

# **DVG-2101S VoIP Telephone Adapter**

## **User's Manual**

Version 2.0

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# Introduction

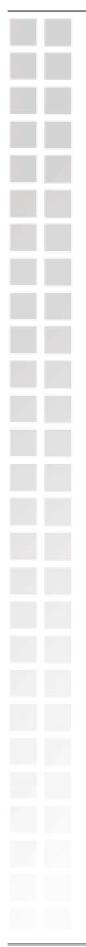
The D-LINK DVG-2101S VoIP Telephone Adapter links conventional telephony devices such as analog phones or fax machines to IP networks. The DVG-2101S includes one Ethernet port and one RJ-11 telephone jack that provide voice communication over the IP network. The Ethernet port is for a DSL/Cable Modem or other WAN (Wide Area Network) devices. It can be configured and monitored using a web browser.

This VoIP Telephone Adapter can reduce or eliminate long distance or interoffice phone charges by routing calls over the Internet or any IP network. Corporations can also enjoy the benefits of network consolidation and reduction of leased lines by relying on the Internet service providers to deliver toll-quality voice communications over the IP networks.

### **Package Contents**

- 1 x DVG-2101S VoIP Telephone Adapter
- 1 x CAT5 Ethernet Cable (Blue)
- 1 x RJ-11 Phone Cable (Gray)
- 1 x 12V/1.5A AC/DC Adapter
- 1 x CD-ROM

**Features** WAN support One 10/100Mbps auto-MDI/MDIX Ethernet port WAN Type: Static IP, Dynamic IP, and PPPoE MAC Address Clone NAT Traversal: Outbound Proxy, STUN Dynamic DNS support: DlinkDdns, DynDns VLAN ID Tag **QoS: IP Precedence** NTP Management Web-base, Telnet, and telephone keypad configuration (dial prefix) **Built-in Ping Tool** Remote firmware upgrade via TFTP, HTTP, HTTPS, and FTP Multi-function reset button: IVR, reset, restore the factory default Password Protected controlled Admin and User Access Authority Auto Provisioning: Web Browser Administration and Configuration via Integral Web Server Telephone Key Pad Configuration with Interactive Voice Prompts, Automated Provisioning & Upgrade via HTTPS, HTTP, TFTP, FTP IVR SNMP V1/V2C TR-069 (include TR-104) (optional) Call In & Call Out Voice over IP Call **IP Address Calling** Three Way IP to IP Conference Call Call Features Call Forwarding: No Answer/Busy/Unconditional Call Transfer: Unattended/Attended Call Waiting / Call Pickup / Call Hold / Call Back On Busy / Call Return / Three Way Calling (Media Server required) MWI based on LED & Tone DND (Do Not Disturb) Warm Line Hot Line Selective/Anonymous Call Rejection Music On Hold Caller ID (Type I and Type II) Caller ID Blocking Speed Dialing, Repeat Dialing **Consultation Hold** Voice Functionality SIPv2 (RFC3261) compliance SIP Proxy Redundancy: Dynamic via DNS SRV, A Records Re-registration with Primary SIP Proxy Server. SIP Extension: Session Timer, Proxy-Require MD5 Authentication for SIP 



- SIP NAT Keep Alive Time
- VPN
- Flash Hook Timer
- Adaptive jitter buffer
- Programmable gain control
- In-band DTMF
- Out-of-band DTMF relay: RFC2833/ SIP info
- DTMF
- Termination Impedance: 600/900& complex Impedance
- Failover SIP Proxy server registrations
- T.30 FAX pass through, T.38 real time FAX relay
- Caller ID: DTMF, FSK-Bellcore, FSK-ETSI detection and generation by country select
- Telephone book
- Voice Codec Feature: G.711 u-law/a-law, G.723.1/iLBC (optional), G.726, G.729.A/B
- VAD (Voice Activity Detection)
- CNG (Comfort Noise Generation)
- G.165/G.168 Echo Cancellation
- Silence Suppression & Detection

### **Front Panel**

### WAN LED

This LED will light solid when a connection is established and blink to indicate activity. If this LED does not light up when a cable is connected, verify the cable connections and make sure your devices are powered on.

### **Provision LED**

DVG-2101S

This LED will light solid if the device provisions successfully. This LED will flash during provisioning and light off if provisioning fails.

### Phone LED

This LED will light solid when the telephone is off-hook. A fast blinking LED indicates an incoming call and a slow blinking LED indicates a message is waiting. This LED will light off if the phone connected to the phone port is on-hook.

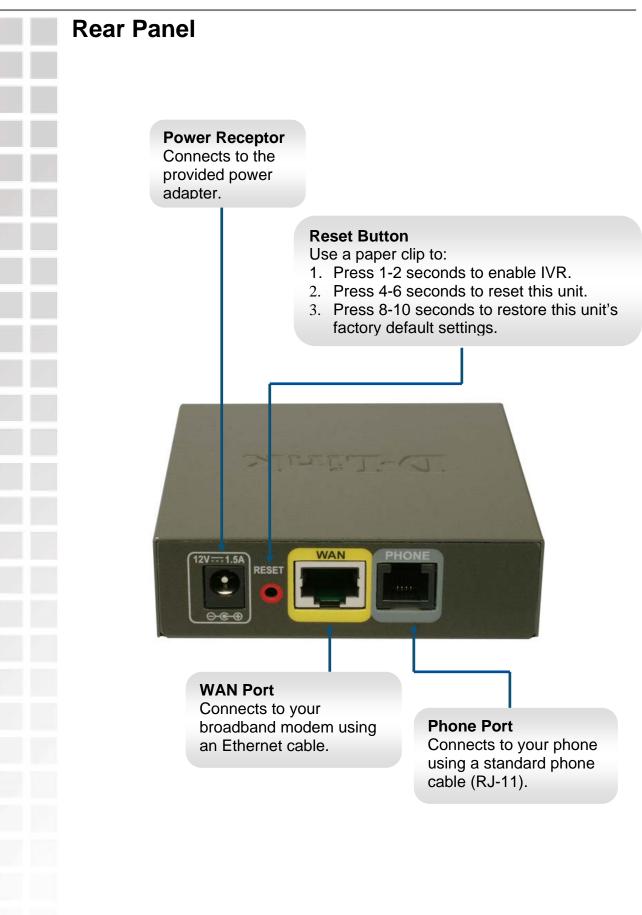
### Power LED

This LED will light solid when the device finishes a self-test and booting up. This LED will flash during device self-test and booting and light off if the self-test fails.

### Register LED

Provision

This LED will light solid if the phone account registers successfully. This LED will flash during registering and light off if registering fails.



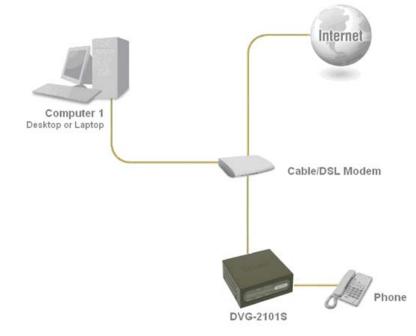
D-Link Systems, Inc.

## **Hardware Installation**

### Connecting the DVG-2101S Directly to a Modem

If your computer connects directly to a DSL or Cable modem and does not connect to a router, follow the steps below to install your DVG-2101S.

**Note:** This is the most common setup configuration for the DVG-2101S. If you do not require the use of more than one LAN port, you do not need an additional router.



- **1.** Turn off your computer.
- 2. Disconnect the power to your Cable/DSL modem (unplug or turn off the power switch).
- 3. Unpack the Ethernet cable (blue) that comes with DVG-2101S. Attach one end of the Ethernet cable (blue) provided in this package to a LAN or Ethernet port on your Cable/DSL modem. If there are no Ethernet ports available on your modem, you should include a router in your network setup (see diagram on the next page).
- **4.** Attach the other end of the provided Ethernet cable to the **WAN** port of the DVG-2101S.
- **5.** Attach one end of the provided phone cable (gray) to a standard analog telephone.
- 6. Attach the other end of the phone cable to the **PHONE** port on the rear panel of the DVG-2101S.
- 7. Reconnect the power to the Cable/DSL Modem (plug in or turn on the power switch).
- **8.** Unpack the 12V DC power adapter that comes with the DVG-2101S. Connect the power adapter to the power connecter on the DVG-2101S.
- **9.** Connect the other end of the power adapter to an available electrical outlet (wall socket or surge protector).
- 10. Restart your PC.

# Connecting the DVG-2101S Behind a Router If you wish to connect your DVG-2101S behind a router, follow the steps below. After the steps are completed, your setup should look similar to the diagram below.

