

## IPOWER MGCP Phone User Manual

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**Ø IPOWER MGCP phone Appearance Introduction:**

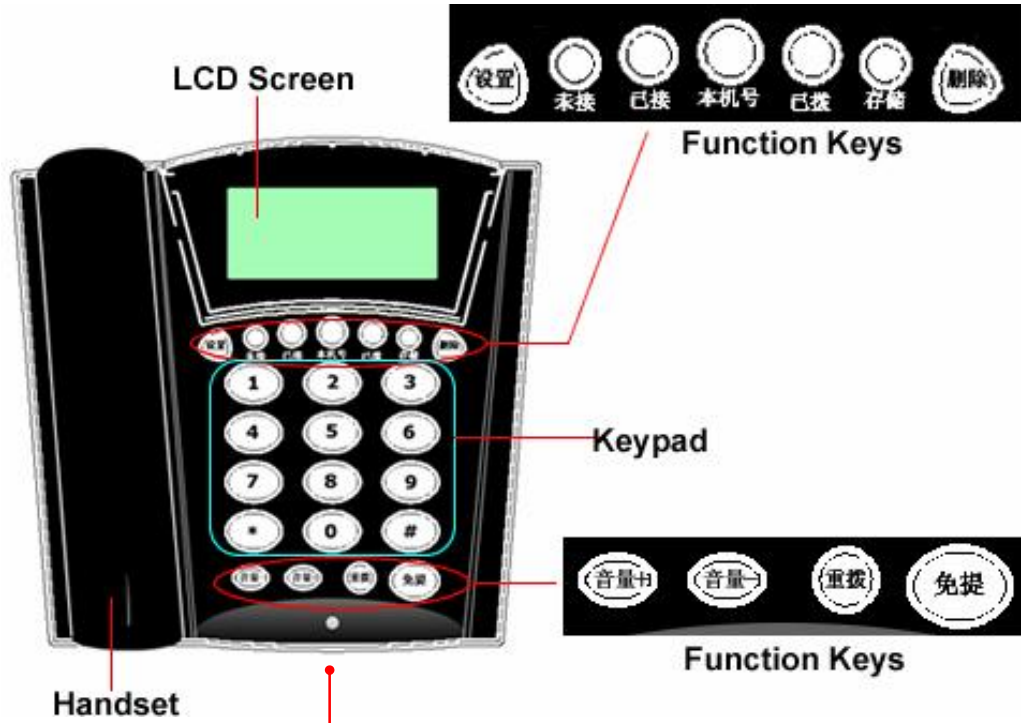


Fig 1.1 IPOWER IP Phone Front Illustration

**Ø Function Keys of IPOWER IP Phone Introduction (Normal State):**

Keys	Function
<b>Set</b>	With handset hung, press this key to get local IP address of the phone
<b>Missed</b>	With handset hung, press this key to review missed number
<b>Received</b>	With handset hung, press this key to review received number
<b>Phone number</b>	With handset hung, press this key to get phone number
<b>Dialed</b>	With handset hung, press this key to review dialed number
<b>Save</b>	Save speed dial number
<b>Delete</b>	While reviewing missed, received or dialed number, press this key to delete current number
<b>Redial</b>	While reviewing missed, received or dialed number, press this key to dial current number
<b>Speaker</b>	Press this key to have a call without lifting the handset
<b>Volume+</b>	Increase the volumes of handset or speaker; turn over the record backward
<b>Volume-</b>	Decrease the volumes of handset or speaker; turn over the record forward

<b>Keypad</b>	With handset picked or pressing speaker, press this key to dial number
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## Ø Features

### Ø Hardware

- Main chip—PA1688 50MHz
- Data Memory—2MB SDRAM
- Program Memory—1 MB Flash memory
- Ethernet Jack—Four 10/100M jacks
- AC/DC adapter—Input AC100--- 230V, Output 9V DC, 1A

### Ø Software

- DHCP support for LAN or Cable modem
- PPPoE support for ADSL or Cable modem
- Set phone by HTTP web browser (IE6.0) or Telnet
- Upgrade by FTP
- Support major G.7XX;GSM610 audio codec
- VAD(Voice active detect)
- CNG (Comfort noise generation)
- Dynamic voice jitter buffer
- G.168/165 compliant 16ms echo cancellation
- Tone generation and Local DTMF re-generation according with ITU-T
- E.164 dial plan and customized dial rules
- 100 entries for quick dial
- 80 entries each for missed calls, answered calls and dialed calls
- Adjustable volume for both handset and speaker
- Voice prompt
- Hotline

### Ø Standard and Protocol

#### **IPOWER IP Phone supports following standard and protocol:**

- IEEE 802.3 /802.3 u 10 Base T / 100Base TX
- Major G.7XX; GSM610 audio codec
- MGCP1.0 (RFC2705)
- TCP/IP: Internet transfer and control protocol

- RTP: Real-time Transport Protocol
- RTCP: Real-time Control Protocol
- VAD/CNG save bandwidth
- DHCP: Dynamic Host Configuration Protocol
- PPPoE: PPP Protocol over Ethernet
- DNS: Domain Name Server
- Telnet: Internet's remote login protocol
- FTP: File Transfer protocol
- HTTP: Hyper Text Transfer protocol

**Ø Operating requirements:**

- Operation temperature: 0 to 50° C (32° to 122° F)
- Storage temperature: -30° to 65° C (-22° to 149° F)
- Humidity: 10 to 90% no dew

**Ø Electric requirements:**

- Voltage: 9V DC
- Power: 9W (max.)
- Power adapter: AC/DC input 100-230V, output 9V 1A
- Network interface: 4X RJ-45 Ethernet Connectors

**Ø Size:**

170 x 175 x 85 mm (L x W x H)

**Ø Installation:**

1. Connect handset to base: insert handset cord into handset cord jack at the left side of the base.
2. Connect IP phone to Internet: plug the RJ-45 Ethernet cable into the Ethernet Jack. Plug the other end of the cable into HUB.

3. Power on IP phone: plug the power cord adapter into the Power Jack. Then plug the other end of the power cord adapter into the appropriate wall outlet.

## Ø Configuration

Four different ways can be used to configure IPOWER IP phone: phone keypad, web browser, Telnet commands and PalmTool configuration tool on computer.

