

IP Phone User Guide

PH217



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1. Preface

First of all, thanks very much for choose our IP phone---PH217, thank you for your trust in our company. Our IP Phone PH217 completely follows VOIP standard offered by ISO, setting in two Protocols: SIP, fully compatible with SIP industry standard and can interoperate with many other SIP compliant devices and software in the market.

In order to make full use of our IP phone PH217 and getting the best return, please read the user manual carefully before using it and keep the manual for reference.

This manual introduces the IP Phone PH217's Installation, basic function, and special function, we hope this could help you to understand all the function soon and use them proficiently.

Note: since the product update, the manual will change, please visit to our website www.5111soft.com to see about. We may not inform respectively. Thank you for your understanding.

2. Product Overview

2.1 Support protocol

- ◆ SIP (RFC3261, RFC2543)
- ◆ Support IAX2 protocol
- ◆ Support codec: G.711A/u, G.722,G.723 high/low, G.729 A/B
- ◆ Support G.168 echo cancellation standard, compliant 96ms echo cancellation with speaker mode
- ◆ Support voice volume adjustment, including IN/OUT of handset and speaker
- ◆ Support Jitter Buffer, VAD, CNG, SIP, Domain name register, point-to-point Call
- ◆ Support RTP and RTCP
- ◆ Support the Inbound/Outbound transmission; SIP info, DTMF Relay, RFC2833
- ◆ Support many countries' standard ring
- ◆ Support NAT: Support STUN, CITRON, AVS Mode
- ◆ Support SIP domain, SIP Authentication (none, basic, MD5), Domain Name parse
- ◆ Support two SIP server synchronously, including Pubic Server/ Private server, can make a call by any proxy. You can back-up and select any above SIP server.
- ◆ Support SIP application, including SIP Call
forward/transfer/holding/conference/pickup/redial/unredial/joincall

2.2 Network features

- ◆ Support PPPoE for xDSL, and support auto redial when disconnect
- ◆ Support DHCP Client for WAN
- ◆ Support DNS relay for LAN and DHCP server can provide DNS service for LAN Network equipment
- ◆ Support DNS domain name resolution in WAN port
- ◆ Support router and switch function
- ◆ Support SNTP Client to get time from internet
- ◆ Support advanced DSP tech to ensure high quality voice
- ◆ Support advanced jitter buffer tech to prevent the info package delaying and losing
- ◆ Support network tool: ping, trace route, telnet client
- ◆ Support three modes to configure WAN port IP, they are: static, DHCP, and PPPoE
- ◆ Support NAPT
- ◆ Provide firewall for small LAN
- ◆ Provide optional priority level for small LAN
- ◆ Support second layer QoS (802.1p)
- ◆ Support VLAN
- ◆ Support VPN(L2TP)

2.3 Advanced function

- ◆ Caller ID display, ban calling out, avoid-disturb setting, auto-answering, auto dial while picking up the telephone, quick dial;
- ◆ Call waiting, call transfer, three ways call, and multi-dial forward
- ◆ Setting the black list and limit numbers
- ◆ Support point to point call
- ◆ Setting the ended number methods
- ◆ Setting the ended number add, delete and substitution
- ◆ Setting the fixed calling ways
- ◆ Support phone number with name and number
- ◆ Support Silence Suppression, VAD (Voice Activity Detection)
- ◆ Support CNG (Comfort Noise Generation)
- ◆ Support Echo Suppression and AGC (Automatic Gain Control)
- ◆ Support DIGEST validate and MD5/MD5-sess encapsulation
- ◆ Support remote auto configuration and edition auto-upgrade.

2.4 Management and Maintenance

- ◆ Support post mode and upgrade via post mode

- ◆ Support web configure, keypad configure, manage and set the phone via Http and Telnet and user IP address filter
- ◆ Support update firmware and configure files via HTTP, FTP, TFTP
- ◆ Support Syslog
- ◆ Support add/delete administrator, changing password
- ◆ Support reverses Telnet to pass through NAT/FIREWALL and administrate the phone remotely.