- **1.** Turn off your computer.
- 2. Disconnect the power to the Cable/DSL modem (unplug the modem or turn off the power switch).
- **3.** Disconnect the power to your existing router (unplug the router or turn off the power switch).
- 4. Unpack the Ethernet cable (blue) that came with the DVG-2101S.
- 5. Attach one end of this Ethernet cable to the **WAN** port on the rear of the DVG-2101S.
- 6. Attach the other end of this Ethernet cable to a LAN port on your existing router.
- **7.** Be sure that the Ethernet cable that is plugged into the WAN port of your existing router is still plugged into your Cable/DSL Modem.
- **8.** Unpack the phone cable (gray) that came with the DVG-2101S. Attach one end of this cable to a standard analog telephone.
- **9.** Attach the other end of this cable to the **PHONE** port on the rear of the DVG-2101S.
- **10.** Unpack the 12V DC power adapter that came with the DVG-2101S.
- 11. Connect the power adapter to the power connecter on the DVG-2101S.
- **12.** Connect the other end of the power adapter to an available electrical outlet (wall socket or surge protector).
- **13.** Reconnect the power to the Cable/DSL modem (plug in or turn on the power switch).
- **14.** Reconnect the power to your existing router (plug in or turn on the power switch).
- 15. Restart your PC.

By default the unit is already configured to work behind a router. Be sure to change your computer's IP settings to DHCP (to automatically be assigned an IP address from the DVG-2101S) regardless of what type of Internet connection you have. (Please refer to your Network Interface Card's manual for more detailed information.)

Prior to using your web browser for accessing the web-based configuration utility, if DHCP is not enabled on your computer, be sure to assign a static IP address to the VoIP Telephone Adapter.

Use the computer that was last connected directly to your Cable/DSL modem. Right-click **My Network Places** > select **Properties** > right-click **Local Area Connection** > select **Properties** > double-click **Internet Protocol (TCP/IP)**.

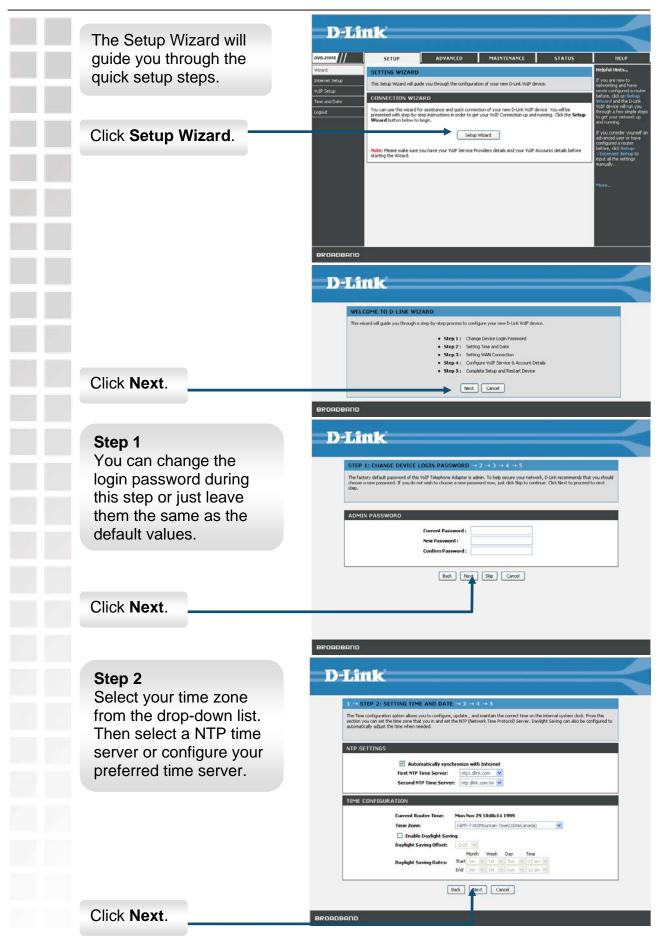
Set your PC's IP address to 192.168.1.1 and the subnet mask to 255.255.255.0. The default gateway and primary DNS server IP addresses should be the LAN IP address of the DVG-2101S (192.168.1.150).

Click OK.

eneral	
	ned automatically if your network suppor a need to ask your network administrator
🔘 Obtain an IP address au	utomatically
💿 Use the following IP add	dress:
IP address:	192.168.1.1
Subnet mask:	255 . 255 . 255 . 0
Default gateway:	192.168.1.150
Obtain DNS server add	ress automaticallu
Use the following DNS :	
Preferred DNS server:	

In order to use a web browser to configure the VoIP Adapter you must make sure it has a valid Ethernet connection to a PC or LAN via its LAN port. Access the configuration utility to check the LAN port by entering the IP Address into your web browser address field.

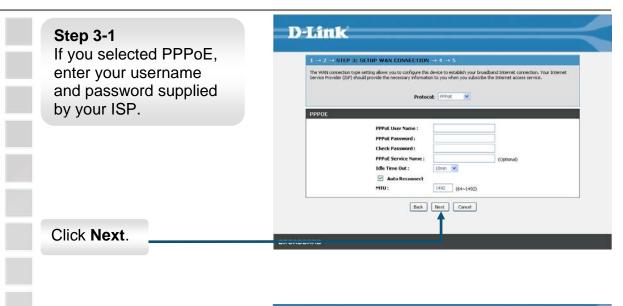
	VolP DVG-2101S - Microso
Open a web browser and type http://192.168.1.150 into the	<u>File E</u> dit <u>V</u> iew F <u>a</u> vorites <u>I</u>
URL address box. Press the <b>Enter</b> or <b>Return</b> key.	Address & http://192.168.1.150
When you first log in, enter the Username <b>admin</b> and leave the Password blank. These may be changed later.	D-Link  LOGIN  Welcome to DVG-21015 Web Management  weicome te  Building  Reserved te  Reserved
Click the <b>Login</b> button.	опредокоя



### DVG-2101S User's Manual

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	D-Link
Step 3-1	
If you selected Static IP,	$1 \rightarrow 2 \rightarrow$ step 3: setup wan connection $\rightarrow 4 \rightarrow 5$
enter the IP address,	The WAV connection type setting allows you to configure this device to establish your broadband internet connection. Your Internet Service Provider (ISP) should provide the necessary information to you when you subscribe the Internet access service.
subnet mask and	Protocol State IP M
gateway supplied by	STATIC IP
your ISP.	IP Address:
your lor .	Subnet Mask: , , , , , , , , , , , , , , , , , , ,
	Back. [Next] Cancel
	1
Click Next.	
	BROADBAND
Step 3-1-1	D-Link
Static IP users have to	$1 \rightarrow 2 \rightarrow$ step 3; setup wan connection $\rightarrow 4 \rightarrow 5$
set the DNS address.	CR65 server is used for translating a URL to an IP address.
Set the birth dudress.	DNS SERVER CONFIGURATION
	③ Obtain DNS server address automatically
	Use the following DNS server addresses Preferred DNS Server :
	Secondary DNS Server : (Optional)
	Back Next Cancel
	↑
Click Next.	
	BROADBAND
	D-Link
Step 3-1	
If you selected Dynamic	$1 \rightarrow 2 \rightarrow$ STEP 3: SETUP WAN CONNECTION $\rightarrow 4 \rightarrow 5$
IP, you may enter the	The WW connection type setting allows you to configure this device to establish your broadbard internet connection. You internet Service Provider (ISP) should provide the necessary information to you when you subscribe the Internet access service.
host name in the field.	Protocol Dynamic IP M
	DYNAMIC IP
	Host Name :
Olial: Next	Book Net Cancel
Click Next.	
	BROADBAND



### Step 4

Enable and configure your SIP account (phone port) with the settings provided by your ISP/ITSP.

		ERVICE & ACCOUNT DE	and the second	
This step will you to enter	all of the VoIP Providers details to	o get you connected to their servi	e and allow	v you to start marking ca
SIP ACCOUNT LIST	Έ.			
Pho	ne Port: 1 M			
1.000	nable	( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( )		
Displ	ny Name:	D-Link		
User	Name:	dink.		
Auth	orization Name:	dink.		
Pass	words	••••		
Prost	Server:	iptel.org		5060
		0.0.0.0		5060
	lackup Proxy Server:			
	Sackup Proxy Server: Dutbound Proxy Server:	0.0.0.0		5060

Click Next.

### **D-Link** Step 5 3 - 4 - STEP 5: COMPLETE AND RESTAR Setup is finished. Click Setup complete. Click Back to review or modify settings. Click Restart to apply current settings and reboot the VoIP device Restart to reboot the SETUP SUMMARY Below is a detailed summary of your settings. Please print this page out, configure the correct settings on your VoIP Telephone adapters. DVG-2101S. Once the adapter is finished rebooting, turn on your D-Link modem and allow up to 2 dies minutes to connect to 1234 your ISP. iptel.org Back Restart Cancel Click Restart. OADBAND

BROADBAND

# Setup

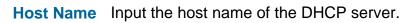
### Internet Setup Connection Type

The WAN connection type setting allows you to configure this device to establish your broadband Internet connection. Your Internet Service Provider (ISP) should provide the necessary information to you when you subscribe to the Internet access service.

### **Dynamic IP**

Choose Dynamic IP if the VoIP Adapter obtains its WAN IP address from a DHCP server.

SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
WAN				Helpful Hints
connection. Your Internet S	Service Provider (ISP) shoul ess service.	d provide the necessary inform		When configuring the Link VoIP device to a the Internet, be sure choose the correct Connection Type fro list below. If you are unsure of which opti
DYNAMIC IP				choose, contact you Internet Service Pro (ISP).
	Host Name :			If you are having tro accessing the Intern
	Apply	Cancel		through the D-Link V device, double check settings you have er on this page and ver them with your ISP il needed.
				More
	WAN The WAN connection type connection. Your Internet subscribe the Internet acco DYNAMIC IP	WAN The WAN connection type setting allows you to configu connection. Your Internet Service Provider (ISP) should subscribe the Internet access service. Protocol: DYNAMIC IP Host Name :	WAN         The WAN connection type setting allows you to configure this device to establish you connection. Your Internet Service Provider (ISP) should provide the necessary inform subscribe the Internet access service.         Protocol:       Dynamic IP         Host Name :	WAN         The WAN connection type setting allows you to configure this device to establish your broadband Internet connection. Your Internet Service Provider (ISP) should provide the necessary information to you when you subscribe the Internet access service.         Protocol:       Dynamic IP         Host Name :



### Static IP

Choose Static IP Address if the WAN IP information is provided to you by your ISP. You will need to enter in the IP address, subnet mask, gateway address, and DNS addresses provided to you by your ISP. You should enter the IP address, subnet mask, and gateway address in this page and enter the DNS addresses in the DNS page which is under the **Advanced** tab.

VG-21015	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
zard	WAN				Helpful Hints
ernet Setup IP Setup ne and Date jout	The WAN connection type connection. Your Internet subscribe the Internet acc	: Service Provider (ISP) should cess service.	re this device to establish your d provide the necessary informa Static IP	broadband Internet stion to you when you	When configuring the Link VoIP device to the Internet, be sur- choose the correct Connection Type fro- list below. If you ar- unsure of which opt
	STATIC IP				choose, contact you Internet Service Pro (ISP).
	Su	Address:		itional)	If you are having tr accessing the Interr through the D-Link device, double chec settings you have e on this page and ve them with your ISP needed.
		Apply	Cancel		Maria
					1016
					More

IP Address Subnet Mask Gateway

Input the public IP Address provided by your ISP.

Input your Subnet mask. (All devices in the network must have the same subnet mask.)
Input the public IP address of the ISP to which you are connecting.

### Setup

### PPPoE

Choose PPPoE (Point-to-Point Protocol over Ethernet) if your ISP uses a PPPoE connection. Your ISP will provide you with a username and password. Most DSL users will select this option.

VG-21015	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
izard	WAN				Helpful Hints
ternet Setup IP Setup ne and Date gout		ype setting allows you to configur net Service Provider (ISP) should access service. Protocol:	provide the necessary inform		When configuring the Link VoIP device to ac the Internet, be sure choose the correct Connection Type from list below. If you are unsure of which option
	РРРОЕ				choose, contact your Internet Service Prov (ISP).
		Auto Reconnect		(Optional)	If you are having trou accessing the Interne through the D-Link Vo device, double check settings you have ent on this page and verif them with your ISP if needed.
		MTU: 14	92 (64~1492)		More
		Apply	Cancel		

**PPPoE User** Enter the PPPoE user name supplied by your ISP.

Name **PPPoE** Enter the PPPoE password supplied by your ISP. Password Check Retype the password entered in the previous field. Password **PPPoE** Enter the PPPoE Service Name (if supplied by your ISP). Service Name Idle Time Set the specific period of time, in minutes, to disconnect from the ISP when no traffic is passing through. The setting 0 minute Out means the VoIP adapter will never disconnect from the ISP. Check this checkbox to allow the VoIP Adapter to re-establish the Auto connection if it is terminated by the ISP. However, if the Reconnect connection is terminated under any other conditions (i.e. by Idle Timeout or manual disconnect), the VoIP Adapter will not reestablish the connection. This box is checked by default. Enter the MTU (Maximum Transmission Unit) size. MTU is the MTU largest size packet that can be sent by the device. If the network stack of any packet is larger than the MTU value, then the packet will be fragmented before the transmission. During the PPP negotiation, the peer of the PPP connection will indicate its MTU and will accept any value up to that size.

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### MAC Address Clone

Basically, every Ethernet interface (also called a NIC - Network Interface Card) has a MAC address. If the administrator assigns IP addresses to devices according to the authorized MAC address, or only allows devices with authorized MAC addresses to access the network, you may manually enter the MAC address here.

D-Li	nk —				
DVG-21015		ADVANCED	MAINTENANCE	STATUS	HELP
	SETUP	ADVANCED	MAINTENANLE	STATUS	HELP Helpful Hints
Wizard	MAC ADDRESS CL	.ONE			Some cable Internet
Internet Setup VoIP Setup		ice providers require that dev registered with the cable Inte	ice connected to the cable mod ernet provider.	dem has MAC address of	service providers require that device connected to
Time and Date	MAC ADDRESS SE	TTINGS			the cable modem has MAC address of the PC that was originally registered
Logout		MAC Address Clone			with the cable Internet provider.
	MA	C Address:			
		Apply	Cancel		More
BROADBAND					

**MAC Address** Check this checkbox to enable the MAC Address Clone feature. **Clone** 

MAC Address Enter the MAC address you want to use.

You can find the MAC address of your PC from **Start** > Run. In the run box type **cmd** and click **OK**.

For Windows 9x/ME, type **winipcfg** at the prompt and press **Enter**. The MAC address is listed as the "Adaptor Address".

For Windows 2000/XP, type **ipconfig /all** at the prompt and press **Enter**. The MAC address is listed as the "Physical Address".

Setup

### Static Routing

You can specify additional information according to the network topology the VoIP Adapter is attached to in order to establish an efficient networking environment.

D-Lit	1k				
DVG-21015	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
Wizard	STATIC ROUTING	LIST			Helpful Hints
Internet Setup	5. 5.				You can select what gateway to use, by
VoIP Setup	Network Destina	tion Netmask	Gatewa	y Enable	interface or by specifying a gateway.
Time and Date					
Logout		Ā	dd		More
	STATIC ROUTING				
		twork Destination:		_	
		tmask:		_	
		Apply	Cancel		
BROADBAND					

Click **Add** button to configure static routing settings.

Network Enter in the IP address of the specified network that you want to access using the static route.

**Netmask** Enter in the subnet mask for the specified network.

Gateway Enter in the gateway IP address of the specified network.

### VoIP Setup

The VoIP (Voice over Internet Protocol) Adapter can be configured to handle voice communication over the Internet. The screen shown below, along with the SIP account list and phone book pages are used to configure the basic settings to allow you to communicate with the devices that will send and receive telephone calls over the Internet.

### **SIP Account List**

The VoIP Adapter allows you to make calls through the Internet or PSTN. You need to configure the SIP account before you can make a VoIP phone call.

VG-21015	SETUP A	DVANCED M	1AINTENANCE	STATUS	HELP
/izard	SIP ACCOUNT LIST				Helpful Hints
iternet Setup DIP Setup	Phone Port: 1				The device offers you account that you can for making calls via Internet or PSTN. You
me and Date	🗌 Enable				assign each account t relevant phone numb
ogout	Display Name:				for incoming and outg calls.
	User Name:				
	Authorization Name:				More
	Password:				
	Proxy Server:	0.0.0.0	3	5060	
	Backup Proxy S	erver: 0.0.0.0		5060	
	Outbound Prox	y Server: 0.0.0.0		5060	
	Expire Time:	3600	sec		
	MWI				
	Subscreen Province				
		Apply Can			

**Display Name** Enter your display name. Every outgoing call will carry this name to the receiver and it should appear on the Caller-ID. User Name Enter your SIP account username. The username is the part that comes before the "@" symbol. A username can be letters like in an e-mail address (e.g. account@provider.com) or numbers like a telephone number (e.g. 24680@provider.com). Authorization Enter the authorization name to authenticate your SIP account. This is usually the same to your SIP account's user name. Name Password Enter the password to authenticate your SIP account. **Proxy Server** Enter the SIP proxy server's IP address and port number in this field (e.g. 192.168.0.253:5060). Outbound Enter the outbound proxy server IP address and port number in **Proxy Server** this field (e.g. 192.168.0.1:5060). Enter the amount of time for the dial tone when the phone has **Expire Time** been lifted off the hook. At the end of this time period, if no numbers have been dialed, the device will start playing the busy tone. Check the checkbox to activate MWI (Message Waiting MWI Indication) if the SIP server supports this service.



Setup

### Phone Book

This page allows you to add and edit your frequently used VoIP phone numbers in the phone book. It is also required if you want to make peer-to-peer calls. In peer-to-peer calls, you call another VoIP device directly without going through a SIP server.

D-Li					
DVG-21015	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
Wizard	PHONE BOOK LIS	т			Helpful Hints
Internet Setup VoIP Setup	Phone Book:				This page allows you to add and edit your frequently used VoIP phone number in the
Time and Date	No. Phone Nu	mber Display Nam	e SIP URL		phone book.It is also required if you want to make peer-to-peer calls. In
		A	bb		peer-to peer calls, you call another VoIP device directly without going through a SIP server.
	PHONE BOOK		Y		More
		hone Number:			
		vistinctive Ring: Group0	*		
	5	IP URL:	•		
		Apply	Cancel		
BROADBAND					

Click the **Add** button to edit the phone book.

