

Chapter 1 Product Introduction

1.1 Summary of the phone

This unit is the latest generation VoIP terminal product applied to the IP network for voice communication. The heaviest Characteristic of IP phone is that what transports voice over network at an extremely low cost with excellent sound quality.

1.2 Characteristic and compatibility

- Supports 2 10/100M Ethernet ports (one for WLAN,the other for LAN)
- Dynamic voice test、Comfortable noise generation、Dynamic voice jitter buffer
- Complies with G.168 16ms echo cancellation
- Tone generation and local DTMF re-generation according to ITU-T
- Supports E.164 dial plan
- Supports router function, BRIDGE or NAT mode optional
- Supports DHCP protocol
- Supports PPPOE protocol (ADSL、Cable Modem accessing environment)
- Stores 100 entries phone number
- 10 entries for each missed call, incoming call and dialed number
- 16 rings are optional
- Time display function
- Adjustable volume for both handset receiver、hand free speaker and incoming ring

- Supports quick dial and redial functions
- Resetting function when the phone meets catastrophic problems
- Supports keypad、consoles port、Telnet and Web management modes

1.3 Standard and Protocol

- IEEE 802.3/802.3 u 10 Base-T/100Base-TX
- Supports G.711A/μ、G.726、G.729A/AB、G.723.1/A、G.722.1 audio codec
- SIP RFC3261
- Telnet
- TCP/IP: Internet transfer and control protocol
- RTP: Real-time transport protocol
- RTCP: Real-time control protocol
- G.168 16ms echo cancellation
- DTMF: Dual-tone multi-frequency
- DHCP: Dynamic Host Configuration Protocol
- PPPoE: Point to Point over Ethernet
- DNS: Domain Name Server
- FTP: File transfer protocol
- HTTP: Hyper text transfer protocol

1.4 Panel layout

Panel planform and Rear panel

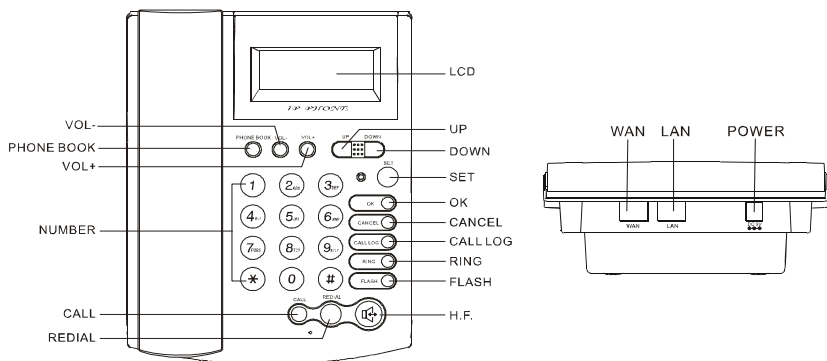


Figure 1.1 TCL-IP9 Charts

1.5 Key Definition

The function keys of the unit defined as below table1.1

Key Name	Definition
Flash	Press it to get the IP of the phone under standby status; flashing function shared with common phones; Call-switching function;
Number book	In off or picking state, press this key can read the numbers in the Phone Book
Phone log	In off or picking state, press this key ,then press “page up” 、 “page down” to read the

	accepted, missed and dialed numbers respectively.
Ring	In off state, press this key to browse and select your personal rings.
Redial	In picking state, redial the number
Menu	In off state, press this key to enter the setting-up menu
Set	In setting state, press this key to 1.Enter into the modified state of present item 2. Save the modified version of present items During browsing of the rings, Phone Log, and Phone Book, press this key to fix the item to be displayed on LCD
Cancel	In setting state, press this key to 1.Return to hyper-menu 2.Cancel the revision of present items
H.F	Press this key to talk over in hand free mode
Volume	Pick up the receiver and press this key to adjust the volume of the receiver; whereas pressing the hand free key prior to this one can help adjust that of the loudhailer (ring).
Page up Page down	Press this key after the Phone Book, Phone Log or ring key, leaf up or down the corresponding items. Press the Menu key before this one to leaf up or down the menu items.press this key to adjust the transmit volume
Power indicator	It indicates that whether the phone is electrified; and it will turn on if the phone is normally electrified

Number Keys	Pick up the receiver or press the hand free key, and then press the number keys to dial (each key corresponds with 123456789*0#) In setting state, it is used to input IP address, port or password (each key corresponds with 123456789*0#)
Note: The “Flash” key is used to check the IP address of the phone so as to facilitate the fixing and setting of the phone. In off state, the ‘Set’ key is used for a shortcut dialing of the selected phone number from the Phone Book, accepted, missed or dialed numbers.	

