# AG-168V SIP GATEWAY User Manual
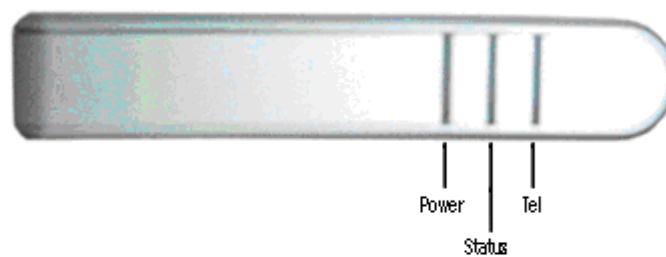
## ➢ Gateway Front Illustration:



## ➢ Features



Front Side

Power    Tel
Status

Back Side

Power port    IP    RJ-45 port    Line port    Tel port
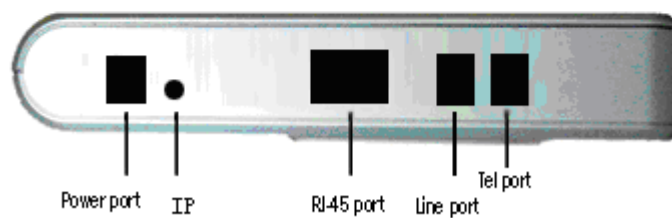
## ➢ **Indicator light and function**

| Indicator light | Function | Indicator light | Function |
|---|---|---|---|
| **Power** | Power on ,indicating power | **Status** | Registered off, not registered flash |
| **Tel** | communicaing flash, | | |
| **Buttons** | Function | | |
| **IP** | voice indicating "local ip " , refer to "GATEWAY Keypad set" chaptor | | |
| | set different way of internet connection, refer to "GATEWAY Keypad set" chaptor | | |
| | Set static ip address when in "static mode " | | |
| | enable AG-168V into "setting mode ", refer to "GATEWAY Keypad set" chaptor | | |

## ➢ **Hardware**

Main chip—pa1688PQ 50MHz

Data Memory—1MB SDRAM

Program Memory—2MB Flash memory

Ethernet Jack—1 10M jacks

FXS Port-1 FXS Port   for Tel

Line Port -1 Line port for PSTN

AC/DC adapter—Output 12V DC, 450mA

## ➢ **Software**

DHCP support for LAN or Cable modem
PPPoE support for ADSL or Cable modem
Set GATEWAY by HTTP web browser (IE6.0) or Telnet
Upgrade by FTP
Support major G.7XX and gsm610 audio codec

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

Voice prompt

Hotline

## ➢ Standard and Protocol

**Gateway supports following standard and protocol:**

IEEE 802.3 /802.3 u 10 Base T / 100Base TX

Major G.7XX and gsm610 audio codec

SIP RFC3261

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  Point to Point Protocol over Ethernet

DNS  Domain Name Server

Telnet  Internet's remote login protocol

FTP  File Transfer protocol

HTTP  Hyper Text Transfer protocol

## ➢ 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

## ➢ Electric requirements:

Voltage: 9V~12V DC

Power adapter: DC 12V/450mA

Network interface:1 RJ-45 Ethernet Connectors

FXS:1 RJ-11 For Tel

Line:1 RJ-11 For PSTN

## ➢ **Size**

150 x 110 x 28 mm (L x W x H)

## ➢ **Installation:**

1☐ Connecting to network: connecting one side of the cable to the lan port of AG-168V, the other side to PBX or HUB or ADSL and Cable Modem's lan port..

2    Connecting to phone: Insert one side of RJ11 line to the Tel port of AG-168V , the other side to the phones' interface. Connecting the Line's port of AG-168V to PSTN line. Power on with the adaptor from the packaging.