PhoneEnter the phone number of your contact.Number

DisplayEnter a name to display on telephone set's LCD screen when thereNameis an incoming call from your contact.

**Distinctive** Select a distinctive ring type from the drop-down list to classify the incoming calls into different categories such as family, friends, or colleagues.

**SIP URL** Enter the SIP URL of your contact. The format of a SIP URL is similar to an e-mail account. The format should be ID@itsp.com.

# Dates

### Time and Date

The VoIP Adapter allows you to maintain the system clock via the Internet. You must first select your time zone from the drop-down list, then select a predefined NTP (Network Time Protocol) time server from the drop-down list, or specify the IP address of your preferred NTP time server on the Internet manually.

Synchronizing with a time server ensures the time-based client filtering features and system log entries are based on the correct localized time.

D-Li					
DVG-21015	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
Wizard	TIME AND DATE				Helpful Hints
Internet Setup	The Time Configuration option				If you plan on using the scheduling feature of this
VoIP Setup	system clock. From this section Protocol) Server. Daylight Sa				VoIP TA, then making sur the time is correct is
Time and Date					extremely important. Either enter the time
Logout	- NTP SETTINGS				manually by clicking the Copy Your Computers
	Automatic     First NTP Time     Second NTP Tin     TIME CONFIGURATIO	ne Server: ntp.dlink.co	com 💌		Time Settings button, or use the Automatic Time Configuration option to have your YoIP TA synchronize with a time server on the Internet.
	Current Router		3 03:59:24 2007		
	Time Zone:	light Saving	)Mountain Time(USA&Canada)	)	
	Daylight Saving				
	Daylight Saving	Month	✓ 1st ✓ Sun ✓ 12 a		
		Apply	Cancel		

Automatically<br/>synchronize withCheck this checkbox and then select the preferred time<br/>server(s) from the drop-down NTP Time Server list.Internet<br/>Time ZoneSelect the time zone where you reside from the drop-down<br/>list.Enable Daylight<br/>SavingCheck this checkbox if your location uses daylight saving.<br/>Then select the daylight saving offset from the drop-down<br/>list.Daylight SavingSelect the start and end date for daylight saving to take

effect from the drop-down list.

# Advanced

### **VoIP Settings**

This VoIP section allows you to configure advanced settings for your VoIP connections.

### **Call Feature**

This page allows you to configure advanced features for your SIP account.

D-Li	nk						$\prec$
DVG-21015	SETUP	ADVANCED	MAINTENANCE		ST	ATUS	HELP
VoIP Settings DNS Dynamic DNS QoS VPN Logout	CALL FEATURE	Phone Port: 1 Forward Always: Forward Busy: Forward No Answer: Warm Line: Hot Line: Do Not Disturb Call Waiting Consultation Hold Conference Call Back On Busy		Wait: Wait:	15 30	s(1-20) s(1-30)	Helpful Hints Call Feature Services such as consultation hold, call waiting, call back on busy, are generally available from your VoIP service provider. More
BROADBAND							

Forward Always Forward Busy Forward No Answer Check the checkbox and enter the phone number to forward all incoming calls to, regardless of any other conditions. Check the checkbox and enter the phone number to forward all incoming calls to, if the phone port is busy.

Check the checkbox and enter the phone number to forward all incoming calls to, if the call is not answered. You must also enter the number (in seconds) that the VoIP Adapter should wait for you to answer an incoming call before it considers the call unanswered.

	Warm Line*	Check the checkbox and enter a specific number to be dialed automatically by the VoIP Adapter when the user goes off-hook on the line and does not input any digits after a configurable timeout has elapsed. For example, this feature can be used for emergency or operator dialing if you do not input any dialing information after a certain time.
	Hot Line*	Check the checkbox and enter a specific number to be dialed right away automatically by the VoIP Adapter when the user goes off-hook on the line.
	Do Not	Check this checkbox to reject incoming calls as busy or divert
	Disturb	incoming calls to a voice mail server when configured to do so.
	Call Waiting	• •
	Consultation	Check the checkbox to let you place a call on hold, and then call
	Hold	another party to consult privately, and afterward, return to the original call.
	Conference	Check the checkbox to enable making conference calls.
	Call Back On Busy	Check the checkbox to enable call back on busy when the
	PSTN Fail	number you dialed is busy.
_	Over Relay	Check the checkbox to enable PSTN fail over relay when the Internet connection is not available.
		v activate either Warm Line or Hot Line. If you check both of them, ority is always prior to Warm Line.
	•	of Making a Conference Call
	Scenario 1:	
	2. The first p	erson dials the second person and asks the second person to wait. erson presses Flash then calls the third person (and keeps the erson on hold).
	•	person answers the call. The first person dials *61 and then

3. The third person answers the call. The first person dials \*61 and then presses Flash to start the conference call.

### Scenario 2:

- 1. The first person dials the second person and the second person answers the call.
- 2. The third person dials the first person (call waiting) and the first person presses Flash to pick up the second call and talk to the third person.
- 3. The first person dials \*61 and then presses Flash to start the conference call.

**Note**: The availability of conference calls varies depending on your VoIP network. Please check with your ITSP for this service.

# S

SIP	Setting	
-----	---------	--

This page allows you to configure the settings related to the SIP service provider. You need to configure your VoIP Adapter to communicate with the devices that will send and receive telephone calls over the Internet. If you are behind a NAT modem or router, you may have to use a STUN server.

// БЕТОР	ADVANCED	MAINTENANCE	STATUS	HEL
				Helpful Hints
NS Port NAT Setting	STUN Server Address: NAT Keep Alive Time: Rport	5060 40000 50000 larry.gloo.net 60 sec (30≤	×≤86400)	This page allow the configure your provider. You r configure your to communicat devices that w receive teleph over the Inter are behind a N modem/router have to use a server.
Advanced Fe	T.38 FAX Protocol eature			
	P_Assert			
	<ul> <li>Session Timer:</li> <li>Anonymous Call Rejecti</li> <li>DTMF INFO Type</li> </ul>		X)	

Signaling Port	Enter the signaling port to send and receive the SIP message for building a session. The default value is 5060 and this must match with the peer Registrar when making VoIP calls.
RTP Start	Specifies the start port for the RTP stream. The default value is 40000.
RTP End	Specifies the end port for the RTP stream. The default value is 50000.
STUN	Enable or disable the STUN server feature.
Server	Enter the STUN server IP address if you enabled the STUN
Address	server feature.
NAT Keep Alive Time	Check the checkbox and enter the time period for the NAT to
	keep alive.
Rport	Check this checkbox to use rport. Rport, or symmetric
	signaling, is critical for operations behind some classifications
	of NATs. If enabled, the SIP stack will send outbound SIP
	messages on the same port that it listens on. Unless you are
	familiar with single SIP port, it is better to use rport.
T.38 Fax	Check the checkbox if the remote end also supports FAX
Protocol	function.

P_Assert	Check the checkbox to enable P_Assert to hide the client name when sending messages to the SIP proxy server.
E.164 ENUM	Check the checkbox to enable E.164 ENUM (Number Mapping) feature. E.164 is a mechanism to transform an E.164 number into a list of URIs (Uniform Resource Identifiers) so that the IP users and available services can be identified by a public telephone number.
Session Timer	Check the checkbox to enable this function. If there is no response, the connecting call will be closed automatically after the time limit that you set in this field.
Anonymous Call Rejection	Check the checkbox to reject all anonymous calls.
DTMF Info Type	Check this checkbox to use DTMF (Dual Tone Multi-Frequency) to send out the Caller ID.

### **Digit Plan**

This page enables you to set up rules for the digit waiting time and the digit plan. A digit plan is also known as a dial plan. A digit plan is a string of characters that governs the way the VoIP Adapter processes inputs received from the telephone keypad. This includes country codes, access codes, area codes, and all combinations of digits dialed. Digit plans must comply with the telephone networks to which they connect.

DIS	-1-				
D-Liı					
DVG-2101SP	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
VoIP Settings	DIGIT PLAN				Helpful Hints
DNS Dynamic DNS QoS	Use the '#'	as a terminal key	s (1-20)		This page enables you to set up rules.
VPN	Interval Digit Wa	iting Time: 10	s (1-20)		More
Logout	Digit Plan:				
		Арріу	Cancel		
BROADBAND					

Use the '#' as a terminal key	Determine when to add the '#' after dial phone number
<b>First Digit Waiting</b>	Enter the first digit waiting time before the connection is
Time	canceled by the VoIP Adapter.
Interval Digit	Enter the interval waiting time between two digits before
Waiting Time	the connection is canceled by the VoIP Adapter.
Digit Plan	Enter the strings for the digit plan.