1.6 Specification

Electric Index

- Voltage: 9V DC
- Power: 9W (max)
- Adapter: AC input 220V, DC output 9V, 1000mA
- Network ports: Two RJ-45 Ethernet ports

Usage Environment

- Temperature: 0° ~50° C (32° ~122° F)
- Storage temperature: -30°C~65°C (-22° F to 149° F)
- Relative humidity: 10~90% (frost less)

Chapter 2 Phone setting

The gift box of this unit packs the following parts: IP9 telephone set, adapter, connecting line, and the user's manual etc. The fixing procedure: connecting this unit to network and the phone ports with the net-connecting line, and then connect the adapter with the power port of the unit. The IP address of this unit tacitly approves as 192.168.0.2. The user need to set the IP address into the same net segment, then set the phone by using the browser.

2.1 Device management by WEB method

Enter the setting interface

a、Double click explorer icon to open the IE explorer when the computer connected to the same network like the unit (as 192.168.0.2). Then key in the IP address of the unit (In standby state, press “Flash” button to get the IP address, it will be shown on the LCD, the default IP address is: 192.168.0.2) into the address bar, and then enter the login interface.

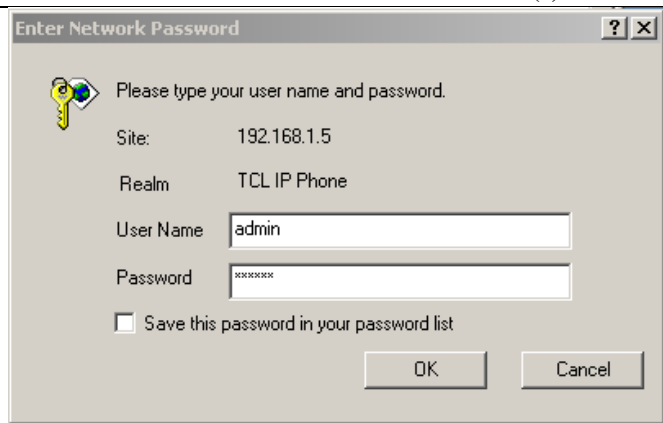


Figure 2.1 HTTP login interface

b、Key in User name and password as “admin” and “123456” to enter the setting interface (for normal user is “user”and “1234”), the following interface will display after entering successfully, then select the items on the left side to set the parameters.

Click the language column on the left side to select Chinese or English.

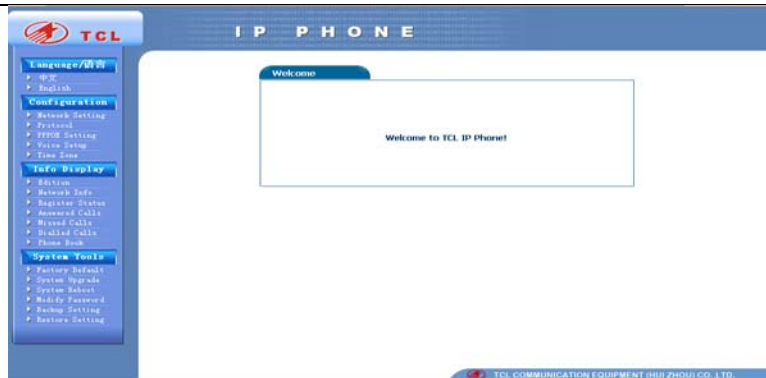


Figure 2.2 HTTP login interface

Note: All the settings go into effect after restarting the phone.

2.1.1 Network Setting

Figure 2.3 shows the network setting and the protocol setting pages respectively. You can set the IP address, the subnet IP, the gateway IP and the correlating items of the protocol through these pages. While setting the phone, you can adopt the DHCP mode for a dynamic IP address, or set the IP by hand. If you want to adopt the DHCP mode for an IP address, please tip the “Use DHCP” item, and then press the “next” key. Now the phone can get a dynamic IP address, IP subnet and gateway IP. If you need to set the IP address, IP subnet and the gateway IP by hand, please fill them to the corresponding item blanks.



Figure 2.3 Network setting interface

2.1.2 Protocol Setting

The phone supports SIP protocol

After finishing the network setting, enter “protocol” interface (Figure 2.4), all the parameters filled in the below form are provided by the ISP. Upon the completion of the network setting and the protocol setting, you need to restart your phone before using. The detailed setting are as figure 2.4.