## ➢ Configuration

Two different ways can be used to configure  AG-168V H323 phone: phone web browser, Telnet commands on computer.
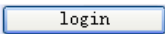
## ➢ Phone Keypad setup

Using the keyboard of the normal phone connecting to AG-168V FXS port and the "IP key" , which can preset and enter into "Setting mode" , operation as below:

| Operation | Function |
|---|---|
| IP | 1    with handset of FXS port 's phone hung, press IP ,voice promt "local ip" |
| 1234+X+ IP | 2    with handset of FXS port 's phone hung, press default password,   then input the number of   X + " IP" button in order to set different network connection<br><br>    X valued    0 = stataic IP;    1 = DHCP ;    2 = PPPoE;    3=  modem |
| 1234+ IP | 3   with handset of FXS port 's phone hung, press default password, and press " IP" button, enter "setting mode" |
| 1234+xxx.xxx.xxx.xx | 4  with handset of FXS port 's phone hung, press default password, then |

| x<br><br>   + IP | input the   ip address xxx.xxxx.xxx.xxx, press "ip " button . Using the button of * for ·, |
|---|---|

## ➢ **Configured by WEB**

Double click ![IE icon] icon to open the IE browser. Input the IP address of the GATEWAY into address bar ( Address [ 192.168.1.100 ] ), and then input password of the GATEWAY 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 [ login ] button. The following configured page wills popup. Refer to Fig 3.1 please.

Fig 3.1 Http Setting

## Network Setting



Fig 3.2 Network Setting

**iptype**: Set how IP GATEWAY 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 GATEWAY 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.   AG-168V IP GATEWAY is shipped from the factory with DHCP on. So, if you're LAN or router is configured to use DHCP addressing, the IP GATEWAY's LAN parameters will automatically be configured as soon as it is connected to the LAN or router and powered up.Default IP address of the AG-168V is192.169.1.100.

- **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 GATEWAY 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 GATEWAY here.

**subnet mask:** With **static ip** selected in **iptype** drop down list, please enter
subnet mask of IP GATEWAY here.

**router ip:** With **static ip** selected in **iptype** drop down list, please enter router IP

address of IP GATEWAY 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.

AG-168V GATEWAY is shipped from the factory with a unique algorism MAC

address printed on the back of the base.

## Protocol Setting

| SIP Protocol Settings | | | | | |
|---|---|---|---|---|---|
| use service | ☑ | register ttl | 60 | | |
| service type | common | sip proxy | | domain/realm | |
| nat traversal | disable | nat addr | | nat ttl | 30 |
| phone number | 8801 | account | | pin | |
| register port | 5060 | rtp port | 8702 | rtp tos | 0 |
| call type | advanced | dtmf | inband audio | dtmf payload | 101 |
| super password | 12345678 | debug | no check | | |

Fig 3.3 Protocol Setting

**use service:** Enable/disable service by checking/clearing this box.

To make calls through gatekeeper, please check this box; otherwise, GATEWAY can only make IP-to IP calls or calls through gateway.

**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. When IP GATEWAY is connected to these systems, please select the corresponding service type.

- **common**  no special requirements

- **huawei**: use huawei's system

- **zte**: use zte's system

- **harbour**: use harbour's system

- **utstarcom**: use utstarcom's system

- **uptech**: use uptech's system

- **kaimen**   use kaimen's system

- **mediaring**: use mediaring's system

- **italkbb**: use italkbb's system

- **stanaphone**: use stanaphone's system

- **net2phone**: use net2phone's system

- **fwd**: use fwd(freeworlddialup) system

- **ipphonex**: use ipphonex's system

- **sipphone**: use siphone's system

- **ngtel**: use ngtel's system

- **ayctel**: use AycTe's system

**SIP proxy:** when user service write SIP Proxy Server URI.

**Domain/realm :** set SIP serve address domain

**nat traversal:** When the IP GATEWAY with private IP address need communicate with other IP GATEWAYs in a different LAN or on Internet, please select an item from dropdown list to set the proxy used by the GATEWAY.

- **disable:** Select this item when the log in server and IP GATEWAY in the same LAN, or the log in system supports the IP GATEWAY working behind the LAN.

