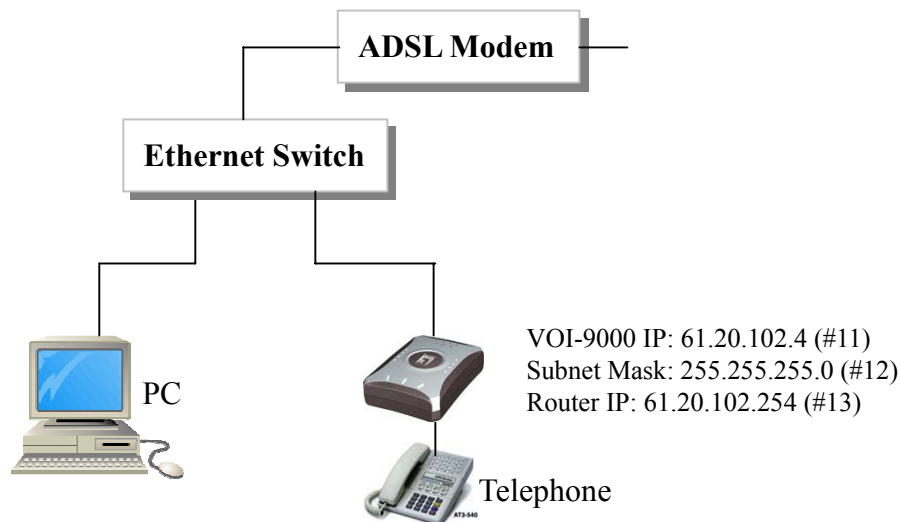# LevelOne

VOI-9000

H.323 VoIP Gatekeeper

User Manual

Quick Guide

Step 1:   Broadband (ADSL/Cable Modem) Connections For VOI-9000

A. Connect VOI-9000 RJ45 LAN port to Router/ADSL as one of the following connections.
B. Connect VOI-9000 RJ45 PC port to PC using a Category 5 LAN cable.
C. Connect VOI-9000 RJ11 PHONE port to a Telephone Set.
D. Connect Power Adaptor to the POWER outlet. After flashing, the POWER LED will be lit.
E. Pick up the phone, the PHONE LED will be lit, and you should hear a dial tone.

ADSL Connections for VOI-9000 with Ethernet Switches

ADSL Modem

Ethernet Switch

PC

VOI-9000 IP: 61.20.102.4 (#11)
Subnet Mask: 255.255.255.0 (#12)
Router IP: 61.20.102.254 (#13)

Telephone

Step 2: IP Settings for VOI-9000 with Static IP

A. Prepare for VOI-9000 IP Address, Subnet Mask, and Router IP Address. **(*)**
B. Pick up the phone, and you should hear a dial tone.
C. Press   **#11 + IP Address**   to enter VOI-9000 IP address
    Example: Press **#11061020102004**   if VOI-9000 static IP address is **61.20.102.4**
D. Press   **#12 + Subnet Mask**   to enter the subnet mask
    Example: Press **#12255255255000**   if subnet mask is **255.255.255.0**
E. Press   **#13 + Router IP Address**   to enter the Router IP address
    Example: Press **#13061020102254**   if Router IP address is **61.20.102.254**

(*)Note that the static IP address is available from your Internet Service Provider.   **Please note that you must press 3 digits for each byte of the IP address.**

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1. Introduction

The VOI-9000 is a H.323 Gatekeeper for Voice over IP (VoIP), and it supports standard H.323 gatekeeper protocols.　Connecting to the Internet with an Ethernet RJ45 port, the VOI-9000 allows Dynamic IP users to register and to make a voice call over the Internet from one dynamic IP to another one.

The VOI-9000 allow 3,000 users registration with flexible phone number assignment, which is very suitable for small ITSP (Internet Telephony Service Providers) customers and SOHO users to make a voice call on the Internet.

Note that each VOI-9000 will need an IP address, a subnet mask, and its gateway IP address for its own use.　These three are available from your Internet service provider.　The Media Access Control (MAC) hardware address is indicated at the bottom of VOI-9000.