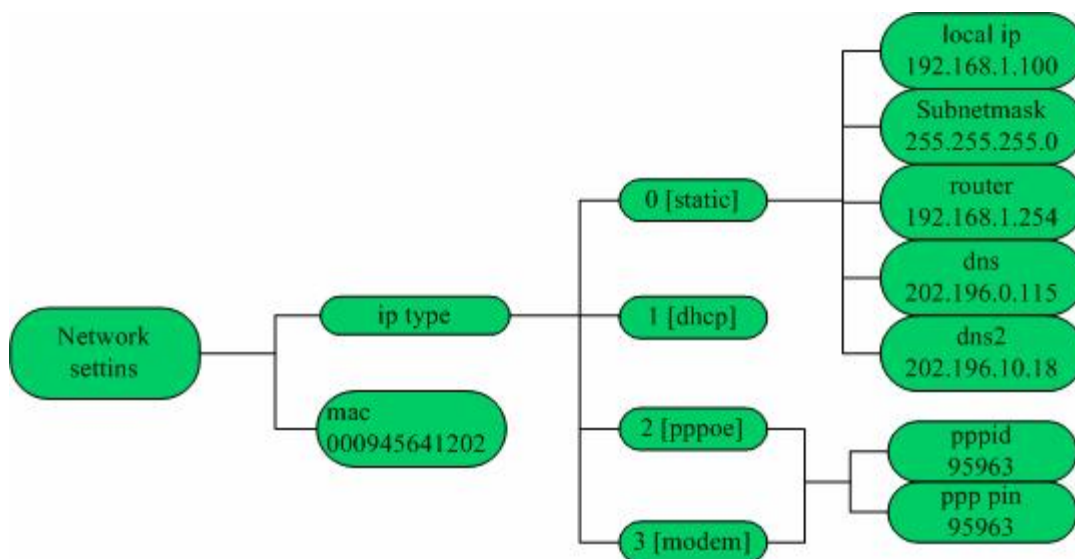
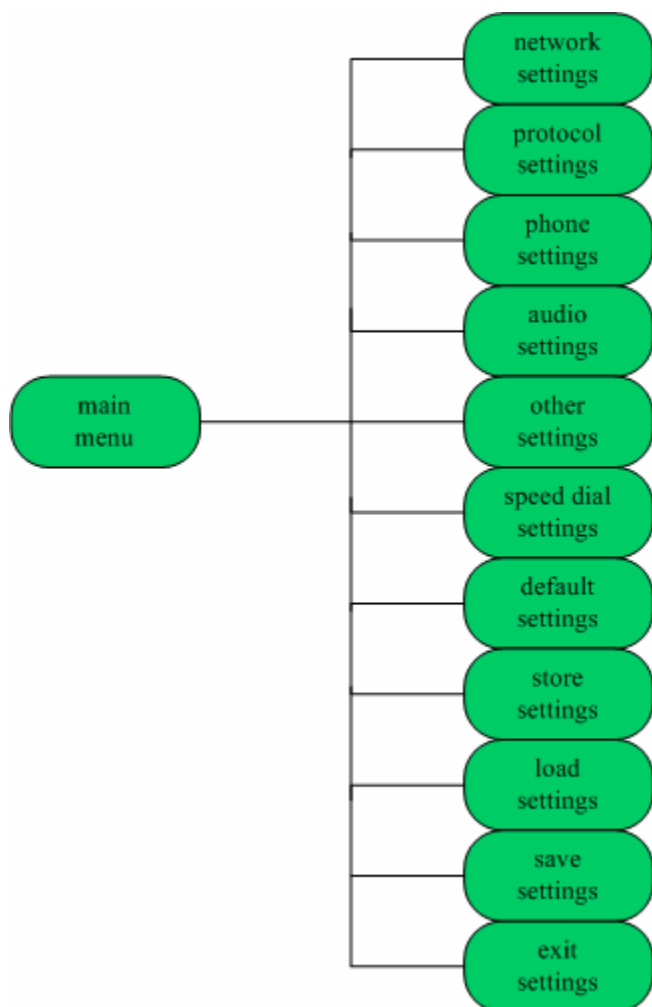
### Ø Phone Keypad setup

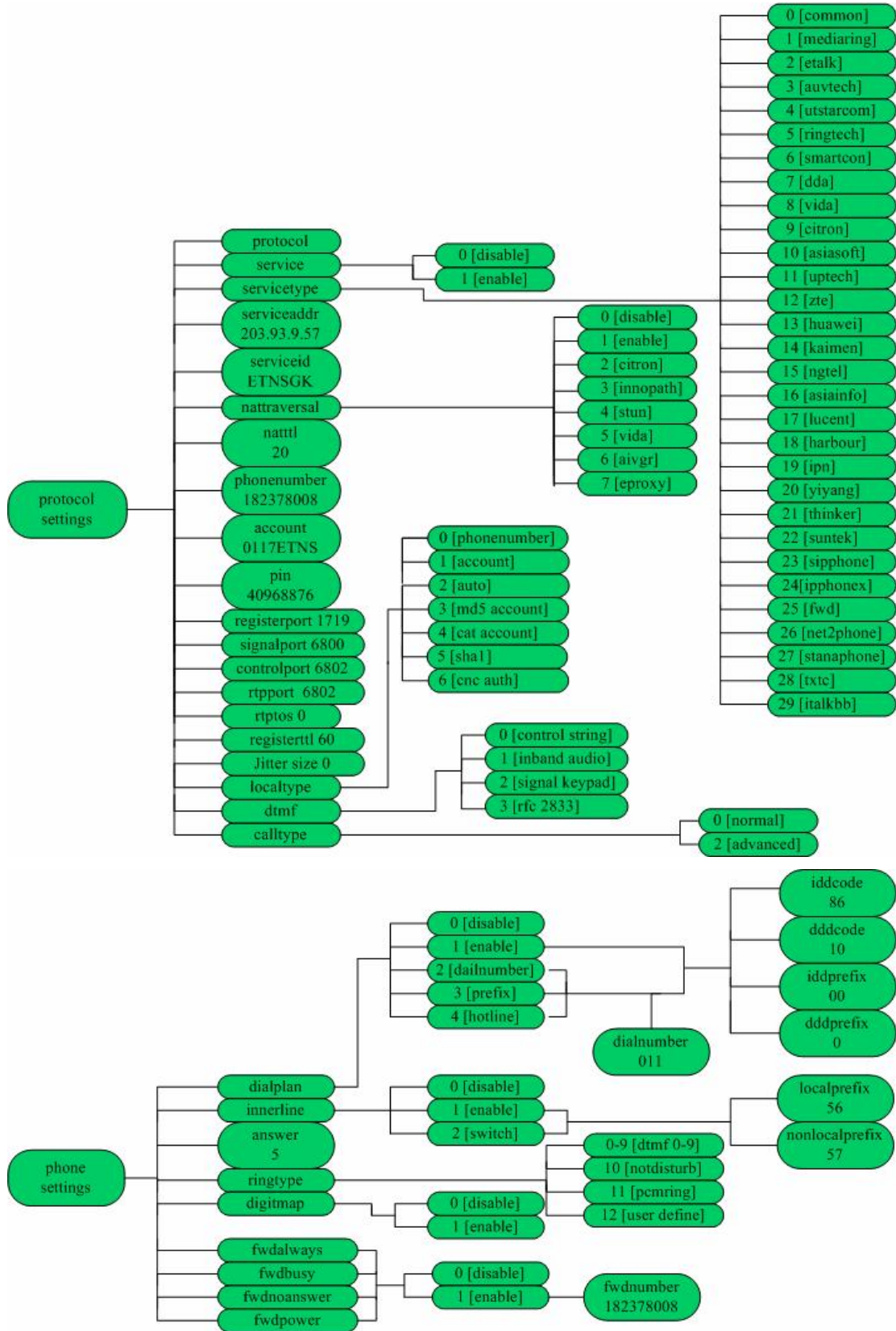
- **Function Keys Introduction:** When using keypad and LCD to configure the settings of IP phone, following keys will be used:

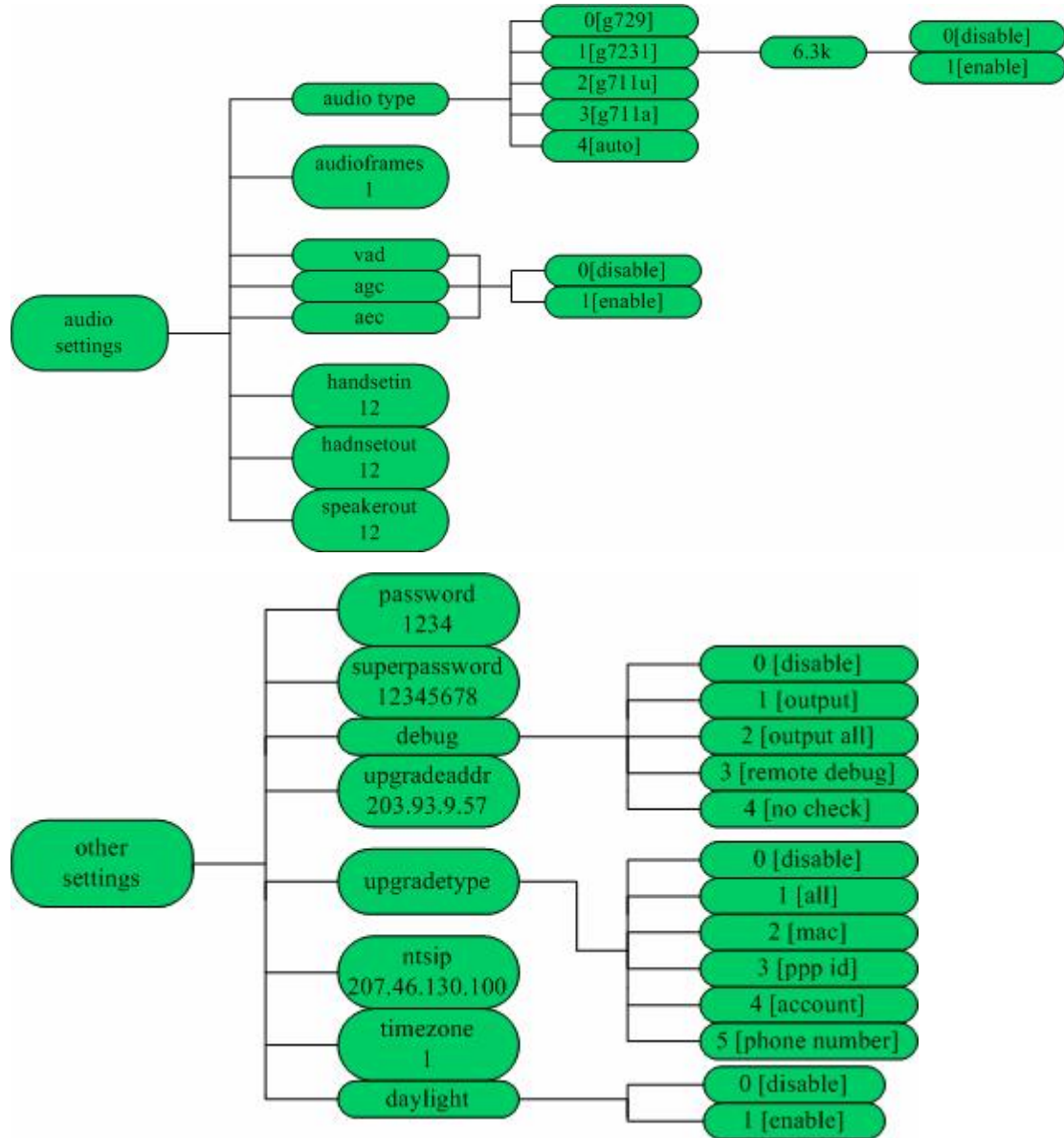
Keys	Function	Keys	Function
<b>Set</b>	Enter setting mode	<b>Speaker</b>	Enter submenu; confirm change
<b>Vol+</b>	Turn over menu backward	<b>Vol -</b>	Turn over menu forward; move cursor backward
<b>Keypads</b>	Modify values	<b>Redial</b>	Exit current menu; exit setting mode

Refer to above operation; you can reach any menu to modify any value. Please refer to following structure illustrations to learn the values of each menu item. As for the meaning of each item and value, please refer to **Web Browser Setting** chapter.


- **Menu Structure:**







**Ø Configured by WEB**

Double click  icon to open the IE browser. Input the IP address of the phone into address bar (  ), and then input password of the phone into the following page. Default password 1234 is ordinary password and super password is 12345678. With Debug set 0[disable], please input super password; while Debug is not set as 0[disable], please input ordinary password. Then click  button. The following configured page will popup. Refer to Fig 3.1 please.

network settings					
iptype	static	ppp id		ppp pin	
local ip	192.168.1.100	subnet mask	255.255.255.0	router ip	192.168.1.254
dns	202.106.46.151	dns2	202.96.128.68	mac	00-0d-ea-00-00-03
protocol settings					
use service	<input checked="" type="checkbox"/>	register ttl	60	jitter size	0
service type	common	service addr	203.93.9.57	service id	
nat traversal	citron	nat addr		nat ttl	0
phone number	82378801	account		pin	
register port	1724	signal port	1734	control port	50000
dtmf	control string	dtmf payload	101	rtp port	50000
local type	phonenumber	call type	advanced	rtp tos	0
phone settings					
use dialplan	disable	dial number		ddcode	
iddcode	886	iddprefix		dddprefix	
inner line	disable	innerline prefix			
dual mode	disable	dualmode prefix			
ring type	dtmf1	use digitmap	<input type="checkbox"/>	call waiting	<input type="checkbox"/>
forward number		fwd poweroff	<input type="checkbox"/>	fwd noanswer	<input type="checkbox"/>
fwd always	<input type="checkbox"/>	fwd busy	<input type="checkbox"/>	answer	30
audio settings					
vad	<input checked="" type="checkbox"/>	agc	<input type="checkbox"/>	sec	<input checked="" type="checkbox"/>
codec1	g729	codec2	g7231	codec3	g711u
codec4	g711a	codec5	gsm		
g.723.1 high rate	<input checked="" type="checkbox"/>	audio frames	1		
handset in (0-15)	5	handset out (0-31)	20	speaker out (0-31)	20
other settings					
password	1234	super password	12345678	debug	output
snmp ip	0.0.0.0	upgrade type	disable	upgrade addr	
use daylight	<input type="checkbox"/>				
timezone	(GMT+08:00)Beijing, Hong Kong, Urumqi				
Save Settings		Address Book		Upgrade Firmware	