- **enable:** When the system does not support IP GATEWAY 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:** When Stun used for appendix for cross NAT , choose STUN.   **nat add** will be 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 IP GATEWAY) into "**nat addr**", such as **www.whatismyip.com.**

**nat ttl:** When IP GATEWAY 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:** set local ID .

**account:** set aaa@bbb format account register.

**pin:** set password.

**register port**: The local UDP port registered with server to accept incoming

handshaking messages. Default 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, can't be the same as

"**register port**".

**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.

**local type:** This parameter refers to how IP GATEWAY authenticate itself to the

gatekeeper. The meaning of each item is as follow:

- **auto:** use support automated negotiate authentication account and pin about MD5 or CAT .

- **md5:** use MD5 authentication account and pin.

- **cat:** use CAT authentication account and pin.

- **sha1:** use SHA1 authentication account and pin.

 **call type:** Set call type by selecting the items in drop down list.

- **normal:** Call out in normal way by selecting this item.

- **advanced:** Call out in faststart and tunneling way by selecting this item. It is a

recommended way with SIP protocol used.

**dtmf:** Set DTMF signal sending way by selecting **control string**, **inband audio**, **signal keypad** or **rfc 2833 ,sip info**from list box.

**dtmf payload:** set use RTP send DTMF's RTP  the value range is 96-101

**register ttl :** IP GATEWAY will send a keep-alive registration message to SIP gatekeeper every "**register ttl**" seconds. The value range is 10-65535. Default is 60.

**Super password :** Set super password. Default is 12345678

**debug:** Set the debug level of the GATEWAY.

- **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 GATEWAY 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 GATEWAY.

**phone settings:**

| Phone 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 | ☐ |
| forward number | 82378009 | fwd poweroff | ☐ | fwd noanswer | ☐ |
| fwd always | ☐ | fwd busy | ☐ | answer | 30 |
| use digitmap | ☐ | handset in(0-15) | 7 | handset out(0-31) | 22 |
| dual mode | ip first | dual mode prefix | 99 | | |

Fig 3.4 phone 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 179XX 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. For example, with eTalk card used, enter 00 here.

**ddd code:** With **enable** or **dialnum** selected in **use dialplan** drop down list, set area code according to E.164 dial rule. For example, Beiing 10; Shanghai 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 86; U.S.A .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.

**inner line:** 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.

- **omit prefix** Enable , ingnore the number of the inner line prefix , cooperated

  with special system

**inner line prefix:** default is 0.

**nonlocal prefix:** With **enable** selected in **innerline** dropdown list, please fill the

number switching to long-distance call, such as 9.

**Call waiting:** Enable/disable call waiting by checking/unchecking the box.

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

**forward number:** Enter receiving forwarded calls GATEWAY number into this field; If the IP GATEWAY used with modem, with **modem** item selected in **iptype** list box, and then fill ISP number into this field.

**fwd poweroff:** Forward calls if power off by checking this box. Please enter

receiving forwarded calls GATEWAY number into **fwd number** field.

**fwd noanswer:** Forward calls without replying by checking this box. Please enter

receiving forwarded calls GATEWAY number into **fwd number** field.

**fwd always:** Forward all calls by checking this box. Please enter receiving

forwarded calls GATEWAY number into **fwd number** field.

**fwd busy:** Forward calls if busy by checking this box. Please enter receiving

forwarded calls GATEWAY number into **fwd number** field.

**answer:** Enter a number from 0 through 60 to set the entries of the seconds before the GATEWAY answer the call auto or forward the calls.

**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.

**Dual mode**  set AG-168V FXS PSTN port

- **disable**  AG-168V FXS Not user PSTN

- **PSTN first**  set AG-168V FXS first user PSTN call

- **IP first**  set AG-168V FXS first user ip call

**dual mode prefix**  set dual mode prefix IP first  set PSTN prefix

**Audio settings**:



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.

**Other settings**:



Fig 3.6 Other Setting

**password:** Set the password of the GATEWAY. (Default password is 1234).

**Upgrade type:** user FTP upgrade

- **disable:** Disable output the debug message by selecting this item.