2.5 Hardware Index

Model	PH217
Network Interface	2 * RJ45 10/100 Base-T
Key Appearance	28 buttons、 1 LCD、 2 POWER led lights
Standard AC Adapter	Input: 100-240V—50/60Hz 0.25A Max Output: 5V—1A
Dimension	Length: 175mm; Width:150smm; Height:75mm
LCD	65mm*24mm
Weight	0.75kg
Operation Temperature	0-40 Centigrade
Humidity	10-65% (No-coagulation)

3. Installation



3.1 Installation

- ◆ Insert the power adapter’s plug into the phone front Power jack (DC 5V) and the 2-prong plug end of which into grounded power outlet;
- ◆ Connect the internet cable into wan port, and then follow below installation checking way.
- ◆ Start up the IP phone by turning the front switch stated ‘ON’ & ‘OFF’ to ‘ON’;

Then you can continue to make other configuration.


3.2 Product Appearance, Name and Function of Each Part

IP phone PH217 is similar with the common telephone in the appearance design; the appearance and keypad buttons name are showed as follows:




PH217 series IP phone has 28 buttons and 2 power lights; the definition is showed as below:






Item	Name	Operation	Function/Display
1	Dial	Enter the dial mode and press this key	Redial the previous number and call out
2	UP	In the off-hook state, press this key	Increase volume (Max configuration is 9)
		Enter the configuration mode, press this key	Option of configuration page (Upwards pages)
3	Down	In the off-hook state, press this key	Debase volume (Min configuration is 1)
		Enter the configuration mode, press this key	Option of configuration page (Downwards pages)
4	Callers	In the on-hook state, press this key	Display the Received calls, Missed calls, Dialed calls
5	DEL	While dialling numbers, press this key	Cancel a number
		Enter the configuration mode, modify the configuration parameters, press this key	Delete the inputted configuration parameters

6	HOLD		If users choose the items “Call waiting” and” three way talk” for the added value service, press “Hold” in the course of the call, can hold the call temporarily , can dial other numbers, press it again then cancel the hold state.
7	Speaker	In the state of on-hook, press this key	Using the handset, press this key and put down the handset, the telephone can use the speaker function to make a call.
8	0—9	In the mode of dialling number	Common figures “0-9”
		In the mode of configuration	Quick press it once, display the figure, and quick press twice or N times, display the English characters or other characters
9	*	In the mode of dialling number	Except dialing the third numbers in the three way calls, there is no any function
		In the mode of configuration	It is equal to the decimals among the 192.168.10.202
10	#	In the dialing mode (also select the item End with ‘#’ of Digital Map in the WEB page)	It is equal to end the number
11	ENTER	In the mode of configuration	It is equal to the confirmation key.
12	EXIT	In the mode of configuration	Quit the last menu
13	MENU	In the state of on-hook	Enter the configuration menu, needs to input the password, the default password is 123
14	SYSINFO	In the state of on-hook	See the telephone numbers in circle, IP, default route
15	Transfer	In the state of picking up the telephone	Call transfer
16	Conference	In the state of the call	When A and B is connected, press C’s number and C is put through also then press CONFERENCE to realize 3-way call function.
17	PBOOK		Phone book for quick dial
18	MUTE	In the call state	Press this key to mute the call
19	MWI	In the state of on-hook	It needs work with the server. When LCD displays  and the icon glitter, it shows that new voice message is received. Just press MWI key for listening to the voice message.

3.3 LCD Icon Explanations

IP Phone PH217’s LCD is equipped with the backlight, can see all the icons displaying the pictures while turn on the phone.

Icon	LCD Icon Definitions
	Network Status Icon: FLASH in the case of Ethernet link Failure or the phone is not registered properly.
DHCP	Network Status Icon: ON when Phone work on DHCP mode and FLASH when DHCP client is not registered successfully. OFF when Phone is work on another mode.
STATIC	Network Status Icon: ON when Phone work on Static mode and FLASH when IP address is disable.

	OFF when Phone is work on another mode.
PPPoE	Network Status Icon: ON when Phone work on PPPoE mode and FLASH when PPPoE is not registered successfully. OFF when Phone is work on another mode.
	Message Status Icon: ON and Flash if Phone has new message include text message or voice record
	Missed call display ON and Flash if Phone has missed call and not be read.
SIP ₁	SIP1 (Public SIP server) register State: Flash when enable register and can not register successfully; ON when enable register and register successfully; OFF when disable register
SIP ₂	SIP2 (Private SIP server) register Status Icon: Flash when enable register and can not register successfully, ON when enable register and register successfully, OFF when disable register
	Handset Status Icon: ON when off-hook OFF when on-hook
	Hand-free Status Icon: ON when phone work on hand-free mode OFF when IDLE or work on handset mode
SUN MON ...	Weekday Status Icon: Show the correct weekday according to the phone current date
	Numerical Numbers and Characters: 0 - 9 * # @ A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z



Warn: Non-factory power supply may cause the phone damage.