Fig 3.1 Http Setting

**Network Setting:**

network settings					
iptype	static	ppp id	test1	ppp pin	test1
local ip	192.168.1.100	subnet mask	255.255.255.0	router ip	192.168.1.254
dns	202.106.196.115	dns2	202.96.128.68	mac	00-09-45-63-17-d8

Fig 3.2 Network Setting

- **iptype:** Set how IP phone gets relevant network parameters by selecting corresponding item from drop down list.
- **static ip:** Select this item to authorize users set IP address, subnet mask and router IP address of IP phone manually.

- n **dhcp**: Select this item to enable DHCP mode. With this system, your LAN or router automatically assigns all the required network parameters to any device connected to it when the device log on. IPOWERTIME IP phone is shipped from the factory with DHCP on. So, if your LAN or router is configured to use DHCP addressing, the IP phone's LAN parameters will automatically be configured as soon as it is connected to the LAN or router and powered up.
- n **pppoe**: Those ADSL and Cable Modem users please select this item for it is a protocol especially designed for them. With this system, ADSL ISP automatically assigns all the required IP parameters to any device connected to it when the device log on.
- n **modem**: If the IP phone used with modem, please select this item to get relevant network parameters auto. Then please fill ID and pin into ppp id and ppppin fields.
- **ppp id**: With **pppoe** or **modem** selected in **iptype** drop down list, please enter the user name here.
  - **ppp pin**: With **pppoe** or **modem** selected in **iptype** drop down list, please enter the password here.
  - **local ip**: With **static ip** selected in **iptype** drop down list, please enter IP address of IP phone here.

- **subnet mask:** With **static ip** selected in **iptype** drop down list, please enter subnet mask of IP phone here.
- **router ip:** With **static ip** selected in **iptype** drop down list, please enter router IP address of IP phone here.
- **dns:** With **static ip** selected in **iptype** drop down list, please enter IP address of DNS server here.
- **dns 2:** With **static ip** selected in **iptype** drop down list, please enter IP address of backup DNS server here.
- **mac:** MAC address is the physical address supplied by the Ethernet NIC. IPOWERT phone is shipped from the factory with a unique algorithm MAC address printed on the back of the base.

### Protocol Setting:

protocol settings					
use service	<input checked="" type="checkbox"/>	register ttl	<input type="text" value="15390"/>	jitter size	<input type="text" value="0"/>
service type	<input type="text" value="common"/>	service addr	<input type="text" value="203.93.9.57"/>	service id	<input type="text"/>
nat traversal	<input type="text" value="citron"/>	nat addr	<input type="text"/>	nat ttl	<input type="text" value="0"/>
phone number	<input type="text" value="1067"/>	account	<input type="text"/>	pin	<input type="text"/>
register port	<input type="text" value="1720"/>	signal port	<input type="text" value="1720"/>	control port	<input type="text" value="1722"/>
dtmf	<input type="text" value="control string"/>	dtmf payload	<input type="text" value="101"/>	rtp port	<input type="text" value="1722"/>
local type	<input type="text" value="account"/>	call type	<input type="text" value="advanced"/>	rtp tos	<input type="text" value="0"/>

Fig 3.3 Protocol Setting

- **jitter size :** Set buffer size of RTP package. The value range is 0-32.
- **service type:** This option is used to accommodate the miscellaneous requirements of the system providers. When IP phone is connected to these systems, please select the corresponding service type. Please also visit <http://www.aredfox.com/set.htm> for reference configuration of some of these systems.

§ **Common:** no special requirements

- § **Uptech:** Use Uptech's MGCP system
  - § **Zte:** Use Zte's MGCP system
  - § **Huawei:** Use Huawei's MGCP system
  - § **Kaimen:** Use Kaimen's MGCP system
  - § **Harbor:** Use Harbor's MGCP system
- **service addr** Please put the URI (domain name/IP address : service port) of the Call Agent into "**service addr**". When the default service port is used, " : service port" can be omitted.
  - **nat traversal:** When the IP phone with private IP address need communicate with other IP phones in a different LAN or on Internet, please select an item from dropdown list to set the proxy used by the phone.
    - n **disable:** Select this item when the log in server and IP phone in the same LAN, or the log in system supports the IP phone working behind the LAN.
    - n **enable:** When the system does not support IP phone working behind the LAN, please select this item to search public IP address of the NAT device. With this item selected, "**nat addr**" field will be activated. Besides, port mapping (port forwarding) needs to be properly set up on NAT device.
  - **nat addr:** When "**nat traversal**" is set to "**enable**", please put the domain name of the servers ( These web server helps to find out the public IP of the IP phone) into "**nat addr**", such as [www.whatismyip.com](http://www.whatismyip.com).
  - **nat ttl:** When IP phone sit behind a NAT device, it will send packets to server every "**nat ttl**" seconds to keep the port mapping on the NAT device alive. "**nat ttl**" is an integer between 10 and 65535, default value is 20.
  - **phone number:** The local phone number or username of this phone, usually is allocated by system.
  - **account:** Please enter local endpoint id (eg.,aaln/0) here.
  - **pin:** Please enter domain name here.
  - **rtp tos:** Fill TOS segment of IP head package in RTP digital follow here.
  - **register port:** The default port number for MGCP protocol is 2427.

- **rtp tos:** Set the TOS field of the IP header of the RTP packets. The bigger this value is 0, the higher priority the packet is.
- **rtp port:** RTP port is the port transferring and receiving voice packets using UDP protocol. This is an even number between 1024 and 65535, can't be the same as "register port".
- **dtmf:** Set DTMF signal sending way by selecting **inband audio**, or **rfc 2833** from list box.
- **dtmf payload :** When DTMF select **rfc 2833**. This parameter can be used indicating type of RTP payload type. The value can be use integer 96-101.