- **all:** check hard type upgrade.

- **mac:** check mac address auto upgrade.

- **Ppp id:** check pppid auto upgrade.

- **account:** check account auto upgrade.

■ **Phonenumber:** check phonenumber auto upgrade.

**upgrade addr:** Put IP address or domain name obtained by ISP of FTP server supplying upgrade program into this field.

**nts ip:** Fill IP address of time server here.

**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 login . And only those parameters can be modified.



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

**Update:** Click this button to save the configuration and the GATEWAY will reboot. Once the GATEWAY 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 GATEWAY number field. Then Jack's number 5989426454 is saved in GATEWAY book. Then please click **Save/Back** button. In normal state, you can use speed dial to call numbers saved in GATEWAY book.



Fig 3.8 GATEWAY Book Illustration

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

**Update Digitmap:** Click this button to update the digitmap of the GATEWAY. Before updating, please fill IP address of FTP server into **upgrade addr** field, and then click this button. Then the GATEWAY will read the corresponding map files from the server and then load into the GATEWAY.

✎**Note** Please refer to *PalmTool User Guide* to learn how to write digitmap or just download TXT file from our site. Then please save it as "GATEWAY type.map" file, such as AT168S.map.

➢ **Configured by PalmTool**

PalmTool is a tool designed especially to configure and upgrade the PA168 IP GATEWAY. On a PC

connecting with the GATEWAY or at the same segment of the GATEWAY, double click icon to open the PalmTool. The index page of PalmTool will popup.

a)  Input the IP address of the GATEWAY into **Local IP** field (such as 192.168.1.100), and then click "GATEWAY Settings" button.

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

## ➢ Telnet Configuration

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

---

**AG-168V V1.39 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 GATEWAY is under setting mode, and then you can set the   AG-168V IP GATEWAY by using the telnet commands.

## ➢ AG-168V Telnet Commands Explanation

AG-168V Telnet Commands

| Command | Function |
|---|---|
| ? | Supply command name and parameters |

| | |
|---|---|
| **get** | Display basic parameters of the   AG-168V IP GATEWAY |
| **set** | Set parameters of the   AG-168V IP GATEWAY |
| **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   AG-168V |
| **ping** | Ping other net parameter |
| **ftp** | The GATEWAY connects to FTP server and then get the files |

## Detail description of   AG-168V 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   AG-168V IP GATEWAY

**Relevant usage:** None

**Detailed description:**

**get**   Display basic running parameters of the   AG-168V IP GATEWAY.

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 GATEWAY

will be displayed:

```
AG-168V V1.39 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]
nattraversal 1[enable]     nataddr www.showmyip.com   natttl 30
GATEWAYnumber 182378009 account [empty]          pin [empty]
registerport 6800         signalport 6800            controlport 6802
registerttl 60             rtptos 0                  rtpport 6802
jitter size 0
calltype  1[advanced]     localtype  0[GATEWAYnumber]    dtmf  0[control
string]
dtmfpayload 101
dialplan 2[dialnum]       dialnumber 17911            dddcode [empty]
iddcode [empty]           iddprefix [empty]           dddprefix [empty]
innerline 1[enable]       localprefix 0              nonlocalprefix 0
answer 5                  ringtype 0[dtmf0]           digitmap 0[disable]
fwdnumber [empty]          fwdpoweroff 1[enable]
fwdalways 0[disable]      fwdbusy 0[disable]          fwdnoanswer 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
codec1 1[g7231]          codec2 0[g729]              codec3 2[g711u]
codec4 4[gsm]            codec5   5[null]
```

**password  1234                superpassword  19750407                debug 1[output]**

**upgradeaddr [empty]**

**sntpip 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:

---

**AG-168V V1.39 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**

**nattraversal 1[enable]    nataddr                    rtpport 5144**

**registerport 5142          signalport 5142          controlport 5144**

**account [empty]          pin [empty]**

**GATEWAYnumber 182378009 fwdpoweroff 0[disable]**

**fwdalways 0[disable]      fwdbusy 0[disable]          fwdnoanswer 0[disable]**

**ringtype 0[dtmf0]          answer 5**

**password 1234**

**upgradeaddr [empty]**

**sntpip 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   AG-168V

IP GATEWAY.