2. Features

The VOI-9000 VoIP Gatekeeper is equipped with one RJ11 connector for POTS, and one RJ45 LAN connector for ADSL/Router Connection. The IP address, subnet mask, and router IP address can be configured through the POTS.　The VOI-9000 features as follows;

Three LED Indicators:　POWER, PHONE, LAN
Static IP
GateKeeper Direct Mode
Telnet CLI command for configuration/status
Direct IP configuration through POTS
Remote/Local TFTP Firmware Download/Update

3. Standard Compliances

The VOI-9000 VoIP Gatekeeper supports for the following standards
VoIP Protocol:　　　ITU-T H.323
Signal Protocol:　　ITU-T H.225
Dialing Numbering:　ITU-T E.164

4. Packing Contents

Inside the package you should find:

(1) One VOI-9000 VoIP Gatekeeper

(2) One DC Power Adaptor

(3) User Manual

Please check if the packing is damaged before unpacking or any component is missing. If so, please contact your distributor.

5. LED Indicators

On the front panel of VOI-9000, there are three LED indicators as follows;

Power :   On indicates the power is normal

                  Flashing once every minute indicates Router IP is NOT found

PHONE: On indicates the telephone is offhook

LAN :   LAN activity

                  Continuous Flashing indicates VoIP registration/calling are in progress

6. Installations & IP Configurations

1. Connect VOI-9000 RJ45 LAN port to ADSL/Router using the Category 5 LAN cable.
2. Connect VOI-9000 RJ45 PC port to Notebook PC using a Category 5 LAN cable.
3. Connect VOI-9000 RJ11 PHONE port to a Plain Old Telephone Set (POTS).
4. Connect the Power Adaptor (5VDC) to the POWER outlet.
5. The POWER and PHONE LED indicators will start flashing for about 10 seconds and OFF for a while, then flashing three times again. After the POWER LED is lit constantly, the VOI-9000 will be ready for configuration and VoIP calls. Pick up the phone, the PHONE LED will be lit and you should hear a dial tone.
6. Prepare for the VOI-9000 an IP address, a Subnet mask, and a Router IP address before installing as a VoIP gatekeeper.   These three can be available from your Internet Service Provider. Configurations Command modes can be entered from either the telephone or PC Telnet session.

6.1 IP Configurations From Telephone (POTS)

1) Pick up the phone, the PHONE will be lit and you should hear a dial tone.
2) Enter the VOI-9000 an IP Address, a Subnet mask, and a Router IP address as the following.
   Press   **#11 + IP Address**
   Example: Press #**11061020102004** if the VOI-1000/1020   IP Address is **61.20.102.4**

   Press   **#12 + Subnet mask**
   Example: Press #**12255255255000** if the Subnet mask is **255.255.255.0**

   Press   **#13 + Router IP Address**
   Example: Press #**13061020102254** if the Router IP address is **61.20.102.254**

   Note that you must press 3 digits for each byte of the IP address.

3) After entering each item, you will hear the dial tone for confirmation. If not, you will hear a busy tone indicating an invalid configuration.

7. Gatekeeper VoIP Calling

1) You may now start making a VOIP call by using the VOI-9000.   All the VoIP TAs and Gateways will first register its IP address with an assigned phone number directly to the VOI-9000.   The assigned phone number can be up to 48 digits.

7.1   Point-to-Point Gatekeeper Dynamic IP calls

1) Press the phone Number of the party you like to call

Example: Press **11223344** to call the party with alias number 11223344 registered in the gatekeeper.

In 3 seconds, you should hear the ring back tone, and wait for the called party to answer, or you will hear a busy tone when the dialed number is busy or not available.

In 3 seconds, you should hear the ring back tone, and wait for the called party to answer.

8. Telephone Command Modes

The VOI-9000 provides commands to configure for different features and applications. Configuration commands can be entered from either the telephone or PC telnet session.   This section describes the commands entered from the telephone keypad.   Pick up the phone, the PHONE LED will be lit and you should hear a dial tone.