4. Config via WEB

Login the WEB page via Wan port IP after connecting IP PHONE well. The default username and password are both “admin”

◆ **Configure via WAN Port:**

A, Check WAN port IP address by the key “SYSINFO” in the panel of IP PHONE. First press displays the default gateway IP; second press displays SIP registration number and third press displays the WAN port IP address.

B, Input the IP phone’s IP address, login in the WEB page, the default user name and password are all “admin”. Eg: <http://192.168.1.113>

4.1 Current state

On this webpage, you can check the IP address, Mac address, SIP and IAX2 registration info and current firmware version.

IP PHONE

Current State	Running Status			
Network	WAN			
VOIP	Connect Mode	DHCP	MAC Address	00:1c:68:01:55:80
Advanced	IP Address	192.168.1.104	Gateway	192.168.1.100
Config Manage	LAN			
Update	IP Address	192.168.20.1	DHCP Server	ON
System Manage	SIP			
	SIP LINE 1	809@192.168.1.254 :5060		Registered
	SIP LINE 2	801@192.168.1.254 :5060		Registered
	IAX2	1001@192.168.1.254:4569		Registered
Version: VOIP PHONE V1.7.105.77 Aug 25 2009 14:41:05				

4.2 Network Config

The phone defaults to get IP address via DHCP mode and you can change the network mode on this page.

Current State	WAN Configuration				
Network	Static <input type="radio"/> DHCP <input type="radio"/> PPPoE				
WAN Config	Active IP	Current Netmask	Current Gateway	Mac Address	
LAN Config	192.168.1.104	255.255.255.0	192.168.1.100	00:1c:68:01:55:80	
VOIP	Get MAC Time		20090218		
Advanced	<input checked="" type="checkbox"/> Obtain DNS server automatically				
Config Manage	Static	IP Address	192.168.1.179	Netmask	255.255.255.0
Update		Gateway	192.168.1.1	DNS Domain	
System Manage		Primary DNS	202.96.134.133	Alter DNS	202.96.128.68
<input type="button" value="APPLY"/>					

If your LAN doesn't support DHCP service, you can switch it into Static IP mode via phone keypad then config the IP address correspondingly.

4.3 SIP account registration

PH217 supports 2SIP registration at the same time.

SIP[Registered] Configuration

Register Server Addr	192.168.1.254	Register Server Port	5060
Register Username	806	Register Password	*****
Domain Realm		Register Expire Time	60 seconds
Phone Number	806	DTMF Mode	DTMF_RFC2833
RTP Initial Port	10000	RTP Port Quantity	200
<input checked="" type="checkbox"/> Enable Register			

Register Server Addr: input the register server address, it can be IP or domain name

Register Server port: Register the server port

Register Username: Register Username

Register Password: Register Password

Phone Number: Register Phone Number

Enable Register: Enable the register service, or register unsuccessfully

Pay more attention to save the configuration after configuring the option by WEB; or it will restore the original reversion when reboot. If register is successful, it will display the pattern”SIP1”on the top right corner on the display screen. If register is in fail, please configure again. You can dial number while others are commonly kept the default. If you have more demand, please look over the advanced configuration manual.

4.4 IAX2 account registration

PH217 IP PHONE supports IAX2 account registration as the picture shows below:

Current State	✚ IAX2[Registered] Configuration		
Network	IAX2 Server Addr	192.168.1.254	
VOIP	IAX2 Server Port	4569	
SIP Config	Account Name	1001	
IAX2 Config	Account Password	*****	
Advanced	Phone Number	1001	
Config Manage	Local Port	4569	
Update	Refresh Time	60	
System Manage	<input checked="" type="checkbox"/> Enable Register	<input checked="" type="checkbox"/> Enable G.729	

IAX2 server address

IAX2 server port

Account Name Username authentication

Account Password Password authentication.

Phone Number Register phone number

Enable Register Enable to register to the server.

IAX2(Default Protocol) The iax2 protocol is the default call protocol. That is said, if choose this option, user picks up the handset and dial number, the call will be communicated by IAX2 protocol.

Enable G.729 [Enable to support G729.](#)

Note: When both SIP and IAX2 account are registered, user need to config the dial-up map rules in the menu of Advanced->Dial Peer if users want to make calls via IAX2 account.