### Detailed description:

#### set iptype X

Set how IP GATEWAY gets relevant network parameters. X ranged from 0

through 3: 0: authorize users set IP address, subnet mask and router IP

address of IP GATEWAY 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.  AG-168V IP

GATEWAY is shipped from the factory with DHCP on. So, if your LAN or

router is configured to use DHCP addressing, the IP GATEWAY'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 GATEWAY 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 Modem ID.

### set ppppin XXX

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

use this command to set Modem pin.

### set ip XXX.XXX.XXX.XXX

With **iptype** set as **0**, use this command to set IP address of  AG-168V IP

GATEWAY.

### set subnetmask XXX.XXX.XXX.XXX

With **iptype** set as **0**, use this command to set subnet mask of   AG-168V IP

GATEWAY.

### set router XXX.XXX.XXX.XXX

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

AG-168V IP GATEWAY.

### 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   AG-168V IP GATEWAY. Parameter

xx-xx-xx-xx-xx-xx must be an HEX number.

### set service X

Set register the gatekeeper or not. X ranged from 0 through 1. 0: do not

register; 1: register.

### set service type X

Enable/disable the repaid and service system .choose the repaid server

provider. Parameter x ranged from 0 through 29:

 0: common: disable repaid card; 4: use Mediaring service; 2: use eTalk card;

3: use Auvtech system; 5: use Ringtec service; 6: use Smartcon service; 7:

use dda service; 8: use vida service; 9: use citron system; 10: use asiasoft

system; 12: use zte system; 13: use huawei system; 16: use asiainfo system;

17: use Lucent system; 19: use IPN system; 20: use yayuang system; 21:

use thinker system; 22: use suntek system; 28: use txtc system.

### set serviceaddr XXXX

Set IP address or domain name of gatekeeper.

### set serviceid XXXXX

Set service ID according to required by service system.

### set nattraversal X

Set NAT traversal or not. X ranged from 0 through 7: 0: do not use. When the

log in server and IP GATEWAY in the same LAN, or the log in system

supports the IP GATEWAY working behind the LAN; 1: Use NAT traversal.

When the login system does not support IP GATEWAY working behind the

LAN, please use this value to search public IP address of the NAT device.

With this item selected, please make port mapping on NAT device; 2: With

Citron private protocol used, use this value to fit into the GnuGK system

transferring the voice and signal by router; 3: use this value with Innopath

private system used; 5: use this value with vida private system used; 6: aivgr

use this value with aivgr private system used; 7: use this value with Eproxy

private system used.

### set nataddr XXXXX

Set IP address of NAT device wan port or URI of free assistant service (Such
as www.showmyip.com etc.) in Internet.

---

✎**NOTE** The free service list of Internet☐www.ip-calculator.com; www.ipchicken.com;

**set natttl XX**

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

sec.

**set GATEWAYnumber XXXXXXXX**

Set a GATEWAY number of AG-168V IP GATEWAY . Value xxxxx must be

an Arabic numeral and no longer than 16 characters.

**set account XXXXXX**

While calling card is set, set account of chosen card; while **local type** is set

use authentication type, set user ID; while **set localtype** is set as 1, set SIP

ID.

**set pin XXXXXXXXXX**

While calling card is set, set password of chosen card; while **local type** is set

authentication type, set password.

**set registerport XXXX**

Set register port. XXXX is range from 1024 through 6553.

**set signalport XXXX**

This port is Q.931 port using TCP protocol. **XXXX** is range from 1024 through

65535.

**set controlport XXXX**

This port is H.245 port using TCP protocol. XXXX is range from 1024 through
65535.