8.1   Reset to Default from Telephone

Press #01# to reset the default values for VOI-9000.   Note that this does not change the password.

8.2   Set Password

Press #01xxx# to set the "xxx" password into VOI-9000.   If you forgot the password when using PC telnet session, you may set a new password from the telephone.
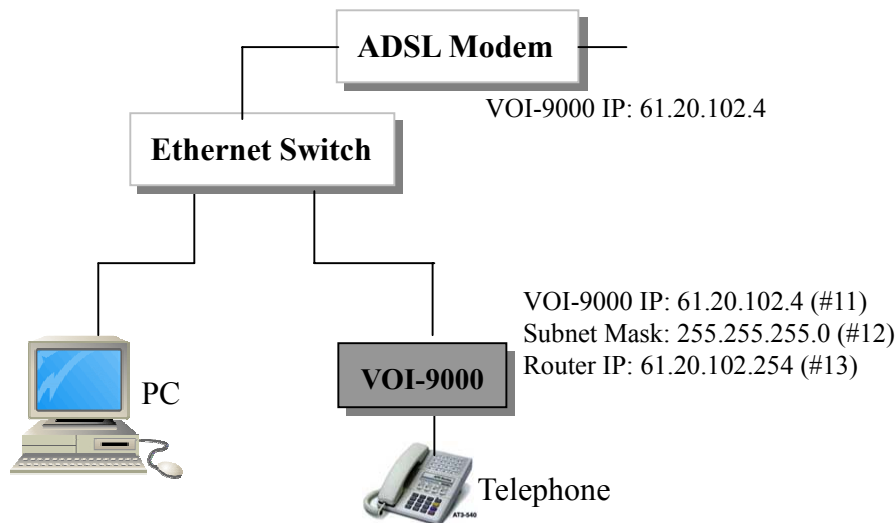
Example: Press **#01123#** to set the password "123".

Since VOI-9000 is a public server, please must set a password for protecting your settings from being revised.

9. PC Telnet Command Modes

9.1 Connect VOI-9000, as the following diagrams.

ADSL Modem

VOI-9000 IP: 61.20.102.4

Ethernet Switch

PC

VOI-9000

VOI-9000 IP: 61.20.102.4 (#11)
Subnet Mask: 255.255.255.0 (#12)
Router IP: 61.20.102.254 (#13)

Telephone

If you forgot the current VOI-9000 address, you may enter the new IP address from telephone by using #11 commands.

9.2 Key in "telnet 61.20.102.4" from PC Windows [Start] [Run] screen, assuming that the current IP address is 61.20.102.4. Note that picking up the phone during the telnet command mode will logout the telnet session.

9.3 "password:" prompt will appear in the screen. There is no default telnet password. Please press the "enter" key in PC.

9.4 ">" prompt will appear in the screen as follows
'?' –list command
'.' -exit

9.5 Key in "!" to list the VOI-9000 registrations as follows.

```
>!
id    alias no.   ras address         call signal address  alias name
----  ----------  ------------------- -------------------- ----------
0     123         061.230.231.062:1112 061.230.231.062:1720
1     1688        061.159.237.104:1112 061.159.237.104:1720


OK
>
```

5

9.6 To set the password, you may key in as follows.

```
>#01mypassword
OK
```

9.7 To change the settings, simply enter as follows.

```
>#21061066159237          ; for gatekeeper IP address 61.66.159.237
OK
>#23h3232601b669          ; for alias name "h3232601b669" (max 40 letters)
OK                        ; Note that all-numeric number is not a valid alias name.
```

9.8 Key in " · " to activate the settings and exit or logout the telnet session as follows.

```
> ·
```

10. Commands Summary:

Entered from Telephone Set (POTS)