**phone settings:**

phone settings					
use dialplan	disable	dial number		ddcode	
iddcode	886	iddprefix		dddprefix	
inner line	enable	innerline prefix			
dual mode	disable	dualmode prefix			
ring type	dtmf1	use digitmap	<input type="checkbox"/>	call waiting	<input type="checkbox"/>
forward number		fwd poweroff	<input type="checkbox"/>	fwd noanswer	<input type="checkbox"/>
fwd always	<input type="checkbox"/>	fwd busy	<input type="checkbox"/>	answer	30

Fig 3.4 Phone Setting

- **ring type:** Set ring type by selecting corresponding item from drop down list.
- n **dtmf 0-9:** Set ring as ordinary rings in different frequency
- n **not disturb:** Set the phone do not ring by selecting this item.
- n **pcmring:** Set ring as music shipped from factory by selecting this item.
- n **user define:** Set ring as music saved by user by selecting this item.

**Audio settings:**

audio settings					
vad	<input checked="" type="checkbox"/>	agc	<input type="checkbox"/>	aec	<input checked="" type="checkbox"/>
codec1	g7231	codec2	g729	codec3	g711u
codec4	gsm	codec5	null		
g.723.1 high rate	<input checked="" type="checkbox"/>	audio frames	2		
handset in	7	handset out	20	speaker out	20

Fig 3.5 Audio Setting

- **vad:** Enable/disable VAD (voice activity detection).
- **agc:** Enable/disable AGC.
- **aec:** Enable/disable VEC.
- **codec1:** Set the priority 1of the audio compression algorithm. The options are **g729**, **g7231**, **g711u**, **g711a** and **gsm**.
- **codec2:** Set the priority 2of the audio compression algorithm. The options are **g729**, **g7231**, **g711u**, **g711a** and **gsm**.
- **codec3:** Set the priority 3of the audio compression algorithm. The options are **g729**, **g7231**, **g711u**, **g711a** and **gsm**.
- **codec4:** Set the priority 4of the audio compression algorithm. The options are **g729**, **g7231**, **g711u**, **g711a** and **gsm**.
- **codec5:** Set the priority 5of the audio compression algorithm. The options are **g729**, **g7231**, **g711u**, **g711a** and **gsm**.
- **g.723.1 high rate:** enable/disable g.723.1 high rate. G.723.1 high rate is 6.3kbps, low rate is 5.3kbps.
- **audio frame:** Set audio frames in RTP package. Minimum is 1 and maximum is 8.
- **handset in:** Drag the slider to adjust the volume of handset input. Drag it to the left to reduce the volume; while drag it to the right to increase the volume.
- **handset out:** Drag the slider to adjust the volume of handset output. Drag it to the left to reduce the volume; while drag it to the right to increase the volume.
- **speaker out:** Drag the slider to adjust the volume of handfree output. Drag it to the left to reduce the volume; while drag it to the right to increase the volume.

**Other settings:**

other settings					
password	<input type="text" value="1234"/>	super password	<input type="text" value="12345678"/>	debug	<input type="text" value="output"/>
sntp ip	<input type="text" value="0.0.0.0"/>	upgrade type	<input type="text" value="disable"/>	upgrade addr	<input type="text"/>
use daylight	<input type="checkbox"/>				
timezone	<input type="text" value="(GMT+08:00)Beijing, Hong Kong, Urumqi"/>				

Fig 3.6 Other Setting Page

- **password:** Set the password of the phone. (Default password is 1234).
- **super password:** Set the super password of the phone.(Default super password is 12345678).
- **debug:** Set the debug level of the phone.
  - n **disable:** Disable output the debug message by selecting this item.
  - n **output:** Output the operation information to the window, such as register, input by selecting this item.
  - n **output all:** Output all debug information and data in test window by selecting this item.
  - n **remote debug:** Save the debug information in SDRAM of IP phone by selecting this item.
  - n **no check:** Disable checking firmware tags when upgrading. This is not suggested, because it will increase the risk of upgrading the wrong firmware into the phone.
- **nts ip:** Fill IP address of time server here. When network without Internet connect, Fill special IP address 255.255.255.255.
- **upgradetype:** Set the auto-upgrade type of the phone.

- n **disable** : Disable auto-upgrade .
- n **all**: iPower phone will find matching firmware binary file and configuration file of the hardware type only at the FTP server specify by **upgradeaddr** item .
- n **mac**: iPower phone will find matching firmware binary file and configuration file of the MAC address only at the FTP server specify by **upgradeaddr** item .
- n **ppp id**: iPower phone will find matching firmware binary file and configuration file of the ppp id only at the FTP server specify by **upgradeaddr** item .
- n **account**: iPower phone will find matching firmware binary file and configuration file of the account only at the FTP server specify by **upgradeaddr** item .
- n **phonenumber**: iPower phone will find matching firmware binary file and configuration file of the phone only at the FTP server specify by **upgradeaddr** item .
- **upgrade addr**: Put IP address or domain name obtained by ISP of FTP server supplying upgrade program into this field.
- **use daylight**: Enable/disable daylight.
- **timezone**: Select correct time zone in list box.

When debug set as 0[disable], if input ordinary password (default one is 1234), then

following page will pop up after clicking . And only those parameters can be modified.

network settings			
iptype	<input type="text" value="static"/>	ppp id	<input type="text"/>
local ip	<input type="text" value="192.168.1.100"/>	subnet mask	<input type="text" value="255.255.255.0"/>
dns	<input type="text" value="202.106.46.151"/>	dns2	<input type="text" value="202.96.128.68"/>
ppp pin	<input type="text"/>		
router ip	<input type="text" value="192.168.1.254"/>		
protocol settings			
nat traversal	<input type="text" value="citron"/>	nat addr	<input type="text"/>
phone number	<input type="text" value="82378801"/>	account	<input type="text"/>
register port	<input type="text" value="1724"/>	signal port	<input type="text" value="1734"/>
rtp port	<input type="text" value="50000"/>		
control port	<input type="text" value="50000"/>		
phone settings			
ring type	<input type="text" value="dtmf1"/>		
forward number	<input type="text"/>	fwd always	<input type="checkbox"/>
fwd poweroff	<input type="checkbox"/>	fwd busy	<input type="checkbox"/>
		answer	<input type="text" value="30"/>
fwd noanswer	<input type="checkbox"/>		
other settings			
password	<input type="text" value="1234"/>	upgrade type	<input type="text" value="disable"/>
sntp ip	<input type="text" value="0.0.0.0"/>	upgrade addr	<input type="text"/>
use daylight	<input type="checkbox"/>		
timezone	<input type="text" value="(GMT+08:00)Beijing,Hong Kong,Urumqi"/>		
<input type="button" value="Save/Reboot"/>		<input type="button" value="Address Book"/>	
<input type="button" value="Upgrade Firmware"/>			

Fig 3.7 Setting Page using ordinary pin with Debug set as 0 [disable]

- **Update:** Click this button to save the configuration and the phone will reboot. Once the phone reboots successfully, the new configuration is effective.