### set registerttl X

Set register TTL. X is range from 10 through 65535 Sec. default value is 60

Sec.

### 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 calltype X

Set call type of the GATEWAY. X is ranged from 0 through 2: 0: call out in

normal way; 1: call out in faststart and tunneling way. It is a recommended

way.

### set localtype X

This command used to set how IP GATEWAY log in gatekeeper. X is

ranged from 0 through 6: 0: use GATEWAY number as E.164 and SIP ID to

login the GK; 1: use GATEWAY number as E.164 and designated SIP ID by

set **account XXX** command; 2:use support automated negotiate about MD5

or CAT authentication system.3:use MD5 authentication account and pin;4:

use CAT authentication account and pin; 5: use SHA1 authentication

account and pin.

## set dtmf X

Set DTMF relay type. X is ranged form 0 through 3: 0:control string  1:inband

audio  2: signal keypad  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 dialplan X**

Enable/disable dial plan and dial number. Parameter X ranged from 0

through 4: 0: disable dial plan; 1: enable dial plan; 2: use dial number; 3: use

179XX service.;4: use hotline function.

**set dialnumber XX**

When **set dialplan** value set as 2, please use this command to set **dial**

**number.** For example, with eTalk card used, please set it as 00. When **set**

**dialplan** value set as 4, please use this command to set **hotline number.**

**set dddcode XX**

Set the area code when set **dialplan** value set as **1** or **2**. For example, the

area code of Beijing is 10; the area code of Shanghai is 21, and the area

code of Chengdu is 28, etc. Parameter xxx must be an Arabic numeral and

no longer than 3 characters.

**set iddcode XXX**

Set the country code when set **dialplan** value set as **1** or **2**. For example, the

country code of China is 86; the country code of USA is 1, etc. Parameter

xxxx must be an Arabic numeral and no longer than 4 characters.

### set iddprefix XX

Set IDD service prefix number when set **dialplan** value set as **1** or **2**. For

example, IDD service prefix number of china is 00; IDD service prefix number

of USA is 1, etc. Parameter xxx must be an Arabic numeral and no longer

than 3 characters.

### set dddprefix XX

Set DDD service prefix number when set **dialplan** value set as **1** or **2**. For

example, DDD service prefix number of china is 0; DDD service prefix

number of USA is 1, etc. Parameter xxx must be an Arabic numeral and no

longer than 3 characters.

### set innerline X

Set use innerline call or not. X ranged from 0 through 1: 0: disable; 1: enable
innerline call.

### set localpreifx X

With **innerline** set as **1[enable]** , please set the number switching to local
call, such as 9.

### set nonlocalprefix X

With **innerline** set as **1[enable]** , please set the number switching to

long-distance call, such as 9.

### set answer X

Set the ring seconds before the GATEWAY answers the call auto or forward

the calls. X is ranged from 0 through 60.

### set ringtype X

Set types of ring. X is ranged from 0 tohrough 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 digitmap X

Set whether to use digitmap. X ranged from 0 to 1: 0: do not use digitmap; 1:

use digitmap.

### set fwdnumber XXXXXXX

Set receiving forwarded calls GATEWAY number. XXXX must be an Arabic

numeral and no longer than 16 characters

### set fwdpoweroff X

Enable/disable forward calls if power off. X is ranged from 0 through 1. 0: do

not forward calls if power off; 1: forward call if power off.

### set fwdalways X

Enable/disable forward all calls. X is ranged from 0 through 1. 0: do not

forward all calls; 1: forward all calls.

### set fwdbusy X

Enable/disable forward calls if busy. X is ranged from 0 through 1. 0: do not

forward calls if busy; 1: forward call if busy.

### set fwdnoanswer X

Enable/disable forward calls without replying. X is ranged from 0 through 1. 0:

do not forward calls without replying; 1: forward call without replying.

### 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 AG-168V IP GATEWAY 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 microGATEWAY 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 1of the audio compression algorithm. X is range from 0

32

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 4of 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  AG-168V IP GATEWAY. XXX must be ASCII

characters.