### **Digit Plan Syntex**

To specify a	Enter the following	Result
Digit	0123456789*	Identifies a specific digit (do not use #)
Range	[digit-digit]	Identifies any digit dialed that is included in
		the range
Range	[digit-digit, digit]	Specifies a range as a comma separated
		list
Wildcard	х	x matches any single digit that is dialed
Wildcard		. matches an arbitrary number of digits
Time	Т	Indicates that an additional time out period
		of 4 seconds should take place before
		automatic dialing starts

For example, let's look at the following digit plan:

### <:1780>[2-4]xxxxxx|\*xx|<911:17804213333>|011[2-9]x.T|1[2-9]xx[2-9]xxxxxx|1900xxxxxxx!

A digit plan is the combination of one or more dialing rules. The above digit plan includes six dialing rules and is separated by five "|" characters. The VoIP Adapter interprets the digit plan (strings) in order from left to right. That is, if you dial a set of numbers that fits to more than one section of the digit plan, the VoIP Adapter will use the first numerical sequence that fits to process your inputs.

Component	Description
<>	A pair of < > brackets is used to enclose digit and character for special usage such as add prefix to the following digit(s) or replace the digits you dialed. For example, <b>&lt;:111&gt;*123</b> means that when you press 123 on the keypad, the VoIP Adapter will send out 111*123. <b>&lt;*123:#911&gt;</b> means when you dial *123, the
	VoIP Adapter will send out #911.
:	The ":" means replace any digits within the < > brackets before the ":" with the digits written after the ":" For example: <:1780> means the system prefixes all numbers that match with the remainder of the dial plan string with "1780". <911:17804213333> means the system will send out the call with 17804213333 whenever you dial 911. If you live in Australia and
	your VoIP provider resides in North America, your may change this dial plan to <b>&lt;000:011612131444&gt;</b> .

[]	A pair of [] brackets is used to enclose one digit (the digits on telephone keypad *, # and 0-9). For example, <b>[*#2-9]</b> means the digit can be either *, #, 2, 3, 4, 5, 6, 7, 8 or 9. <b>[*1-3579]</b> mean the digit can be either *, 1, 2, 3, 5, 7 or 9.
x	The x represents any digit from 0 to 9. x means one 0-9 digit, xx means two 0-9 digits and xxx means three 0-9 digits, etc. For example, [2-4]xxxxxx means you are allow to dial either 2,3 or 4 followed by any six digits from 0 to 9.
	The " " in a digit plan is merely used to separate the different dialing rules.
*	The "*" represents the * (star key) on your telephone keypad. For example, * <b>xx</b> means press * key followed by any two digits from 0-9, such as *69 or *55.
•	The "." (dot) means repeat the previously listed digit zero or more times. For example, <b>x.</b> means zero or more digits and <b>xx.</b> means at least one or more digits.
Т	The "T" represents that an additional timeout period should take place before automatic send out the dialing.
	The "!" in a digit plan means the digit or number is restricted. For example, <b>11[0, 2, 4, 9]!</b> means the system will block the numbers 110, 112, 114 and 119. <b>00886!</b> means that the dial out number beginning with 00886 is restricted. Note that the "!" can only be placed at the end of a dialing rule.

The VoIP Adapter processes call features and the digit plan in the following sequence:



\* Including keypad dialing, hotline, warm line, etc.

If you configure the dialing rules or behaviors in the VoIP Adapter as: **Rule 1**: in dial prefix settings, set \*666 for IVR accessing **Rule 2**: in phone book settings, set \*666 to map to the URL: abc@domain.com **Rule 3**: in the digit map, set \*666 to be replaced by 911 Rule 4: in the digit plan, set \*666 to be accepted and 911 to be restricted

When there are rules 1 to 4 in the system, pressing \*666 will enter the VoIP Adapter's IVR mode.

When there are rules 2 to 4 in the system, pressing \*666 will make a VoIP call to abc@domain.com

When rule 3 and rule 4 are in the system, pressing \*666 will be replaced with 911 by the VoIP Adapter, but this number will not be sent out.

When there is only rule 4 in the system, pressing \*666 will immediately send the dialing to the proxy or UA.

When you dial \*666:

Scenario	Rule Combination	The VoIP Adapter will do
1	Rule1 + Rule2 + Rule3 + Rule4 =	Enter the VoIP Adapter's IVR
		mode
2	Rule2 + Rule3 + Rule4 =	Address a call to
		abc@domain.com
3	Rule3 + Rule4 =	Replace the input with 911, but
		this number will not be sent out
4	Rule4 =	Immediately send the dialing to the
		proxy or UA

If the dialed numbers or characters do not match to the digit plan, you will probably hear a busy tone from the telephone handset.

### **Digit Map**

This page enables you to set up rules for modifying dialed numbers, or varying the dialing behavior depending on the number called. The digit map specifies how to interpret digit sequences dialed by the user, and how to convert those sequences into an outbound dial string.

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	D-Liı	ntr				
	DVG-21015	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
	VoIP Settings	DIGIT MAP LIST				Helpful Hints
	DNS					This page enables you to set up rules for modifying
	Dynamic DNS	Digit Map:				dialed numbers, or varying the dialing behavior
_	QoS	No. Prefix	Mode OP Number	Min Len Max Le	n Interface	depending on the number called.
	VPN				1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
	Logout		A			More
		DIGIT MAP				
			Prefix:			
			Mode: None	*		
			OP Number:			
			Min Len:			
			Max Len:			
			Interface: Phone	e 1 💌		
			Apply	Cancel		
	BROADBAND					

Click the **Add** button to add a digit map.

### Advanced

Prefix	The prefix specifies a series of digit sequences. When you dial a series of digits, each sequence in the prefix is tested as a possible match. The matching sequences form a set of candidate digit sequences. The phone number set here is used to add, strip, or replace the OP number.
Mode	<b>None</b> : No action. <b>Add</b> : When you choose this mode, the OP number will be added with the prefix number for calling out through the specific phone interface.
	<b>Replace</b> : If you select this mode, the OP number will be replaced by the prefix number for calling out through the specific phone interface. <b>Delete</b> : If you select this mode, the OP number will be deleted by the prefix number for calling out through the specific phone interface. <b>Restrict:</b> If you select this mode, the OP number will be restricted by the prefix number for calling out through the specific phone interface.
OP Number	The front number you type here is the first part of the account number that you want to execute a special function (according to the chosen mode) by using the prefix (number). If you selected the mode "Add", "Replace", or "Delete", the OP number will be applied in this rule.
Min Len	Set the minimal length of the dial number for applying the prefix number settings.
Max Len	Set the maximum length of the dial number for applying the prefix number settings.
Interface	You can apply the prefix number settings to the PHONE port (Phone 1).
Example:	
DIGIT MAP L	

Digit	Map: page1	*						
No.	Prefix	Mode	OP Number	Min Len	Max Len	Interface		
1	03	Add	886	6	8	Phone 1	ľ	T
2	06	None		6	8	Phone 1	ſ	Ŷ
3	9	Replace	0800	6	8	Phone 1	ſ	Ŷ

- The first rule accepts calls using 03 as the prefix number. For example, if you dial "038993765", it matches this rule and the VoIP Adapter will make the phone call "886038993765".
- The second rule accepts calls using 06 as the prefix number. For example, if you dial "065991234", it matches this rule, and its length (not including the length of the prefix) is 7, between 6 (Min Len) and 8 (Max Len), therefore the VoIP Adapter will make the phone call "065991234".
- The third rule accepts calls using 9 as the prefix number. For example, if you dial "93652400", it matches the third rule and the VoIP Adapter will make a phone call "08003652400".

D:-1	Duefler
Diai	Prefix

This page allows you to configure your dialing policy. You can change the default dial prefix settings to fit you dialing behavior.

SETUP ADVANCED	MAINT	TENANCE	STATUS	н
DIAL PREFIX SETTING				Helpful Hir
Dial Prefix				This page al configure yo policy.
System Reboot:	*444	(Default:*444)		Provide Co.
Factory Default:	*555	(Default:*555)		More
Net Setting:	*666	(Default:*666)		1 IOI Can
Call Return:	*50	(Default:*50)		
Repeat Dialing:	*52	(Default:*52)		
Fail Over Relay:	*54	(Default:*54)		
Anonymous Call Rejection Active:	*56	(Default:*56)		
Anonymous Call Rejection Deactive:	*57	(Default:*57)		
Caller ID Block:	*62	(Default:*62)		
Hot Line Active:	*64	(Default:*64)		
Do Not Disturb Active Code:	*66	(Default:*66)		
Do Not Disturb Deactive Code:	*68	(Default:*68)		
Forward Always Active Code:	*72	(Default:*72)		
Forward Always Deactive Code:	*73	(Default:*73)		
Forward Busy Active Code:	*90	(Default:*90)		
Forward Busy Deactive Code:	*91	(Default:*91)		
Forward Noanswer Active Code:	*92	(Default:*92)		
Forward Noanswer Deactive Code:	*93	(Default:*93)		
Call Back On Busy Cancel:	*61	(Default:*61)		

### Codec

The codec used for each call will be negotiated with the peer party before each session, and therefore many codecs will not be included in your default configuration. The default codec is G.729A, it occupies little bandwidth while maintaining good voice quality.

If your upstream speed is only 64Kbps, using G.711\_A codec is not recommended. It is better to have at least 256Kbps upstream if you would like to use G.711 A.