---

**Note** After entering set page, if **Update** button is not clicked within 5 seconds, then when you click it again, the index page asking for pin will pop up again. Then please input the password again to enter the set page and then click **Update** button to confirm the modification.

---

**Phone Book:** Click this button to open the speed dial settings page. Please refer to Fig 3.7. In this page, you can set and save the speed dial number by typing the name into the **Name** field and then entering the corresponding number following the name. For example, input Jack in Name field following 001, and then input 5989426454 into Phone number field. Then Jack's number 5989426454 is saved in phone book. Then please click **Save/Back** button. In normal state, you can use speed dial to call numbers saved in phone book.


Phone Book					
No.	Name	Phone Number	No.	Name	Phone Number
001	Jack	5989426454	002	Allen	192.168.1.56
003			004		
005			006		
007			008		
009			010		

Fig 3.8 Phone Book Illustration

**Upgrade Program:** Click this button to update the program of IP phone. Before updating, please fill IP address of FTP server into **upgrade addr** field, and then click this button. Then the phone will read the corresponding bin files from the server and then load into the phone.

### Ø Configured by PalmTool

PalmTool is a tool designed especially to configure and upgrade the PA168 IP phone. You can visit <http://www.aredfox.com/download/tools/PalmTool.zip> to download the latest version of PalmTool. Then please unzip the downloaded file and save them.

- a) On a PC connecting with the phone or at the same segment of the phone, double click  icon to open the PalmTool. The index page of PalmTool will popup.
- b) Input the IP address of the phone into **Local IP** field (such as 192.168.1.100), and then click “Phone Settings” button.

From Version1.24, use PalmTool to set the IP phone, please set debug as output or output all firstly, or PalmTool cannot connect IP phone. The parameters of PalmTool is same as the parameters in HTTP, so please refer to HTTP set chapter to learn how to set IP phone.

### Ø Telnet Configuration

- On the PC choose **Start>Run**, and then type **telnet 192.168.1.100** into **Run** field in popuing Run dialog. Or input **telnet 192.168.1.100** in the DOS window. Then the following information will be displayed.

---

```

IPOWER V1.41 settings
Password :
    
```

---

Then please type password. With debug is set as 0[disable], if type ordinary password (default one is 1234), after Retun, you will see:

---

Password : \*\*\*\*

P:\>

---

If you type super password, then you will see:

---

Password : \*\*\*\*

P:\>

---

Above information indicates that IP phone is under setting mode, and then you can set the IPOWERT IP phone by using the telnet commands.

## Ø IPOWERT Telnet Commands Explanation

### IPOWERT Telnet Commands

Command	Function
?	Supply command name and parameters
get	Display basic parameters of the IPOWERT IP phone
set	Set parameters of the IPOWERT IP phone
store	Save current settings to designated position
load	Load designated settings to current position
exit	Exit from the setting mode without saving the configuration
write	Exit with saving all configurations and restart IPOWERT
ping	Ping other net parameter
ftp	The phone connects to FTP server and then get the files

### Detail description of IPOWERT Telnet commands

#### Command ?

**Syntax description:** No optional parameter

**Usage:** Type command name and parameters following P:\> . Be used as the keyword to supply keyword and parameters of the relevant commands.

**Relevant usage:** None

**Detailed description:**

? List help of all commands

For example:

---

```
P:\>?  
set  
get list settings  
store x store current to xth settings  
load x load xth settings to current  
exit  
write save settings
```

---

**Command get**

**Syntax description:** No optional parameter of keywords

**Usage:** Display basic parameters of the IPOWERT IP phone

**Relevant usage:** None

**Detailed description:**

**get** Display basic running parameters of the IPOWERT IP phone. Input ordinary password without debug being set as 0[disable], or input super password with debug set as 0[disable], then following parameters of IP phone will be displayed:

---

**IPOWER V1.41 settings**

Password: \*\*\*\*\*

P:\>get

iptype 0[static]

ip 192.168.1.100 subnetmask 255.255.255.0 router 192.168.1.254

dns 202.106.196.152 dns2 202.106.196.115 mac 00-09-45-65-a3-e6

service 1[enable]

servicetype 0[common] serviceaddr 203.93.9.57 serviceid [empty]

nat traversal 1[enable] nataddr [www.showmyip.com](http://www.showmyip.com) natttl 30

phonenumber 182378009 account [empty] pin [empty]

---

registerport 6800	signalport 6800	controlport 6802
registerttl 60	rtptos 0	rtpport 6802
calltype 2[advanced]	localtype 0[phonenumber]	dtmf 0[control string]
dialplan 2[dialnum]	dialnumber 17911	ddcode [empty]
iddcode [empty]	iddprefix [empty]	dddprefix [empty]
innerline 1[enable]	innerlineprefix [empty]	digitmap 0[disable]
dualmode 0[disable]	callwaiting 0[disable]	
answer 5	ringtype 0[dtmf0]	
fwddnumber [empty]	fwddpoweroff 1[enable]	
fwddalways 0[disable]	fwddbusy 0[disable]	fwddnoanswer 0[disable]
audiotype 0[g7231]	audioframes 1	6.3k 1[enable]
vad 1[enable]	agc 0[disable]	aec 1[enable]
handsetin 9	handsetout 21	speakerout 21
password 1234	superpassword 19750407	debug 1[output]
upgradeaddr [empty]	upgradetype [disable]	
sntp 0.0.0.0	daylight 0[disable]	
timezone 55[(GMT+08:00)Beijing,Hong Kong,Urumqi]		

---

Input ordinary password with debug set as 0 [disable], following information will be seen:

---

**IPOWER V1.41 settings**

Password:\*\*\*\*

P:\&gt;get

```
iptype 0[static]
ip 192.168.1.100 subnetmask 255.255.255.0 router 192.168.1.254
dns 202.106.196.152 dns2 202.106.196.115
nat traversal 1[enable] nataddr rtpport 5144
registerport 5142 signalport 5142 controlport 5144
account [empty] pin [empty]
phonenumber 182378009 fwddpoweroff 0[disable]
fwddalways 0[disable] fwddbusy 0[disable] fwddnoanswer 0[disable]
ringtype 0[dtmf0] answer 5
password 1234
upgradeaddr [empty] upgradetype [disable]
sntp 0.0.0.0 daylight 0[disable]
timezone 55[(GMT+08:00)Beijing,Hong Kong,Urumqi]
```

---

**Command set**

**Syntax description: set keywords value**

**Usage:** Used to configure password and other running parameters of IPOWERT IP phone.

**Detailed description:****set iptype X**

Set how IP phone gets relevant network parameters. X ranged from 0 through 3: 0: authorize users set IP address, subnet mask and router IP address of IP phone manually; 1: use DHCP mode. With this system, your LAN or router automatically assigns all the required network parameters to any device connected to it when the device log on. IPOWERT IP phone is shipped from the factory with DHCP on. So, if your LAN or router is configured to use DHCP addressing, the IP phone's LAN parameters will automatically be configured as soon as it is connected to the LAN or router and powered up; 2: use PPPoE mode. Those ADSL and Cable Modem users please select this item for it is a protocol especially designed for them. With this system, ADSL ISP automatically assigns all the required IP parameters to any device connected to it when the device log on; 3: use modem mode. Those who use IP phone with modem, please set the value as 3.

