


PA168X SIP Phone Http Setup Guide

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When PA168X SIP phone is properly installed, you can set each parameters through PC and Web browser.

Details please refer to 《Pa168X SIP phone Spec and Install》

➤ Configured by WEB

Double click  icon to open the IE browser. Input the IP address of the phone into address bar (Address), and then input password of the phone into the following page.

Network Settings					
iptype	<input type="text" value="static"/>	ppp id	<input type="text"/>	ppp pin	<input type="text"/>
local ip	<input type="text" value="192.168.1.100"/>	subnet mask	<input type="text" value="255.255.255.0"/>	router ip	<input type="text" value="192.168.1.254"/>
dns	<input type="text" value="202.106.46.151"/>	dns2	<input type="text" value="202.96.128.68"/>	mac	<input type="text" value="00-09-45-0a-45-2e"/>
Audio Settings					
codec1	<input type="text" value="g729"/>	codec2	<input type="text" value="g7231"/>	codec3	<input type="text" value="g711u"/>
codec4	<input type="text" value="g711a"/>	codec5	<input type="text" value="null"/>	codec6	<input type="text" value="null"/>
vad	<input checked="" type="checkbox"/>	agc	<input type="checkbox"/>	aec	<input checked="" type="checkbox"/>
audio frames	<input type="text" value="2"/>	g.723.1 high rate	<input checked="" type="checkbox"/>	ilbc payload	<input type="text" value="98"/>
jitter size	<input type="text" value="0"/>	handset in(0-15)	<input type="text" value="7"/>	handset out(0-31)	<input type="text" value="20"/>
ring type	<input type="text" value="dtmf"/>	speaker out(0-31)	<input type="text" value="20"/>	speaker in(0-15)	<input type="text" value="0"/>
Dial Plan Settings					
use dialplan	<input type="text" value="disable"/>	dial number	<input type="text"/>	ddd code	<input type="text" value="10"/>
idd code	<input type="text" value="86"/>	idd prefix	<input type="text" value="00"/>	ddd prefix	<input type="text" value="0"/>
inner line	<input type="text" value="disable"/>	inner line prefix	<input type="text" value="0"/>	call waiting	<input type="checkbox"/>
forward number	<input type="text" value="82378801"/>	fwd poweroff	<input type="checkbox"/>	fwd noanswer	<input type="checkbox"/>
fwd always	<input type="checkbox"/>	fwd busy	<input type="checkbox"/>	answer	<input type="text" value="30"/>
use digitmap	<input checked="" type="checkbox"/>				
SIP Protocol Settings					
use service	<input checked="" type="checkbox"/>	register ttl	<input type="text" value="60"/>		
service type	<input type="text" value="common"/>	sip proxy	<input type="text" value="203.93.9.57"/>	domain/realm	<input type="text" value="203.93.9.57"/>
nat traversal	<input type="text" value="disable"/>	nat addr	<input type="text"/>	nat ttl	<input type="text" value="30"/>
phone number	<input type="text" value="82378808"/>	account	<input type="text"/>	pin	<input type="text"/>
register port	<input type="text" value="1720"/>	rtp port	<input type="text" value="1722"/>	tos	<input type="text" value="0"/>
outbound proxy	<input type="checkbox"/>	dtmf	<input type="text" value="rfc2833"/>	dtmf payload	<input type="text" value="101"/>
prack	<input type="checkbox"/>	super password	<input type="text" value="12345678"/>	debug	<input type="text" value="output"/>
Other Settings					
password	<input type="text" value="1234"/>	upgrade type	<input type="text" value="disable"/>	upgrade addr	<input type="text"/>
sntp ip	<input type="text" value="255.255.255.255"/>	use daylight	<input type="checkbox"/>		
timezone	<input type="text" value="(GMT+08:00)Beijing, Hong Kong, Urumqi"/>				
<input type="button" value="Save Settings"/>		<input type="button" value="Address Book"/>		<input type="button" value="Upgrade Firmware"/>	

Fig 1.1 Http Setting

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.

➤ Network Setting:

Network Settings					
iptype	<input type="text" value="static"/>	ppp id	<input type="text"/>	ppp pin	<input type="text"/>
local ip	<input type="text" value="192.168.1.100"/>	subnet mask	<input type="text" value="255.255.255.0"/>	router ip	<input type="text" value="192.168.1.254"/>
dns	<input type="text" value="202.106.46.151"/>	dns2	<input type="text" value="202.96.128.68"/>	mac	<input type="text" value="00-0d-ea-00-00-03"/>

Fig 1.2 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.
 - **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. PA168X 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.
 - **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.

- **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 pppin 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. PA168X phone is shipped from the factory with a unique algorithm MAC address printed on the back of the base.