## set superpassword XXXX

Set super password of the  AG-168V IP GATEWAY. 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   AG-168V IP GATEWAY.

### set ntsip XXX.XXX.XXX.XXX

Set IP address of time server.

### 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   AG-168V IP GATEWAY.

**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 GATEWAY. 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 GATEWAY. So if nothing is displayed after too long time, it means that ftp is fail.

## ➢ The usage of AG-168V FXS

### ➢ Receving calls

No matter what calls from IP or PSTN , the phone connecting to AG-168V FXS port will ring . Mention you that there is call. You can pick up the handset or the speaker of the normal phone.

### ➢ Call when Dual mode disabled

#### Call with phone number:

1   Dial with handset: pickup the handset, dial after dial tone

2   Dial with speaker: press speaker, dial after dial tone

3.  Redial: press redial and call the last number

#### Call with ip address:

If not registered in gatekeeper and gateway disabled, dial with the ip address:

1. pickup the handset, call after dial tone, press # after numbers

2. Press speaker, input ip address after dial tone, press # after numbers

✎**Notice: Dial with ip address, using \* for · .**

#### Call with GATEWAY

If registered in Gatekeeper☐dial the number.

Pick up the handset or Press speaker, dial the number after the dial tone

and then press □.

> ### Call when PSTN first Dual mode enabled

■ **Call PSTN number**

When PSTN first setted, the way of dial is the same as normal PSTN phone.

■ **Call voip number**

> Press the cradle or the flash key of the normal phone, enable AG-168 to be in voip

state from pstn first mode. Dial after the dial tone. Refer to "**Call when Dual mode**

**disabled**" chaptor

> ### Call when IP first Dual mode enabled

■ **Dial voip phone**

When ip first was setted , pick up the phone and dial as "**Call when Dual mode**

**disabled"**chaptor

■ **Call PSTN phone**

Predial the prefix number in the "dual mode prefix", AG-168V will change to

PSTN line, call after the dial tone.

> ### Emergency Call

When AG-168V is power off or in falure, the Normal phone would connect with the
PSTN LINE, work as the "LIFELINE" and call emergency number.

## ➢ Upgrade AG-168V IP GATEWAY

### ➢ Telnet command to updating

Using telnet , connecting AG-168V FXS, input SuperPassword when registered. Input **ftp X** command to update, the value range is 0-2 . detailed meaning is :

x-0 connecting to FTP server, getting the file to updating , and save in the sdram of the phone. Read from palmtool in order to debug.

x-1 connecting to FTP server, getting the file to updating and refresh the firmware

x-2 connecting to FTP server , getting the file for the dial rule and refresh.

### ➢ Using HTTP

Using HTTP, connecting AG-168V FXS gateway , input SuperPassword when registered.

Press [Upgrade Firmware] , promt the page. Detailed operation refer to "updating and dial rule chaptor" of "configuration through webpage"

**updating through Palmtool**

Download the palmtool from www.atcom.com.cn, run the tool and set the ip address on "IP ADDRESS " , press the button of "phone settings" , change the "debug" to be "no check" and save. After rebooting , press the button of "updating " to get the newest firmware to updating.

### ➢ Prepare Updated program through FTP

You can ask the server provider for the latest version of program.

➢ Operation

1. The service provider must have an FTP server. This server should allow anonymous

logins.

2.  The service provider needs to upload these files to the FTP server:

**HardwareTag_ServiceType_Protocol_XXX.bin**
This file contains the phone's firmware binary

**HardwareTag_ServiceType_Protocol_cfgXXX.dat**
This file contains the phone's configuration settings

**HardwareTag_ServiceType_Protocol_mapXXX.txt**
This file contains the phone's digit map configuration

In the files above **HardwareTag** is phone's hardware type, and is identical to the string in the second line of the LCD display. **ServiceType** corresponds with the "servicetype" field in the phone's settings page. **Protocol** is the communications protocol which the IP phone uses. **XXX** is the version number of the files.