Command	Format	Defaults	Descriptions	Enter From
#01#	#01#		Reset to Defaults	POTS
#01	#01xxxxx#		Set Password xxxxx	POTS
#03	#03+[0..999]+#	820	Volume Control	POTS
#05	#05+[0|1]+#	0	PPPoE	POTS
#11	#11+TA IP	192168001150	TA IP Address	POTS
#12	#12+Subnet Mask	255255255000	Subnet Mask	POTS
#13	#13+Router IP	192168001254	Router IP Address	POTS
#20	#20+[0..2]+#	1 (enabled)	GK Dialing Mode	POTS
#21	#21+GK IP	061066159237	GateKeeper IP Address	POTS
#22	#22+GK id+#		GateKeeper id	POTS
#23	#23+Alias Name+#		Alias Name	POTS
#24	#24+Alias Number+#		Alias Phone Number	POTS
#25	#25+Endpoint id+#		Endpoint id	POTS
#26				POTS

Note: (1) It is required from the telephone set (POTS) to press the "#" to complete the configuration, and it is not needed from PC telnet session.
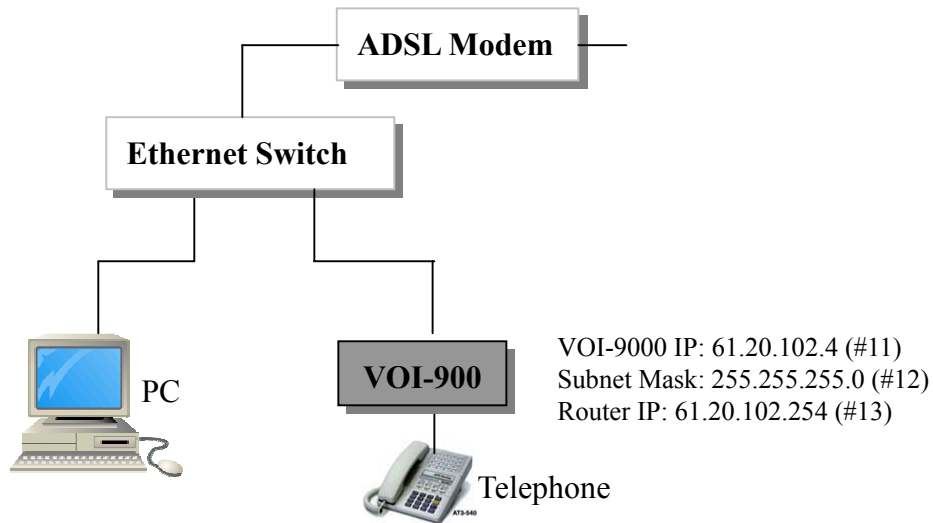
Entered from PC Telnet session

Command	Format	Defaults	Descriptions	Enter From
#01	#01xxxxx		Set Password xxxxx	PC
#03	#03+[0..999]	800	Volume Control	PC
#05	#05+[0|1]	0 (disabled)	PPPoE	PC
#06	#06+username	Max 48 letters	PPPoE username	PC
#07	#07+password	Max 48 letters	PPPoE password	PC
#11	#11+TA IP	192168001150	TA IP Address	PC
#12	#12+Subnet Mask	255255255000	Subnet Mask	PC
#13	#13+Router IP	192168001254	Router IP Address	PC
#20	#20+[0|1]	1 (enabled)	Disable/Enable GK Mode	PC
#21	#21+GK IP	061066159237	GateKeeper IP Address	PC
#22	#22+GK id		GateKeeper id	PC
#23	#23+Alias Name	Max 48 letters	Alias Name	PC
#24	#24+Alias Number	Max 48 digits	Alias Phone Number	PC
#25	#25+Endpoint id		Endpoint id	PC
#26				PC

Note: (1) Power on/off will not reset to default settings.

11. Firmware Upgrade/Download Procedures

There are two ways to download and upgrade the firmware for VOI-1000/1020.   The first one is to download from the remote TFTP server by using telephone set.   The second one is to download from the local PC with built-in TFTP server by using telephone set.   The TFTP server will allow the user to download a new firmware for new features updates.

Connect the VOI-9000 to the standard environment of ADSL Modem.