	SETUP		ADVANCED	MAINTENANCE	STATUS	HELP
P Settings	CODEC SETTI	NG		5		Helpful Hints
5	Priority	Enable	Codec	Packetization Time	DTMF	This page allows you to select Codec preference,
namic DNS	1		G729A V	20 🗸	RFC 2833	Packetization Time and DTMF type from pre-
5	2		G711_MU 💙	20 👻	RFC 2833	defined drop-down lists. Select one of five codecs
V.	3		G726_32K 🗸	20 👻	RFC 2833 🗸	as the default for your VoIP calls, The codec used
jout	4		G723_5_3K 🐱	30 🗸	RFC 2833	for each will be negotiated
	5		G711_A 💌	20 🗸	RFC 2833 💉	with the peer party befor each session, and so man
			A		Are constant and a second s	will not be your default configuration.
			Apply	Cancel		More
						T TOT Cam

**Priority** 

There are five priorities for you to configure the codec priority in the order you preferred. Priority 1 means the first priority and priority 5 means the last. Select the codec type from the drop-down list. Codec Packetization Select the length of the digital voice segment that each packet holds. The default is 20 millisecond packets. Selecting 10 Time millisecond packets enhances the voice quality, as less information is lost due to packet loss, but doubles the load on the network traffic. DTMF Select the method of DTMF tone generation from the dropdown list.

### Phone Setting

This page allows you to enable VAD (Voice Activity Detection), CNG (Comfortable Noise Generation), and Echo Cancellation. You can also specify the Receive/Send Gain as well as select the Telephony Tone and Caller ID type. The VoIP Telephone Adapter provides default ring-tone parameters configured for various countries.

### Advanced

	Voice Activity Detection	The VAD (Voice Activity Detection) feature allows the VoIP Adapter to stop transmitting when you are not speaking. This reduces the bandwidth the VoIP Adapter uses.
	Comfortable	The CNG (Comfortable Noise Generation) feature allows the
	Noise	VoIP Adapter to generate comfortable background noise to
	Generation	indicate that you are still on the line.
	Echo	Enable the Echo Cancellation feature to eliminate the echo
	Cancellation	caused by the sound of your voice reverberating in the telephone transmitter while you talk.
	Pocoivo Gain	Enter the receive gain value.
	Send Gain	Enter the send gain value.
		•
	Telephony	Select the telephony tone type from the drop-down list
==	Tone	according to your region.
	FXS	Choose correct impedance in your country/area
	Impedance	
	Caller ID	Select the caller ID type from the drop-down list according to your region
	<b>Idle Polarity</b>	Select the polarity before a call is connected, Forward or
		Reverse. The default is Forward
	Caller Conn Polarity	Select the polarity after an outbound call is connected, Forward or Reverse. The default is Forward.
	Callee Conn	Select the polarity after an inbound call is connected, Forward
	Polarity	or Reverse. The default is Forward.

### DNS

The DNS (Domain Name System) feature allows you to set the configuration of the DNS proxy.

0VG-2101S	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
oIP Settings	DNS				Helpful Hints
NS	DNS server is used for tra	If Use the following DN: server addresses is			
ynamic DNS oS PN	DNS SERVER CONF	IGURATION	atically		selected, enter the Preferred and option Alternate DNS server addresses.
ogout	Preferred [	ollowing DNS server addr DNS Server :	esses	(Optional) (Optional)	More

### DNS Server Configuration

Select to obtain DNS server address automatically or specify the DNS server(s) if you are provided DNS information by your ISP.

Primary DNS Address Secondary DNS Address Enter the primary DNS IP address provided by your ISP.

Enter the secondary DNS IP address provided by your ISP. This is an optional DNS Address entry to be used if the primary DNS server fails.



# Dynamic DNS

The Dynamic DNS service allows you to bind the device's public IP address to a static hostname, allowing your computer to be more easily accessed from various locations on the Internet. Most broadband Internet Service Providers assign dynamic (changing) IP addresses. Using a DDNS service provider, your friends can enter in your domain name to connect to your server no matter what your IP address is. When this feature is enabled, this device will automatically update your DDNS records whenever your IP address changes.

-21015	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP		
Settings	DYNAMIC DNS				Helpful Hints		
amic DNS	have purchased(www.whate Internet Service Providers as can enter your host name to	The DDNS feature allows you to host a server (Web, FTP, Game Server, etc) using a domain name that you have purchased(www.whateveryournameis.com) with your dynamically assigned IP address.Most broadband Internet Service Providers assign dynamic (changing) IP addresses.Using a DDNS service provider, your friends can enter your host name to connect to your game server no matter what your IP address is. Sign up for D-Link's Free DDNS service at <u>www.DLinkDDNS.com.</u>					
	Enable Dynamic I Server Address: Host Name: Username or Key: Password or Key: Verify Password or Ke Timeout: Status:	www.DLinkDDNS.co	m << www.DLir	IkDDNS.com	More		
ROADBAND							

Server Address	Enter your DDNS server's IP address provided by your DDNS service provider. You can also select a pre-defined
	DDNS service provider from the drop-down list.
Host Name	Enter the host/domain name that you registered with your
	DDNS service provider.
Username or	Enter the username or key for your DDNS account.
Key	
<b>Password or Key</b>	Enter the password or key for your DDNS account.
Verify Password	Re-enter the password or key for your DDNS account.
or Key	
Timeout	Enter the DDNS timeout period in hour(s).
Status	This field shows the DDNS connection status as connected
	or disconnected.

# QoS

The QoS (Quality of Service) feature allows you to classify traffic by its priority and mark it with a Differentiated Services (DiffServ) flag.

				-	
DVG-21015	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
VoIP Settings	QUALITY OF SERVI	CE			Helpful Hints
DNS	The bandwidth gap betwee	en LAN and WAN may significa	ntly degrade performance of	critical network	This QoS function allows you to classify traffic by its
Dynamic DNS QoS	mark it with differentiated	, gaming, and VPN. This QoS fi services (Diffserv) flag.	unction allows users to classif	y trarric by its priority and	priority and make it with differentiated services (DiffServ) flag.
VPN					
Logout	SETTINGS				More
		005 802.10 VLAN TA	5 Enable		
		VLAN ID :	(0-40	095)	
		Priority Voice :	(0-7)		
		Priority Data :	(0-7)	Î.	
	8				
		Apply	Cancel		

## VLAN ID Priority (Voice/Data)

Specify the VLAN ID from 0 to 4095.

Indicate the priority of voice and data separately. The higher the value, the higher the priority. If you configure data and voice with the same value, it means they have the same priority.

You can set the voice priority to the highest value 7 in order to ensure the best voice quality.



VP	N	
----	---	--

A Virtual Private Network (VPN) is the extension of a private network that encompasses links across shared or public networks like the Internet. In short, using VPN technology, you can send data between two computers across a shared or public network in a manner that emulates the properties of a point-topoint private link.

# **Dialing out Settings**

This page allows you to configure the dialing out setting to be IPSec (Internet Protocol Security), PPTP (Point-to-Point Tunneling Protocol), or L2TP (Layer 2 Tunneling Protocol) and its local IP and remote IP(s).

D-Liı	nk				
DVG-21015	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
VoIP Settings	DIALING OUT ACC				Helpful Hints
DNS				3	The Dialing Out settings has four groups can setup.
Dynamic DNS	No. Tyj	e Name	Enable		has four groups can setup. Setup the tunnel through PPTP/L2TP Server and
Qo5					PPTP/L2TP Client according to different forms.
VPN		A	bl		
					More
BROADBAND					

Click the **Add** button to create a profile for the VPN connection.

D-I	ink
DVG-21015	SETUP ADVANCED MAINTENANCE STATUS HELP
VoIP Settings	ACCOUNT 1
DNS	The Dialing Out settings has four groups can setup
Dynamic DNS QoS	Account Name: PPTP/L2TP Server and PPTP/L2TP Client accordin
VPN	Type: PPTP V to different forms.
Logout	User Name: More More
	Password: Server IP:
	Use Remote VPN Gateway As The Default Gateway
	Apply Cancel
BROADBAR	UI
Account	Enter an account name for the connection. You can configure
Name	to four accounts for this device.
Туре	Select the VPN type to be IPSec, PPTP, or L2TP from the dr
User Name	down list.
Password	Enter the user name for VPN connection. Enter the password for VPN connection.
Server IP	Enter the server IP for VPN connection and/or check the
	checkbox to use the remote VPN gateway as the default
_	gateway.
Remote	Enter the remote LAN IP for the VPN connection.
LAN IP Remote	Enter the remote LAN mask for the VPN connection.
LAN Mask	Litter the remote LAN mask for the VI N connection.

# Maintenance Sys Con Thes VoIP

	nk				
21015	SETUP	AD¥ANCED	MAINTENANCE	STATUS	HELP
16	CONFIGURATION	rools			Helpful Hints
Control st	use the "Restore" tool to the "Restore to Factory I the original factory settin	restore the saved configurati Defaults" tool to force the Tele Igs.	; current configuration to a file on ion to the Telephone Adapter. Alt aphone Adapter to perform a pow	ernatively, you can use	reboot your VoIP TA or save your VoIP TA configuration to a file on your computer as a precaution in case you have to reset your VoIP TA to factory default
	SYSTEM REBODT Click the reboot button to restart the device and let your new settings take effect! Reboot				settings. You will be able to restore your VoIP TA settings from a previously saved configuration file. There is also a function to allow you to reset your VoIP TA to factory default cothings. Description use
	SYSTEM BACKU Backup VoIP TA configura	ations. You may save your VoI	IP TA configurations to a file on yo	our PC.	settings. Resetting your VoIP TA to factory default settings will erase your current configuration.
	SYSTEM UPDAT	E SETTINGS	Settings		
			A settings using your saved riles.		