For example if you support the PA168S phone, the "servicetype" is "citron", the firmware version is 1.35 and the phone settings and digit map version are both 1.32 then the files on your FTP server should be named as:

PA168S_citron_h323_135.bin
PA168S_citron_h323_cfg132.dat
PA168S_citron_h323_map132.txt

**Important: The version number in the file name don't include the sub version number. For example, if the version is 1.40.007, then in file name, you should write 140 only.**

If the service provider doesn't need to upgrade the digit map, it can be omitted from the FTP server. This will not affect the ability to upgrade phones over the network.

3. All the terminals in the system will do the upgrade if you use the upgrade method in item 2. But in fact, some customers want to upgrade a special terminal only. So this way could not fit for this request. We do some modification based on the way in item 2 to provide more way to do the FTP upgrade.
In phone settings, there is a parameter "upgrade type", the possible value for this

parameter is "disable", "all", "mac", "pppid", "account", "phonenumber". When select as "disable"□the terminal will NOT do the auto upgrade□when select as "all"□hen the terminal will do the upgrade as item 2□ when select as other value□it will add more check based on item 2's rule. The detail rules are:

| Mac | PA168S_citron_h323_00-09-45-00-00-00_135.bin |
|---|---|
| Ppp id | PA168S_citron_h323_pppid_135.bin |
| Account | PA168S_citron_h323_account_135.bin |
| Phonenumber | PA168S_citron_h323_phonenumber_135.bin |

**The red character is the content for the terminal to check. The** configuration settings and digit map file have same rules. By this way, we could upgrade a special terminal by FTP.

When upgrade the configuration file, if you select upgradetype as "all", then the terminal will keep the network settings, account, pin, servicetype without changing; but if you select other upgradetype, then the terminal will only keep network settings and the parameter related with upgradetype without changing. Other settings will all be rewrite as the configuration file. For example, if you select upgradetype as "account", then the terminal will keep network settings and account without changing. All other settings, like phone number, pin, service type, will changed as the configuration file.

4. Customers must begin with firmware version 1.34 or later. First set the "upgrade addr" field as the FTP service address(domain name or ip address are all OK), and ensure that the "servicetype" is same as the service provider requested. After the phone is rebooted, it will connect to the FTP server automatically. It will then check the filenames for type and version. If it finds the matching file with a later version than that which is installed then it will perform an upgrade. If all three files have a new version, the phone will upgrade in the following order: phone setting first, then digit map after rebooting, and then firmware binary after rebooting again. If the server version is not newer than current version in the phone, no upgrade is performed. This guarantees that customers have the latest firmware installed at all times..

Since it may take about ten minutes to upgrade some kinds of firmware binaries, we need customers to verify that they want to upgrade at this time. The phone will display "Sure to Upgrade" on the LCD to prompt customers before it does the upgrade.The customers can use the "Handfree" key to confirm it.

For the service provider, this system gives the flexibility to decide whether the latest version contains changes worth supporting. For example if the current firmware is 1.34

and there are no new features of use to them in our 1.35 and 1.36 versions, then they don't need to put these files on FTP server. The customers will continue to use version 1.34. However if we have some useful features in 1.37, then by uploading the new files to the FTP server all customers will be upgraded at their next system reboot.

4. We also support manual FTP upgrades via the keypad on phones. If the service provider decides to use this feature, the following files also need to be uploaded:

**HardwareTag.bin**        firmware binary

**HardwareTag.dat**        phone settings

**HardwareTag.txt**        digit map

Here **HardwareTag** is phone's hardware type, as in item 2 above.

A manual firmware upgrade is performed by picking up the phone and pressing

Phone Password (default: 1234) + n + LocalIP_Key

If n = 5, the phone settings are upgraded

If n = 6, the digit map is upgraded

If n = 8, the firmware is upgraded

*Reserves the right to make changes in technical and product*

*specification without prior notice.*

*AG-168V SIP* GATEWAY User Manual *(V1.42)*

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