IP PHONE

Protocol Setting

Protocol Setting:	
Phone Number:	19907010106
Display Name:	19907010106
Authentication Name:	19907010106
Sip password:	*****
Proxy server IP:	219.234.86.77
Proxy server port:	5060
Sip Registrar IP:	219.234.86.77
Sip Registrar port:	5060
Obproxy server IP:	0.0.0.0
Obproxy server port:	0
MWI Server IP:	0.0.0.0
MWI Server Port:	0
STUN IP:	0.0.0.0
STUN Port:	0

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Figure 2.4 SIP protocol setting interface

2.1.3 PPPoE configuration

If using PPPOE mode to go into the network, please use PPPOE function. The user can enter the “PPPOE Setting” menu, and key into the user name and password of the PPPOE, click “next” to set NAT, click “save” button after setting the LAN IP and LAN subnet.



Figure 2.5 PPPoE configurations



Figure 2.6 NAT setting

2.1.4 Voice setting

Setting the AGC、AEC、codec and DTMF transmit mode in this menu, thereinto, VAD、AGC、AEC will be available after giving each them a tip which factory default is not available; and the default value of codec is “Auto”, at that time ,the phone will auto-select the best codec for communication,so we suggest the users use the default value if without any especial requirements; The default mode of DTMF is inband audio, and the optional modes contains sip info and rfc2833, the detailed setting is as Figure 2.6



Figure 2.7 Voice configuration interface

2.1.5 Time zone setting

Time zone can be set in this interface

Internet Time	
Internet Time	
Time Server:	clock.via.net
Time Zone:	(GMT+08:00) Beijing, Chongqing, Hong Kong, Urumqi
<input type="button" value="Save"/>	

Figure 2.8 Time zone setting

2.1.6 Information view

2.1.6.1 version information

The type of the protocol、software version and the release time information of the phone can be viewed in edition menu which is under “info display” column. Detailed info is as below Figure 2.9.

Edition	
Edition	
Protocol :	SIP/2.0
Software Version:	2.0.0.0
Release Time:	Jun 23 2006 12:02:46

Figure 2.9 Version information

2.1.6.2 Network information

The Ethernet information can be viewed in the “Network info” menu which is under “info display” column.

Ethernet Info		
Ethernet Info		
Item	Port0	port1
Link Status	Link	No Link
Negotiation	Auto	
Speed	10Mbps	
Duplex	Half	

Figure 2.10 Ethernet informaion

2.1.6.3 Register information

The register information of the phone can be viewed in the info display column.

Register Status

Register Status	Registered
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Figure 2.11 Register information

2.1.6.4 Communication record

All the answered calls, missed calls, dialed numbers can be reviewed in the info display column.

Out Call List

NO.	Phone Number	Name	Time
1	013920051331		
2	075526716255		

Figure 2.12 Dialed numbers interface

2.1.6.5 Phone book

Phone book can be deleted or edited and reviewed in this interface. and 100 entries phone book can be stored in all.

Phone Book

Storage location	Phone Num	Name		
1	13581966992	CloudZhao	Edit	Delete
2	62006585	chen	Edit	Delete

Add Insert

Figure 2.13 Phone book interface

2.1.7 System tools

2.1.7.1 Default setting

Click the “Factory default” to enter the factory default interface, click “restore” button to resume to factory default setting value. See as

Figure 2.14



Figure 2.14 Restore to factory default setting interface

2.1.7.2 Software upgrading

The Phone supports to be upgraded by HTTP mode; the operation steps are as below:

The following interface will appear when Clicking “system upgrade” button, then get to the program files you want by the browse button, upgrade the software by clicking “start” button.

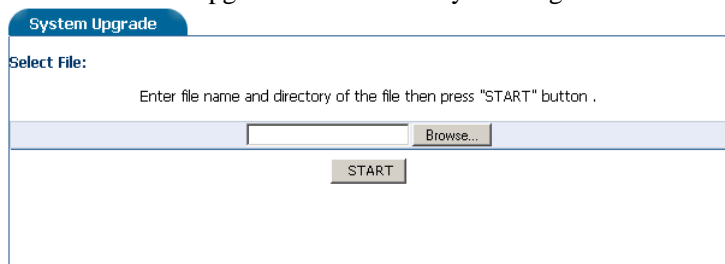


Figure 2.15 System upgrade interface

2.1.7.3 System restart

Note: All the settings go into effect after saving all the setting

information and restarting the phone

2.1.7.3 Revise the administer password

The phone supports two grades user to sign in the interface, using “admin” is as the administrator status, under which the user can reset all parameters in the interface, containing revises the passwords of usernames for admin and user; Using “user” is as the normal user status, under which the user can only revise some of the parameters in the interface, and also can only revise the password of username for user. All the parameters go into effect after using the new password to restart the phone.

2.1.7.4 Backup setting information

The user can copy the setting information of the phone by using this item function; the detailed operation steps are as below:

1) Click “Backup setting” button under the system tools menu, and the following Figure 2.16 will appear.