### BROADBAND

Reboot	This feature allows you to reboot the device while still keeping its current settings.
Backup Settings	This feature allows you to save the device's current settings as a file on your PC.
Update Settings	This feature allows you to update the device's current configuration with your previously saved files.
Restore Default Settings	This feature allows you to force the device to perform a power reset and restore the original factory default settings.

## Auto Provision

This page allows you to automatically update your VoIP Adapter's configuration by using a TFTP, FTP, HTTP, or HTTPS server located on the Internet. If you have to access such services, you will need to know the IP address of the provisioning server.

D-Li					
DVG-21015	SETUP ADVAN	CED MA	INTENANCE	STATUS	HELP
System	AUTO PROVISION				Helpful Hints
Firmware Update Access Control	Auto Provision:	0		20 M T	Provisioning is a function that automatically updates your VoIP device's
Ping Test	Auco Provision: Protocol:	Only Power Up	💿 Interval 🔘 D	visable	configuration by using a TFTP, FTP, HTTPS or HTTP
Logout	IP:	210 . 33	, 44 , 55		server located on the Internet. If you have access to such service,
	Port:	69 (Optional)			you will need to know the URL or IP address of the Provisioning Server.
	Provision Times: Period:	4 1 Days 0	Hours 0	Minutes	Note: Fill in the parameters
	File:	back0.bak	mours o	Minuces	needed by your VoIP Service Provider. Please
	-17	Apply Canc	3		check with your VoIP Service Provider about the availability of these services.
					1.1.C.
					More
BROADBAND					

Auto Select your provision criteria to be Only Power Up, Interval, or **Provision** Disable.

- **Protocol** Indicate the provision protocol supplied by your ISP from the dropdown list.
- IP Enter the IP address supplied by your ISP for the device to provision.
- **Port** Enter the port number supplied by your ISP for the device to provision. The default port number is 69.

**Provision** Enter the number of times to provision.

## Times

- **Period** Enter the period to provision if you set your provision criteria as Interval.
- File Enter the file name supplied by your ISP for the device to provision.

## SNMP (for SNMP model only)

SNMP (Simple Network Management Protocol) is a protocol allowing network administrators to obtain information and even configure various network devices remotely. A computer attached to the network is called a Network Management Station (NMS). The access rights to the agent are controlled by community strings. To communicate with the VoIP Adapter, the NMS must first submit a valid community string for authentication. This page allows you to configure basic access control, using passwords called community (strings).

D-Li	nk				
DVG-21015	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
System	SNMP				Helpful Hints
Firmware Update				3.	The Simple Network Management Protocol
Access Control		SNMP Version:	1 🕶		(SNMP) from part of the internet protocol suite ad
Ping Test		Read Community:	public		defined by the Internet Engineering Task Force
Logout		Write Community:	private		(IETF). SNMP is used by network management
		Trap Receive Server Trap Community:			systems to monitor network-attached devices
		Trap communicy:			for conditions that warrant administrative attention. It
		Арр	Cancel		consists of a set of standards for network management, including an Application Layer protocol, a database schema, and a set of date objects.
BROADBAND					

Select the SNMP version from the drop-down list. The VoIP Adapter supports both v1 and v2 protocols.
Enter the read community string for authorizing read-only rights.
The default string is public.
Enter the write community string for authorizing read-and-write
rights. The default string is private.
Enter the trap receive server's IP address for the traps to be
sent to this address when errors or specific events occur on the network.
Enter the trap community string for authorizing trap
management rights.

## Log Setting

This page allows you to configure settings to upload logs to a TFTP server and/or download logs to your local drive.

D-Liı					
DVG-21015	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
System	UPLOAD SETTINGS		- 2		Helpful Hints
Firmware Update Access Control Ping Test Logout	□ TFTP Upda	Upload Enable Server IP: te Interval : 0 file Size : 100	Days KB(1KB~200KB)		Use the Log Settings screen to configure to where the VoIP Device is to upload logs; the schedule for when the VoIP Device is to send the logs and which logs and/or immediate the VoIP device is to send.
	DOWNLOAD SETTI	NGS			More
	Log F	ile Type : System Log	Download	]	
		Apply	Cancel		
BROADBAND					

**TFTP Server IP** Enter the IP address of a TFTP server.

**Update Interval** Enter the update interval in day(s).

Max File SizeEnter the maximum file size that can be accepted.Log File TypeSelect the log file type, either System Log or Network

Select the log file type, either System Log or Network Statistics, from the drop-down list to download logs.

# **Firmware Update**

This tool allows you to upgrade this device's firmware locally. This device is also capable of being managed remotely by the service provider.

**Note:** Please contact your Internet Service Provider prior to upgrading your firmware. The update process takes several minutes to complete, and your VoIP Adapter will reboot. Please DO NOT power off your device before the update is complete.

015	SETUP	ADVANCED	MAINTENANCE	STATUS	HELF
	FIRMWARE UPDATE				Helpful Hints
re Update Control	remotely, by the service pr	ovider.	ocally. This device is also capab		Please Note: As is often released a specific issue, recommended th
st	NOTE: Please contact your Setup 1: Obtain an update		, prior to updating your firmwar n your ISP.	e.	no need to upda firmware if you experiencing an concerns or diff
	Setup 2: Enter the path to image file. Setup 3: Click the "Update	-	the box below or click the "Brow o upload the new image file.	ise" button to locate the	the operation of product.
	NOTE: The update process NOT power off the VoIP TA		tes to complete, and your VoIP plete.	TA will reboot. Please DO	More
	SETTINGS				
	Current	Firmware Version : RL	_1.00.392		
	Current	Firmware Date : 20	08-10-23		
	Firmwar	e File Name :		瀏覽	
					_

**Firmware** Enter the path and name, or click the **Browse** button to locate the upgrade file then click the **Update Firmware** button. You will be prompted to confirm the upgrade to complete the process.

# Access Control

Access to your VoIP Adapter is controlled through two user accounts: admin and user. The username "admin" has unrestricted access to change and view the settings of the VoIP Adapter. The username "user" can access the VoIP Adapter, view configuration settings and statistics, and update the VoIP Adapter's software. By default, all passwords are intentionally left as blank. You can change the administrator and common user's passwords respectively in this page. The VoIP Adapter will log you out automatically after the web interface is idle for a period of time. The default idle timeout value is 300 seconds. You can change the time period if necessary.

VG-21018	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
sten	ADMIN PASSWOR	tD			Helpful Hints
mware Update cess Control 19 Test gout	Ne Co	mment Password : mm Password : mmm Password : ession Time : 300	seconds (0-32767, defaul	::300, 0;never)	For security reasons, recommended that y change the Login Nar and Password for the Administrator and Ub accounts. Be sure to down the new Login Names and Password avoid having to reast router in the event th they are forgothem.
	USER PASSWORD	0			
		w Password :			Hore
	1	Apply	Cancel		

Enter the administrator's current login password.
Enter a new password for the administrator to login.
Re-enter the new password for verification.
Enter the session timeout duration (in seconds). The system will disconnect the access rights of the administrator when the session time is up.
Enter a new password for the user to login.
Re-enter the new password for verification.

# Ping Test

The VoIP Adapter allows you to perform a ping test. This feature helps you to diagnose connection problems. If you can ping an IP on the WAN side successfully, you should be able to access the Internet.

D-Liı	n k				
		1			
DVG-21015	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
System	PING TEST				Helpful Hints
Firmware Update Access Control	IP / Do	main :	Ping		These tools can be used verify physical connectivity on both the LAN and WAN interfaces
Ping Test	The result of Ping			~	
Logout					More
BROADBAND					

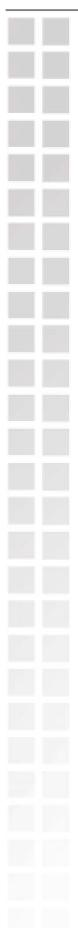
# **IP/Domain** Enter the IP/Domain you want to ping in the field below and then click the **Ping** button.

# **Status**

# **Device Information**

You can use the Device Info screen to view the connection status for the VoIP Adapter's WAN/LAN interfaces, current firmware, and other related information.

VG-21015	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
evice Info	DEVICE INFORMAT	ION		7	Helpful Hints
oIP Status			connection status for this devic		All of your Internet a network connection
DR	interfaces, firmware and ha connected to your network		s well as information on all DHCF	oclient PCs currently	are displayed on the Device Info page. Th
PN Status	SYSTEM INFO	-			firmware version is a displayed here.
etWork Statistic					
rstem Log	Module Name	DVG-21015			More
gout	Serial Number	ES3B177500029			
	WAN MAC	00:1B:11:AA:11:60	c		
	Hardware Version	0.5			
	Kernel Version	3.6.3			
	Ethernet	Disconnect			
	WAN IP	(dhcp)			
	Subnet Mask				
	Gateway				
	Primary DNS	168.95.1.1			
	Secondary DNS	210.208.13.1			
		Release	Renew		



# VoIP Status

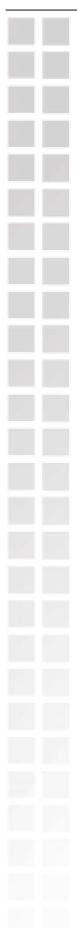
You can use the VoIP Status screen to view the phone port status.