➤ **Audio settings:**

Audio Settings					
codec1	<input type="text" value="g729"/>	codec2	<input type="text" value="g7231"/>	codec3	<input type="text" value="g711u"/>
codec4	<input type="text" value="g711a"/>	codec5	<input type="text" value="null"/>	codec6	<input type="text" value="null"/>
vad	<input checked="" type="checkbox"/>	agc	<input type="checkbox"/>	aec	<input checked="" type="checkbox"/>
audio frames	<input type="text" value="2"/>	g.723.1 high rate	<input checked="" type="checkbox"/>	ilbc payload	<input type="text" value="98"/>
jitter size	<input type="text" value="0"/>	handset in(0-15)	<input type="text" value="7"/>	handset out(0-31)	<input type="text" value="20"/>
ring type	<input type="text" value="dtmf"/>	speaker out(0-31)	<input type="text" value="20"/>	speaker in(0-15)	<input type="text" value="0"/>

Fig 1.3 Audio Setting

- **codec1:** Set the priority 1 of the audio compression algorithm. The options are **g729**, **g7231**, **g711u**, **g711a**, **gsm**, **ilbc** and **null**.
- **codec2:** Set the priority 2 of the audio compression algorithm. The options are **g729**, **g7231**, **g711u**, **g711a**, **gsm**, **ilbc** and **null**.
- **codec3:** Set the priority 3 of the audio compression algorithm. The options are **g729**, **g7231**, **g711u**, **g711a**, **gsm**, **ilbc** and **null**.
- **codec4:** Set the priority 4 of the audio compression algorithm. The options are **g729**, **g7231**, **g711u**, **g711a**, **gsm**, **ilbc** and **null**.

- **codec5:** Set the priority 5 of the audio compression algorithm. The options are **g729**, **g7231**, **g711u**, **g711a** , **gsm**, **ilbc** and **null**.
- **codec6:** Set the priority 6 of the audio compression algorithm. The options are **g729**, **g7231**, **g711u**, **g711a** , **gsm**, **ilbc** and **null**.
- **vad:** Enable/disable VAD (voice activity detection).
- **agc:** Enable/disable AGC.
- **aec:** Enable/disable VEC.
- **audio frame:** Set audio frames in RTP package. Minimum is 1 and maximum is 8.
- **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.
- **ilbc payload :** Set the payload type of RTP package whne ILBC codec selected to DTMF delay. The value range is 96-255.
- **jitter size :** Set buffer size of RTP package. The value range is 0-32.
- **handset in:** Set the volume of handset input.
- **handset out:** Set the volume of handset output.
- **ring type:** Set ring type by selecting corresponding item from drop down

list.

- **dtmf** : Set ring as ordinary rings in different frequency
- **not disturb**: Set the phone do not ring by selecting this item.
- **user define**: Set ring as music saved by user by selecting this item.
- **Advanced**: Set ring used the individualized tone provided by system
(need system support).
- **speaker out**: Set the volume of handfree output.
- **speaker in**: Set the volume of handfree input.


➤ **Dial Plan settings:**

Dial Plan Settings					
use dialplan	disable ▾	dial number		ddd code	10
idd code	86	idd prefix	00	ddd prefix	0
inner line	disable ▾	inner line prefix	0	call waiting	<input type="checkbox"/>
forward number	82378801	fwd poweroff	<input type="checkbox"/>	fwd noanswer	<input type="checkbox"/>
fwd always	<input type="checkbox"/>	fwd busy	<input type="checkbox"/>	answer	30
use digitmap	<input checked="" type="checkbox"/>				

Fig 1.4 Dial Plan Setting

- **use dialplan**: Set whether use dial plan or use dial number by selecting the corresponding item in drop down list.
 - **disable**: Do not use dial plan or dial number by selecting this item.
 - **enable**: Use dial plan by selecting this item.

- **dialnum:** Use dial number by selecting this item. With this item selected, please enter the dial prefix into **dial number** field.
- **prefix:** Use specially service by selecting this item.
- **Hotline:** Use Hotline function by selecting this item. With this item selected, please enter the hotline number into **dial number** field.
- **dial number:** With **dialnum** selected in **use dialplan** drop down list, please enter the dial prefix into this field according to requirement of log in server.
- **ddd code:** With **enable** or **dialnum** selected in **use dialplan** drop down list, set area code according to E.164 dial rule. For example, Beijing is 10; Shanghai is 21.
- **idd code:** With **enable** or **dialnum** selected in **use dialplan** drop down list, set country code according to E.164 dial rule. For example, China is 86; U.S.A is 1.
- **idd prefix:** With **enable** or **dialnum** selected in **use dialplan** drop down list, set international call prefix according to E.164 dial rule, such as 00.
- **ddd prefix:** With **enable** or **dialnum** selected in **use dialplan** drop down list, set long distance call prefix according to E.164 dial rule, such as 0.