5. Phone Operation

5.1 Keypad basic operation guide

Configure the IP phone via keypad, press “MENU” and input default password 123 to enter the configure menu. Use “UP”, “DOWN” to change the options, “OK” is confirmation, “EXIT” the previous step.

5.1.1 Configure IP phone’s IP address

The phone is work in default DHCP mode, if there is no DHCP server in LAN, please do as following to switch to Static IP mode:

- ◆ Long press number key 1 to switch to Static IP mode, user can configure the IP phone address, DNS, gateway via IP phone menu button.
 - ◆ Long press number key 2 to switch DHCP IP mode, default work mode is DHCP.
 - ◆ Long press number key 3 to switch PPPOE IP mode.
- ◆ When the phone is switched into static IP mode, LCD top left will display STATIC, then users can config phone’s static IP address via MENU. Please take the following steps:
1. Press MENU key, then input the default passwork 123 and press ENTER key for further configuration
 2. Select NETWORK config in the MENU and press ENTER key for further configuration
 3. Entere WAN config option and select STATIC as the picture shows below:

```

MENU→NETWORK→WAN→STATIC→IP
                             |
                             |→DNS
                             |→GATEWAY
                             |→NETMASK
  
```

4. Take turns to config IP, DNS, GATEWAY, NETMASK; Now let's take IP config for an example:

- 1) Select IP sub-menu and press ENTER, LCD displays
- 2) Press DEL key to delete default IP, LCD displays
- 3) In IP address eg 192*168*0*101, then press ENTER finally.

5.2 Advance Call Function

5.2.1 Call Hold

If user press HOLD button while in the calling state, the current talking is locked, at the same time, user can make another call, this can be used with 3-way call.

The operation is: when A and B are talking, if A presses HOLD button, the B will be locked, B can not hear any talk from A. only when A presses HOLD button again, the HOLD state just be released. The talking for A and B could work normally again.

5.2.2 Call Transfer

Transfer has two methods: unattended transfer and attend transfer:

- ◆ unattended transfer: press TRANSFER button while in talking state, then the call will be transferred to the third phone directly. The operation is: Advance----Call Service----Enable Call waiting and Advance----Call Service----Enable Call Transfer. When A and B are in the talking state, B can press TRANSFER button directly and make any third number, ended by key # , so, the call will be transferred to the third party.
- ◆ attend transfer: when A and B are in talking state, B can press HOLD button to let A hold, and then dial C, ended by key #, at this time, B and C could talk. B presses HOLD button again, C will hold, and B and A could talk. B presses TRANSFER button, A and C could talk, B can put down the handset.

Note: this function need server support.

5.2.3 Three-Way Calling

Press HOLD button while talking state, the current talking is locked, user can make another call, and the 3-way call is working.

The operation is: must Enable Call Waiting and Enable Three Way Call first. A can call B, after talking, A presses HOLD button to keep the talking with B, when hearing the dialing tone, can call C, ended by key #, A and C can talk. A presses HOLD button again to back the talking of A and B, at this time, presses key * to realize the 3-way call.

Note: Once the three-way initiator concludes the three-way calling, the other two sides can not continue the conversation call and hand up automatically.

6. Software upgrade

Wuchuan provides permanent upgrade service for clients. Users can login in to our company website and download the newest firmware. Please follow the steps:

- 1) Login in to our company website and download the newest firmware version;
- 2) Login in to the IP phone's WEB config page, find menu Update->WEB Update, click "browse" and find the upgrade files then just click "Update" to start as the below picture shows
- 3) In the process of upgrading, the screen will display "DOWNLOADING" "UPDATING", and the phone will reboot automatically after finish updating.



Note: Please do not power off or disconnect with the internet while updating. Users can start to config the phones after finish updating and start up normally.

7. Default Factory Setting

- ◆ Use the SIP protocol automatically, the SIP port is 5060
- ◆ The port WAN accept IP address in the mode of DHCP, if it is transferred into the static mode, the IP address is 192.168.1.179.
- ◆ HTTP port is 80, Telnet port is 23
- ◆ Use the key "*" to end the number
- ◆ The acceptable account names are guest/guest or admin/admin
- ◆ The phone time is subject to the standard time by using SNTP protocol

- ◆ Keypad configure password 123.

If you meet other problem while configuring, please visit corresponding product FAQ page on www.511soft.com. Or you may contact our tech engineers by email or telephone.