang up

Put back the handset at handset mode, the current calling will be hung up.

3. Speaker hang up

Press  key at speaker model, the current calling will be hung up.


4. Headset Hang up


Press  key at headset model, the current calling will be hung up.

5. Hang up one line call

Press the hook to hang up the current calling when 2 calls happened simultaneously.

3.10 Voicemail

CQ400 has a  key for entering voicemail box and indicating new voicemail. Press

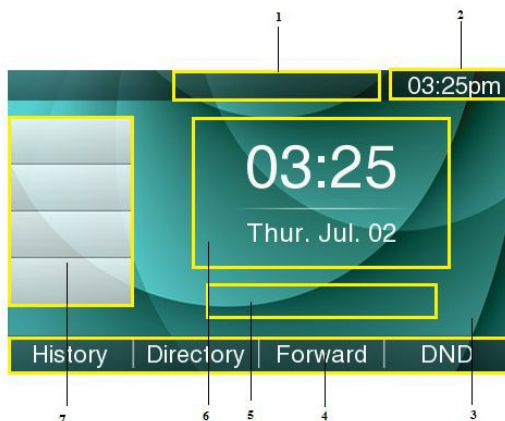
 key to enter the menu to configure voicemail number if you have never configured it previously. Otherwise, the voicemail number will be called after pressing it.

4. Keypad and GUI

4.1 Starting













All lights will be on (Red) at the moment when the phone powered on, and then light off in the following One second. And then the phone turns to standby status in about 50 seconds






4.2 Standby



Area Item	Description
1	Status: to indicate the call status
2	Time
3	Background
4	Softkey: “History”, “Directory”, “Forward”, “DND”
5	Indication info: DND (on)、Missed calls, Call Forward (on) and Network Status (unavailable).
6	Time, Date
7	Programmable keys (Line Keys in default)

Icon on Standby UI

Icon	Description
	The account is registered successfully, and displayed in the Area 7.
	The account is not registered successfully, and displayed in the Area 7.
	The line is being occupied for dialing, and displayed in the Area 7.
	The line is on calling, and displayed in the Area 7.
	New incoming call, and displayed in the Area 7.
	Call hold, and displayed in the Area 7.
	3-way conference calling, and displayed in the calling UI.
	Call being hold, and displayed in the calling UI.
	Unavailable Network, and displayed in the Area 5.
	Calling via handset, and displayed in the Area 1.
	Calling via Speaker, and displayed in the Area 1.
	Calling via headset, and displayed in the Area 1.

	Call Forward is activated and displayed in the Area 1.
	New Voicemail and displayed in the Area 1.
	Volume set at "0", and displayed in the Area 1.
	Auto-Answer is activated and displayed in the Area 1.
	DND is activated and displayed in the Area 1.