Figure 2.16 Copy configuration interface

2) then click the backup setting button to save the info (use .conf as postfix)

2.1.7.5 Update the configuration file

Update the configuration file for the phone by using this item function.

1) Click “restore setting” menu, the following Figure 2.17 will appear.

Figure 2.17 update configuration interface

2) Click “browse” button to get the update file, then click “start” button to update the configuration for the phone.

2.2 Device management by Keypad method

Introduce the function keys of the phone

The keys of the phone and their functions defined as the table 1.1 will be used when doing some setting re-jigger for the phone.

Phone log key Introduce

In off state, Press the ‘Phone Log’ key, then press ‘page up’ 、 ‘page down’ keys will leaf up the numbers of “dialed number” 、

“missed calls” and “accepted calls” one by one; Press the “set” key prior to pressing ‘page up’ 、 ‘page down’ keys to play the “phone log” information, and user can dial out the phone number in the phone log directly by pressing the shortcut key ‘set’ in off state. Note: it can hold each 10 unaccepted, accepted and dialed calls at most. And the first record will be refurbished when it is full.

Number book key Introduce

Press the ‘Number Book’ key, and LCD will enter the state of browsing the Number Book. Now the ‘page up’ key will leaf up and play the numbers of the names and the corresponding phone numbers one by one, In off state, the present number displayed on LCD will be dialed out by pressing the ‘set’ key.

Ring key selection introduce

Press the ‘ring’ key, and LCD will enter the state of browsing and selecting the rings. Now, press the ‘page up’ key will leaf up and play the names of the rings recorded in the phone, and the ‘page down’ key works on the opposite side. In off or standby state, press the “Set” key to set the current ring displayed on the screen as default ring.

Setting IP address of the phone by keyboard

The same as web setting, you can choose the DHCP mode or static IP mode to set the IP address for the unit.

A、DHCP Mode

Press the “Menu” key, and the LCD displays the request for your password whose default value is 123456 (you can set the password yourself). If the password passed, you can enter the setting mode; Press the “Page Up” key to scan the menu until you find the item “NETWORK” “USER DHCP” ,and press the “Set” key to store the information, then it will appear the prompt info after double Press the “Cancel” key,at last, press “Set” key to restart the phone.

B、Setting the static IP Address

Enter the “NETWORK” item in the same way, Press the “Set” key while the LCD displays “Local IP”, and the phone will enter the changing mode of the parameters. Press “set” key to make sure the IP address which displayed on the screen;and Press the “Set” key again to save the information after entering the right IP address, and then quit the parameter setting mode and return to the current menu (Local IP) by pressing the “cancel” key again according to the prompt.Change the subnet IP which is under the “IP/Subnet” menu and gateway IP items of the “Phone Setting” menu in the same way.After setting the three items, press the “Cancel” key twice to quit the setting menu, After restarting the unit successfully, the new settings go into effect.

Appendix: Trouble Shooting Guide

1.How to upgrade the software of TCL-IP9?

Answer: Enter WEB page of the phone, click the local upgrade menu, then get to the program files you want through the browse button, click “upgrade” . For details, please see the user manual of TCL –IP9.

2.How to check the software version of TCL-IP9?

Answer: Enter WEB page of the phone, click “Edition” menu, then can see version number, for example:2.0.0.1

3.How to restore the default setting of leaving factory for TCL-IP9?

Answer: There are two ways to solve.

(1)Enter the WEB page of the phone, then click the “factory default” to enter the new an interface, then click “restore” button to restore the default setting of leaving factory.

(2) Press “*” “0” “#” keys at same time in the standby state, and the phone will auto-restart 3 seconds later, then it will restore to the factory default value after the phone restart.

4.How to view IP address of TCL-IP9?

Answer: Press “Flash” key, then the IP address of the phone will display on the LCD screen.

5.What kinds of voice codec does TCL-IP9 support?

Answer: In different application, each voice codec has its own particularity.TCL-IP9 network phones support G.711-A/uLaw、G.722.1、 G.723、 G.726、 G.729 and iLBC voice codec.

Note: the bit rates of G.722.1 and G.711 are the same, but the sampling frequency of G.22.1 is twice as G.711’s(16Khz VS 8KHz), which also with better quality voice.

6.what kinds of voice codec can be selected for TCL-IP9?

Answer: The default voice codec of TCL-IP9 is PCMU(G.711u).PCMU and PCMA both can supply better quality voice, but possess a big bandwidth which is up to 64kbps.If the network bandwidth is lower, you should select another lower Bit rate voice codec, for example: G.723 or G.729, which possess the lower bandwidth than the others(G.723 only for 5.3K/6.3K,G.729 for 8K), and also can get better quality voice .If bandwidth is enough, select PCMU or PCMA, or even G.722 (G.722.1 can supply perfect quality voice) will be better.