ADSL Modem

Ethernet Switch

PC

VOI-900

VOI-9000 IP: 61.20.102.4 (#11)
Subnet Mask: 255.255.255.0 (#12)
Router IP: 61.20.102.254 (#13)

Telephone

Remote Firmware Download from Telephone

11.1 Pick up the phone and press the download command ***01** followed by the PC TFTP server IP address and the image file version number.

Example: Press ***01061066159237061**

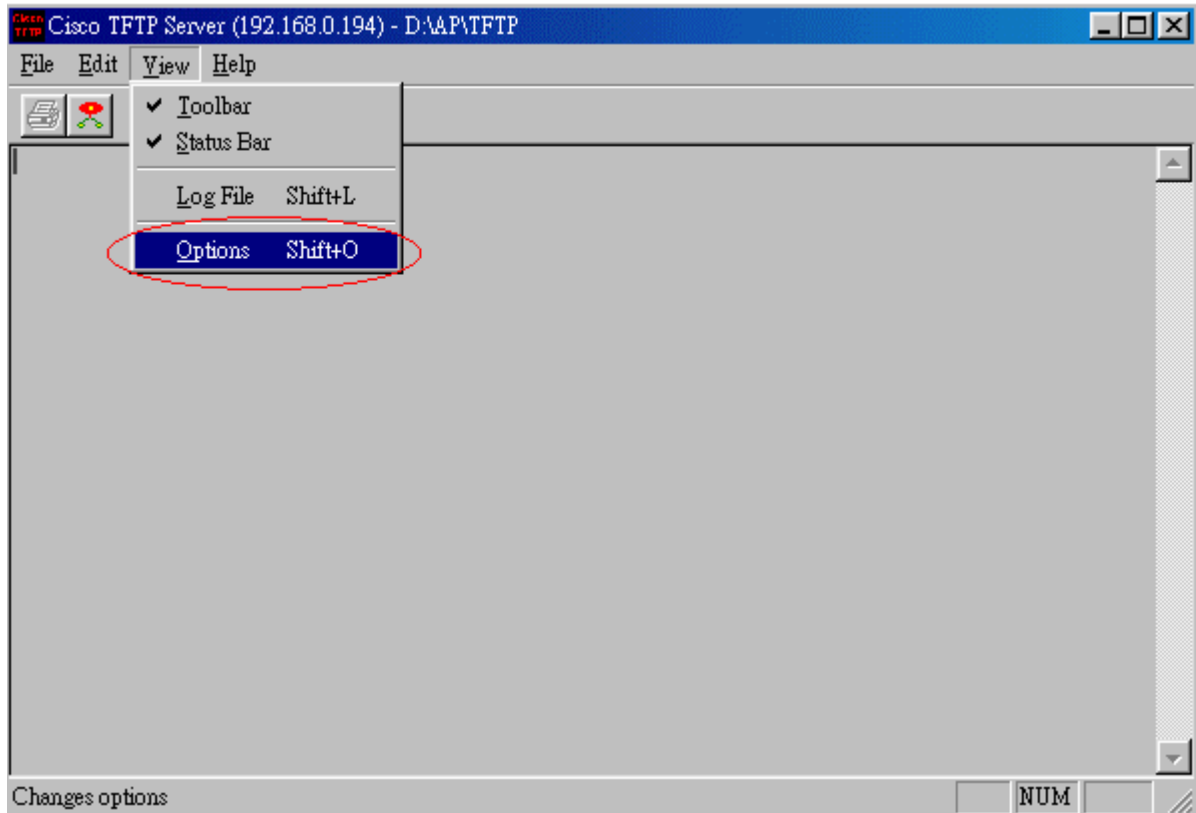where 61.66.159.237 is the remote TFTP server IP address, and