 **Note** With **dialnum** selected in **use dialplan** drop down list, you can also set dddcode, iddcode, iddprefix and dddprefix according to requirement of system.

- **innerline:** Enable/disable innerline call by selecting corresponding items from dropdown list.
 - **disable:** Disable call innerline by selecting this item.
 - **enable:** enable call innerline by selecting this item.
- **innerlineprefix:** With **enable** selected in **innerline** dropdown list, please fill the prefix number pick up to inner line, such as 0.
- **Call waiting:** Enable/disable call waiting by checking/unchecking the box.
- **forward number:** Enter receiving forwarded calls phone number into this field; If the IP phone used with modem, with **modem** item selected in **iptype** list box, and then fill ISP number into this field.
- **fwd noanswer:** Forward calls without replying by checking this box. Please enter receiving forwarded calls phone number into **fwd number** field.
- **fwd always:** Forward all calls by checking this box. Please enter receiving forwarded calls phone number into **fwd number** field.
- **fwd busy:** Forward calls if busy by checking this box. Please enter receiving forwarded calls phone number into **fwd number** field.
- **answer:** Enter a number from 0 through 60 to set the entries of the seconds before the phone answer the call auto or forward the calls.

- **Use digitmap:** Enable/disable digit map by checking/unchecking the box.

➤ **SIP Protocol Setting:**

SIP Protocol Settings					
use service	<input checked="" type="checkbox"/>	register ttl	<input type="text" value="60"/>		
service type	<input type="text" value="common"/>	sip proxy	<input type="text" value="203.93.9.57"/>	domain/realm	<input type="text" value="203.93.9.57"/>
nat traversal	<input type="text" value="disable"/>	nat addr	<input type="text"/>	nat ttl	<input type="text" value="30"/>
phone number	<input type="text" value="82378808"/>	account	<input type="text"/>	pin	<input type="text"/>
register port	<input type="text" value="1720"/>	rtp port	<input type="text" value="1722"/>	tos	<input type="text" value="0"/>
outbound proxy	<input type="checkbox"/>	dtmf	<input type="text" value="rfc2833"/>	dtmf payload	<input type="text" value="101"/>
prack	<input type="checkbox"/>	super password	<input type="text" value="12345678"/>	debug	<input type="text" value="output"/>

Fig 1.5 SIP Protocol Setting

- **use service:** Enable/disable service by checking/clearing this box. To make calls through SIP Proxy Server, please check this box; otherwise, phone can only make IP-to IP calls.
- **register ttl :** IP phone will send a keep-alive registration message to SIP proxy server every “**register ttl**” seconds. The minimum value is 10, maximum value is 65535. Default is 60.
- **service type:** This option is used to accommodate the miscellaneous requirements of the system providers.
 - **Common:** no special requirements
 - **Huawei:** Use Huawei’s system
 - **zte:** Use ZTE’s SIP system
 - **harbour:** Use Harbour’s system
 - **utstarcom:** Use UtstarCom’s SIP system
 - **uptech:** Use Uptech’s system

- **keimen:** Use Keimen's system
 - **mediaring:** Use Mediaring's SIP system
 - **italkbb:** Use ItalkBB's SIP system
 - **nortel:** Use Nortel's SIP system
 - **net2phone:** Use Net2phone's SIP system
 - **Fwd:** Free SIP service; please visit www.freeworlddialup.com for more information.
 - **Inphonex:** Free SIP service; please visit www.inphonex.com for more information.
 - **sipphone:** Free SIP service ; please visit www.sipphone.com for more information.
 - **ngtel:** Use NGTEL's SIP system
 - **ayctel:** Use Ayctel's SIP system
 - **callserve:** Use Callserve's SIP system
 - **qmaster:** Use Qmaster's SIP system
 - **ringchat:** Use Ringchat's SIP system
 - **t-online:** Use T-online's SIP system
- **sip proxy:** If “**use service**” is checked, please set the URI of SIP proxy server .
 - **domain:** Set the domain name of the SIP proxy server .
 - **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.

- **disable:** Select this item when the sip proxy server and IP phone in the same LAN, or the sip proxy system supports the IP phone working behind the LAN.
- **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.
- **stun:** Select this item with Stun server used according to requirement of system. With this item selected, **nat addr** field is activated.
- **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 NAT device) into “**nat addr**”, such as www.whatismyip.com.

When “**nat traversal**” is set to “**stun**”, please put the URI of the stun server into “**nat addr**”, in the format as “domain name/IP address : service port”.

The default service port for stun is 3478.