**set pppid XXX**

With **iptype** set as **2**, use this command to set ADSL ID; with **iptype** set as **3**, use this command to set PPP user name.

**set pppin XXX**

With **iptype** set as **2**, use this command to set ADSL pin; with **iptype** set as **3**, use this command to set PPP user password.

**set ip XXX.XXX.XXX.XXX**

With **iptype** set as **0**, use this command to set IP address of IPOWERT IP phone.

**set subnetmask XXX.XXX.XXX.XXX**

With **iptype** set as **0**, use this command to set subnet mask of IPOWERT IP phone.

**set router XXX.XXX.XXX.XXX**

With **iptype** set as **0**, use this command to set router IP of network with IPOWERT IP phone.

**set dns XXX.XXX.XXX.XXX**

With **iptype** set as **0**, use this command to set IP address of DNS server.

**set dns2 XXX.XXX.XXX.XXX**

With **iptype** set as **0**, use this command to set IP of backup DNS server.

**set mac XX-XX-XX-XX-XX-XX**

Set MAC address of the IPOWERT IP phone. Parameter xx-xx-xx-xx-xx-xx must be an HEX number.

**set service type X**

Enable/disable the repaid and service system .choose the repaid server provider. Parameter x ranged from 0 through 29: 0: disable repaid card;

11: use uptech system; 12: use zte system; 13: use huawei system; 14:  
use kaiman system; 18: use harbour system

**set serviceaddr XXXX**

Set IP address or domain name of Call Agent.

**set nattraversal X**

X ranged from 0 through 7: 0: do not use NAT traversal. When  
the log in server and IP phone in the same LAN, or the log in  
system supports the IP phone working behind the LAN; 1: Use  
NAT traversal. When the login system does not support IP  
phone working behind the LAN, With this item selected, please  
make port mapping on NAT device

**set nataddr XXXXX**

When “**nattraversal**” is set to “**1**”;set IP address of NAT device wan  
port or URI of free assistant service (Such as [www.showmyip.com](http://www.showmyip.com) etc.)  
in Internet.

---

 **NOTE** The free service list of Internet: [www.ip-calculator.com](http://www.ip-calculator.com); [www.ipchicken.com](http://www.ipchicken.com);  
[www.ipchicken.com](http://www.ipchicken.com); [www.showmyip.com](http://www.showmyip.com); [www.whatismyip.com](http://www.whatismyip.com);  
[www.myipaddress.com](http://www.myipaddress.com); [www.whatismyipaddress.com](http://www.whatismyipaddress.com); [ip.sbbs.net](http://ip.sbbs.net);  
[www.whatismyipaddress.net](http://www.whatismyipaddress.net); [checkip.dyndns.org](http://checkip.dyndns.org)

---

**set natttl XX**

Set NAT TTL XX is an integer between 10 and 65535 sec. default value  
is 20 sec.

**set phonenum XXXXXXXX**

Set a local ID of IPOWERT IP phone. Value xxxxxx must be an Arabic

numeral and no longer than 16 characters.

**set account XXXXXX**

Set the account; Value xxxxxx must be an Arabic numeral and no longer than 32 characters.

**set pin XXXXXXXXXXXX**

Set the account; Value xxxxxx must be an Arabic numeral and no longer than 32 characters.

**set registerport XXXX**

Please set is as 2427.

**set rtptos X**

Set TOS segment of IP head package in RTP digital follow.

**set rtpport XXXX**

RTP port is the port transferring and receiving voice flow using UDP protocol. XXXX is range from 1024 through 65535.

**set jittersize X**

Set buffer size of RTP package. X is range from 0-32.

**set localtype X**

X is only set to 6: use CNC special authentication system.

**set dtmf X**

Set DTMF relay type. X is ranged form 0 through 3: 1:inband audio; 3:rfc 2833.

**set dtmf payload X**

When dtmf X select 3(rfc 2833).This parameter can be used indicating

type of RTP payload type. The value can be use integer 96-101.

**set ringtype X**

Set types of ring. X is ranged from 0 to 12: 0-9: ring as ordinary rings in different frequency; 10: do not ring; 11: ring as music shipped from factory; 12: ring as music saved by user

**set answer X**

Set the ring seconds before the phone answers the call auto or forward the calls. X is ranged from 0 through 60.

**set audioframes X**

Set audio frames in RTP package. X is Arabic numerals between 0 and 7.

**set 6.3k X**

With G.7231, set IPOWERT IP phone to use 6.3K rate or not. X is ranged from 0 through 1: 0: use 6.3K rate; 1: use 5.3K rate.

**set vad X**

Enable/disable VAD. X is ranged from 0 through 1: 0: disable VAD; 1: enable VAD.

**set agc X**

Enable/disable AGC. X is ranged from 0 through 1: 0: disable AGC; 1: enable AGC.

**set aec X**

Enable/disable AEC. X is ranged from 0 through 1: 0: disable AEC; 1:

disable AEC.

**set handsetin X**

Set initial volume of handset. X is ranged from 0 through 15.

**set speakerin X**

Set initial volume of microphone of the base. X is ranged from 0 through 15.

**set handsetout X**

Set initial volume of handout. X is ranged from 0 through 31.

**set codec1 X**

Set the priority 1 of the audio compression algorithm. X is range from 0 through 4: 0: g729; 1:g7231; 2: g711u; 3: g711a; 4: gsm.

**set codec2 X**

Set the priority 2 of the audio compression algorithm. X is range from 0 through 4: 0: g729; 1:g7231; 2: g711u; 3: g711a; 4: gsm.

**set codec3 X**

Set the priority 3 of the audio compression algorithm. X is range from 0 through 4: 0: g729; 1:g7231; 2: g711u; 3: g711a; 4: gsm.

**set codec4 X**

Set the priority 4 of the audio compression algorithm. X is range from 0 through 4: 0: g729; 1:g7231; 2: g711u; 3: g711a; 4: gsm.

**set codec5 X**

Set the priority 5 of the audio compression algorithm. X is range from 0

through 4: 0: g729; 1:g7231; 2: g711u; 3: g711a; 4: gsm.

**set password XXXX**

Set password of the IPOWERT IP phone. XXX must be ASCII characters.