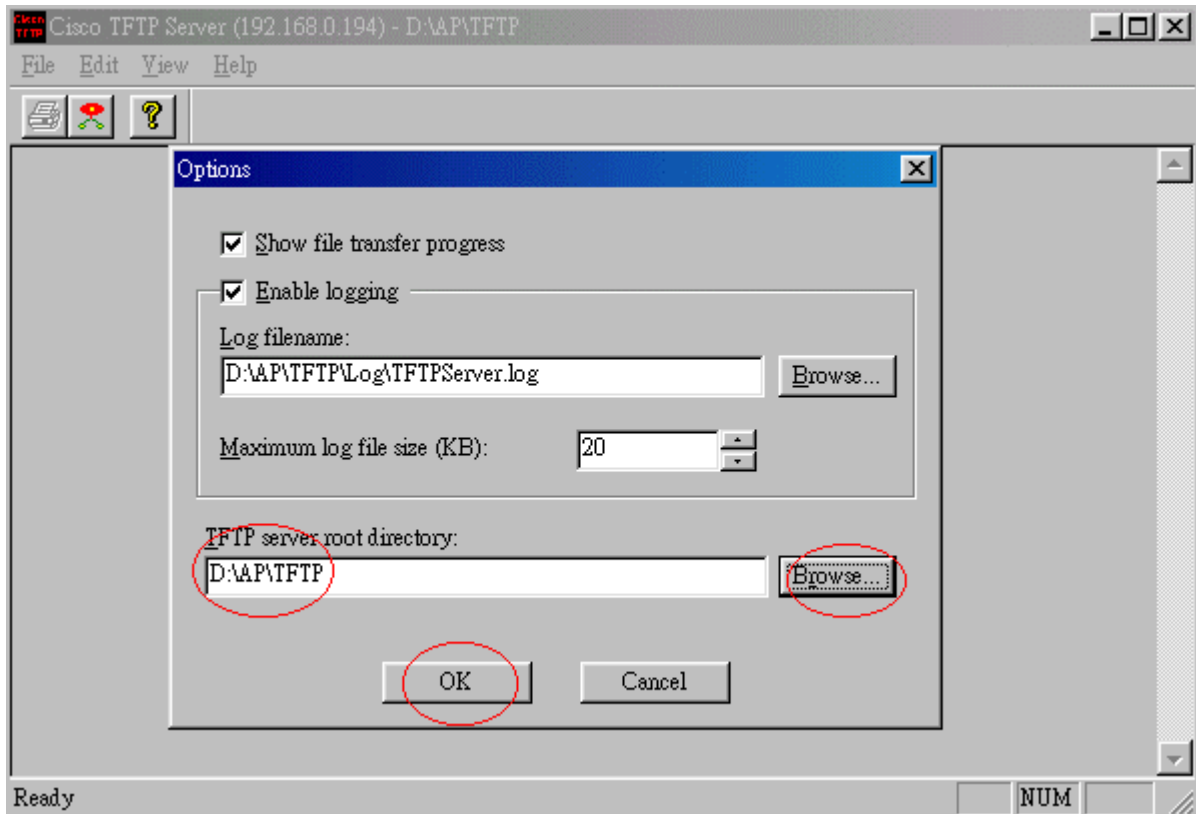061 is the F/W version of image file "ydta061.img" in the remote TFTP server.

In a minute, you will hear a dial tone to indicate a successful download.   Please hang up to complete the upgrade process.   The upgrade will be effective with indication of LED flashing like power on procedure.   If you hear a busy tone, the upgrade process fails.   In this case, the old version is still in place and valid.

Local PC Firmware Download from Telephone

11.2 Make sure that in the PC you have the built-in TFTP server and the upgrading image file with the name of "ydtaxxx.img", which xxx is the F/W version. This upgrade image file can be available your local dealer.

11.3 Open the TFTP server in the PC, and specify the directory of the image file, as the following diagram.

11.4 Press the download command ***01** followed by the PC TFTP server IP address and the image file version number.

Example: Press ***01192168001194006**

                where 192.168.1.194 is the PC TFTP server IP address, and

                006 is the F/W version of image file "ydta006.img" in the PC.

In a minute, you will see successful download message from the PC screen and hear a dial tone to indicate a successful download.   Please hang up to complete the upgrade process.   The upgrade will be effective with indication of LED flashing like power on procedure.   If you hear a busy tone, the upgrade process fails.   In this case, the old version is still in place and valid.