- **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:** With SIP system which requires authentication, please put the username/account into this field.
- **pin:** With SIP system which requires authentication, please put the password into this field.
- **register port:** The local UDP port registered with server to accept incoming handshaking messages. The default port number is 5060.
- **rtp port:** RTP port is the port transferring and receiving voice packets using UDP protocol. This is an even number between 1024 and 65535.
- **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 224.
- **outbound proxy :** Enable/disable Outbound proxy by checking/clearing this box. If the system has an Outbound Proxy, please set the URI of the Outbound proxy into “**sip proxy**” and set the domain name of SIP proxy server into “**domain**” . The default service port is 5060.
- **dtmf:** Set DTMF signal sending way by selecting **inband audio, rfc 2833** and **sip info** 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.

- **prack**: Enable/disable support pre-ack(RFC3262) by checking/clearing this box.

- **super password**: Set the super password of the phone.(Default super password is 12345678).

- **debug**: Set the debug level of the phone.
 - **disable**: Disable output the debug message by selecting this item.
 - **output**: Output the operation information to the window, such as register, input by selecting this item.
 - **output all**: Output all debug information and data in test window by selecting this item.
 - **remote debug**: Save the debug information in SDRAM of IP phone by selecting this item.
 - **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.

➤ **Other settings:**

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"/>	use daylight	<input type="checkbox"/>
timezone	<input type="text" value="(GMT+08:00)Beijing, Hong Kong, Urumqi"/>		
<input type="button" value="Save Settings"/>		<input type="button" value="Address Book"/>	<input type="button" value="Upgrade Firmware"/>

Fig 1.6 Other Setting Page

- **password:** Set the password of the phone. (Default password is 1234).
- **upgradetype:** Set the auto-upgrade type of the phone.
 - **disable** : Disable auto-upgrade .
 - **all:** pa168X phone will find matching firmware binary file and configuration file of the hardware type only at the FTP server specify by **upgradeaddr** item .
 - **mac:** pa168X phone will find matching firmware binary file and configuration file of the MAC address only at the FTP server specify by **upgradeaddr** item .
 - **ppp id:** pa168X phone will find matching firmware binary file and configuration file of the ppp id only at the FTP server specify by **upgradeaddr** item .
 - **account:** pa168X phone will find matching firmware binary file and configuration file of the account only at the FTP server specify by **upgradeaddr** item .
 - **phonenumber:** pa168X phone will find matching firmware binary file and configuration file of the phone only at the FTP server specify by

upgradeaddr item .

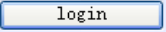
- **upgrade addr:** Put URL of upgrade server supplying upgrade program and configurations into this field , URL rules is below:

HTTP://IP address or domain name: port number

FTP: //IP address or domain name: port number

TFTP: //IP address or domain name: port number

- **sntp ip:** Fill IP address of time server here. When network without Internet connect, Fill special IP address 255.255.255.255.
- **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	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	00-09-45-0a-45-2e
Audio Settings					
codec1	g729	codec2	g7231	codec3	g711u
codec4	g711a	codec5	null	codec6	null
vad	<input checked="" type="checkbox"/>	agc	<input type="checkbox"/>	sec	<input checked="" type="checkbox"/>
audio frames	2	g.723.1 high rate	<input checked="" type="checkbox"/>	ilbc payload	98
jitter size	0	handset in(0-15)	7	handset out(0-31)	20
ring type	dtmf	speaker out(0-31)	20	speaker in(0-15)	0
Dial Plan Settings					
use dialplan	disable	dial number		ddd code	10
idd code	86	idd prefix	00	ddd prefix	0
inner line	disable	inner line prefix	0	call waiting	<input type="checkbox"/>
forward number	82378801	fwd poweroff	<input type="checkbox"/>	fwd noanswer	<input type="checkbox"/>
fwd always	<input type="checkbox"/>	fwd busy	<input type="checkbox"/>	answer	30
use digitmap	<input checked="" type="checkbox"/>				
Other Settings					
password	1234	upgrade type	disable	upgrade addr	
sntp ip	255.255.255.255	use daylight	<input type="checkbox"/>		
timezone	(GMT+08:00)Beijing, Hong Kong, Urumqi				
Save Settings		Address Book		Upgrade Firmware	

Fig 1.7 Setting Page using ordinary pin with Debug set as 0 [disable]

- Save Settings** : 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 **save settings** button is not clicked within 10 minutes, 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 **save settings** button to confirm the modification.

- Adress Book**: Click this button to open the speed dial settings page. Please refer to Fig 1.7. 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 1.8 Phone Book Illustration

- **Upgrade Firmware:** Click this button to update the program ,the settings and the digitmap of IP phone.

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

PA168X SIP Phone Http Setup Guide (V1.60)

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