**set superpassword XXXX**

Set super password of the IPOWERT IP phone. XXX must be ASCII characters.

**set debug X**

Set open debugging message output grade for special tool. X is ranged from 0 through 5: 0: close debugging output; 1: output the operation information to the window; 2: output all the bug information and data in test window; 3: save the bug information into SDRAM; 4: disable checks the mark.

**set upgradeaddr XXX.XXX.XXX.XXX**

Set IP address or domain name of FTP server supplying upgraded program of IPOWERT IP phone.

**set upgradetype X**

Set auto-upgrade matching type, X is range from 0 through 5, 0-----disable; 1-----all ; 2----- mac; 3-----ppp id; 4----- account; 5----- phone number.

**set ntsip XXX.XXX.XXX.XXX**

Set IP address of time server. When network without Internet connect, Fill special IP address 255.255.255.255.

**set daylight X**

Set use daylight or not. X ranged from 0 through 1: 0: do not use daylight; 1: use daylight.

**set timezone XX**

Set time zone.

**Command store**

**Syntax description:** no keyword. Parameter ranged from 0 through 4.

**Usage:** Save the current settings to the designated position.

**Relevant Usage:** store 1

**Command load**

**Syntax description:** no keyword. Parameter ranged from 0 through 4.

**Usage:** Load the designated settings to the current position.

**Relevant Usage:** load 1

**Command exit**

**Syntax description:** no keyword and parameter

**Usage:** Exit from Telnet command window without saving the configuration.

**Relevant usage:** None

**Command write**

**Syntax description:** No keyword and parameter

**Usage:** Save the configuration and restart the IPOWERT IP phone.

**Command ping**

**Syntax description:** ping IP address

**Usage:** ping IP address of other NAT device

**Relevant usage:** In telnet window, input ping xx.xxx.xx.xx (an IP address) and return, then the result will be displayed. If the address is effective, “ping OK” will be seen; if the address is ineffective, nothing will be seen. Fox example:

---

```
P:\>ping 203.93.9.57
```

```
P:\>
```


```
ping OK
```

---

```
P:\>ping 27.56.120.56
```

```
P:\>
```

---

 **Note** Usually, the echo time of ping command is no more than 1 second. So if the result is not displayed in 5 seconds, ping command is fail.

---

### **ftp command**

#### **Syntax description: ftp value**

**Usage:** the system connects to the FTP server auto to get the corresponding file and deal with it.

#### **Relevant usage: ftp X**


X ranged from 0 through 2:

X-0: Connect to FTP Server to get the file of updating program and save it to the SDRAM of the phone. Then the file can be read by PalmTool. This operation aims at testing.


X-1: Connect to FTP Server to get the file of updating program and update program Flash. This operation aims at updating program.

X-2: Connect to FTP Server to get the file of updating dial rules and update program Flash. This operation aims at updating dial rule.

---

 **Note** When you use ftp 0 and ftp 1 commands, if the file get from FTP server is too large or the net speed is too slow, then the process will not be seen in telnet window. Please be patient. Using ftp command in telnet to get file spends almost same minutes as getting file using phone. So if nothing is displayed after too long time, it means that ftp is fail.

---

 **Note** All the Telnet commands of IPOWERT IP phone should be written in low case and the password is case sensitive.

---

## **Ø Upgrade IPOWERT IP phone**

### **Ø Set FTP server**


FTP server can be supplied by the server provider as well as setup by the users in LAN. Please set the IP address of FTP server.

### **Ø Prepare Updated program**


You can ask the server provider for the latest version of program or visit [www.aredfox.com](http://www.aredfox.com) to download the latest version.

### Ø Operation

If you have got the IP address of the FTP server from ISP, please do as follows:

- a) Use keypad to enter setting mode
- b) Use keypad to input the IP address of FTP server
- c) Press , then No19 light will blink twice a second. Once the phone rings, the new program is effective.

---

 **Note** Please do not change the name of the upgraded program, or the operation will be fail.


---

### Ø Usage of the phone

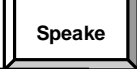

#### Ø Receiving calls:


IPOWER IP phone can receive incoming calls from other IPOWER IP phone and devices that support the MGCP protocol. It works just like an ordinary phone for incoming calls. When it rings, you can receive the call by following methods:

- ① Use handset: Lift the handset and begin speaking. When the call is over, put the handset back.

- ② Handset to hand free: While receiving call with handset, press  on the keypad and then put down the handset. When the call is over, press








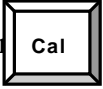



again. 

- ③ Hand free: Press  speak to the other party. When the call is over, press 

- ④ Hand free to handset: While receiving the call with  pressed




, pick up the handset to continue the call. When the call is over, put back the handset.

## Ø Place a call




1. Handset: Pick up the handset and listen for the Internet dial tone. Then dial the phone number you wish to call and press  to  the dialing. Once the call connection has been established and the ring tone has sounded, wait for the other party to answer. When the other party answers, you can begin speaking. When the call is over, put back the handset. The dialed number has been saved into the buffer.
2. Hand free: Press  and listen for the Internet dial tone. Then input the phone number you wish to call and press  to  the dialing. Once the call connection has been established and the ring tone has sounded, wait for the other party to answer. When the other party answers, you can  speaking. When the call is over, Press  again. The dialed number has been saved into the buffer.
3. Blind dialing: Use the keypad to enter the phone number you wish to call and then press  to  the call. Once the call connection has been established and the ring tone has sounded, wait for the other party to answer. When the other party answers, you can begin speaking. When the call is over, Press  again. The dialed number  saved into the buffer.

## View Records




- View missed calls


Click  then you will hear the record of missed call. Click  to turn the numbers orderly; click  to turn the numbers reservedly. If there is no record, you will hear nothing.

- View received call

Click , then you will hear the record of the received call. Click  to turn the number orderly; click  to turn the numbers reservedly. If there is no record, you will hear nothing.

- View dialed number

Click , then you will hear the record of the dialed call. Click  to turn the number orderly; click  to turn the numbers reservedly. If there is no record, you will hear nothing.

- When you hear the number you want to dial, please press  to place the call directly.

**Appendix Table:** IPOWERT IP phone digital-character key map:

Keys	Press Once	Press Twice	Press Thrice	Press quartic	Press quintic
1	1	.	,	?/_	!//
2	2	A/a	B/b	C/c	[
3	3	D/d	E/e	F/f	]
4	4	G/g	H/h	I/i	*

5	5	J/j	K/k	L/l	
6	6	M/m	N/n	O/o	#
7	7	P/p	Q/q	R/r	S/s
8	8	T/t	U/u	V/v	
9	9	W/w	X/x	Y/y	Z/z
*	.				
0	0	space	:/@	;/-	\/&
#	Case change				

*Reserves the right to make changes in technical and product specification without*

*prior notice.*