1015	SETUP		ADVANCED	MAINTENANCE		5TATUS	HELP
: Info	PHONE POR	RT STATUS					Helpful Hints
itatus tatus	No. Displa		Proxy Stat	us Remote Host	Start	Elapsed	You can use the Vo Status screen to so various phone port
ork Statistic							More
n Log	VOIP STAT	ISTICS					
t	Port ID	Send(Pack	ets) Rece	ive(Packets)	Lost(Pac	(ets)	
	Port1	0	0		0		
		II.					

# CDR Status

You can use the CDR (Call Detail Record) Status screen to view the call history records of incoming and outgoing calls. It stores up to 100 records.

VoIP Status	CDR	цет							
VoIP Status	CDR						-		Helpful Hints
CDR		6101							Call Detail Record feature
	Port:	1 🕶							provides history record of incoming and outgoing
VPN Status	Fir	st Page	Last Page	Previo	ous Next				calls. It stores up to 100 records.
NetWork Statistic	Page	1 of 1		_					
System Log	No.	Display Name	Phone No.	Direction	Proxy/Remote Host	Remote Phone No.	Start Time	Duration	More
Logout	1	0702	0702	Outgoing	iptel.org	1234	2007-08-03 22:13:23	00:00:05	
	2	0702	0702	Outgoing	iptel.org	1234	2007-08-03 22:04:07	00:00:51	
	3	0702	0702	Outgoing	iptel.org	1234	2007-08-03 22:03:32	00:00:07	
	4	0702	0702	Outgoing	iptel.org	1234	2007-08-03 22:03:11	00:00:13	



You can use the VPN Status screen to view the VPN connection status.

D-Li	nk						
DVG-21015	SETUP	AC	VANCED	MAINTENA	NCE	STATUS	HELP
Device Info	VPN MANAGEN	1ENT					Helpful Hints
VoIP Status	The VPN manageme	nt screen allows	you to check the V	PN status and to dia	al or to drop VPN	l connections.	Can see the situation of Dial Out through VPN
CDR	DIAL OUT		20		746		Management.
VPN Status NetWork Statistic							More
System Log	Name Type	Client IP	Server IP	UpTime	Status		Plore
Logout						181	
BROADBAND							

# **Network Status**

You can use the Network Status screen to view the routing table, VoIP and network statistics to observe the current network conditions.

	SETUP	ADVANCED	MAINTENAN	ICE	STATUS	не
NE	TWORK STA	ATUS				Helpful Hint
		twork Status screen to see the ro	uting table, and the net	work statistics re	port to realize the	This is a list of VoIP device's r
cur	rent network cor	nditions.				table.
	DUTING TAB	LE				
to	play the routing i a remote networl	information this device uses to ch	oose the interface/gate	way when delive	ering the datagram	More
	a remote networ	<b>F</b>				
10	Flags	Network Destination	Netmask	Gateway	Interface	
	Ú	192.168.1.0	255.255.255.0	0.0.0.0	WAN	
Vie	WORK STA w all active TCP of First Page age 1 of 7	ATISITES conections and the TCP and UDP Last Page Previous	ports on whiche the dev	vice is listening.		
Vie Pa	w all active TCP o	conections and the TCP and UDP		vice is listening,		
Vie Pa	w all active TCP o First Page age 1 of 7	conections and the TCP and UDP Last Page Previous	Next	vice is listening.		
Vie Pa	w all active TCP o First Page age 1 of 7 Protocol	conections and the TCP and UDP Last Page Previous Message	Next	vice is listening.		
Vie Pa 1 1	w all active TCP o First Page age 1 of 7 Protocol	conections and the TCP and UDP Last Page Previous Message 1521 total packets received	Next	vice is listening.		
Vie Pe 1 1	w all active TCP o First Page age 1 of 7 Protocol Ip	Conections and the TCP and UDP Last Page Previous Message 1521 total packets received 0 forwarded	) Next	vice is listening.		
Vie Pa 1 1 1	w all active TCP ( First Page age 1 of 7 Protocol Ip Ip	Conections and the TCP and UDP Last Page Previous Message 1521 total packets received 0 forwarded 0 incoming packets discarded	) Next	vice is listening.		
Vie Pa 1 1 1 1	w all active TCP ( First Page age 1 of 7 Protocol IP IP IP	Conections and the TCP and UDP     Last Page     Previous     Message     1521 total packets received     0 forwarded     0 incoming packets discarde     234 incoming packets delivered	Next d	vice is listening.		
Vie Pe 1 1 1 1 1 1 1 1	w all active TCP ( First Page age 1 of 7 Protocol Ip Ip Ip	Message 1521 total packets received 0 forwarded 0 incoming packets delive 670 requests sent out	Next d	vice is listening.		
Vie Pe 1 1 1 1 1 1 1 1 1	w all active TCP ( First Page age 1 of 7 Protocol Ip Ip Ip Ip Ip Ip	Message Previous Missage 0 forwarded 0 forwarded 0 incoming packets delive 234 incoming packets sent out 17 dropped because of miss	Next d red ing route	vice is listening.		
Vie Pr 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	w all active TCP of First Page age 1 of 7 Protocol Ip Ip Ip Ip Ip Ip Ip Ip Ip Ip	Conections and the TCP and UDP     Last Page Previous     Message     1521 total packets received     0 forwarded     0 incoming packets discarde     234 incoming packets delive     670 requests sent out     17 dropped because of miss     0 ICMP messages received	Next d red ing route	vice is listening.		

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**System Log** You can view all the records of events that have occurred on the VoIP Adapter.

D-Li	10 <b>1</b> /2					
DVG-21015	SETUP	AI	DVANCED	MAINTENANCE	STATUS	HELP
Device Info	VIEW LOG					Helpful Hints
VoIP Status	View any attempts th	nat have been r	made to gain access t	o your network		Display the captured log messages of the D-Link
CDR	LOG FILES					VoIP device activities, these captured log
VPN Status						messages might be useful for trouble shooting and
NetWork Statistic	First Page Page 1 of 1	Last Page	Previous	Next		monitoring.
Logout	Date/Time	Severity		Message		More
	Aug 18 04:30:45	info	spawned CGI proc	ess 1184 for file 'cgi-bin/Status	; SecurityLog.cgi	
	Aug 18 04:25:58	info	1	ess 1176 for file 'cgi-bin/Status		
	Aug 18 04:25:47	info	spawned CGI proc	ess 1168 for file 'cgi-bin/Status	 _NetWork.cgi	
	Aug 18 04:25:39	info	spawned CGI proc	ess 1160 for file 'cgi-bin/Status	_NetWork.cgi	
BROADBAND						

# Help

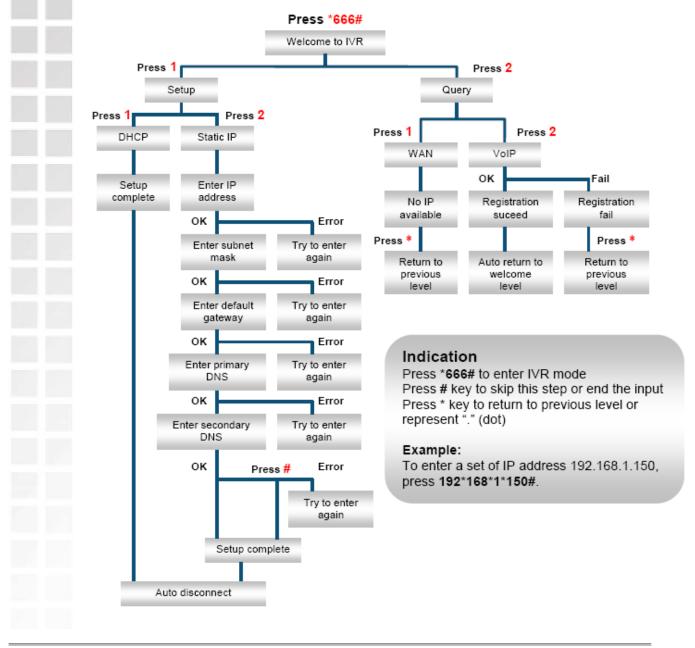
# **Help Menu**

This help menu provides some information to help you know more details about the VoIP Adapter. Select the item which you want to view to display the description.

-21015	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
u	HELP MENU				
р	<u>Setup</u> <u>Advanced</u>				
anced tenance	Maintenance     Status				
us					
	SETUP HELP				
	• <u>Wizard</u>				
	Internet Setu     O Conn     O MAC	p ection Type Address Clone			
	VoIP Setup	Routing			
	O <u>SIP A</u> O <u>Phone</u>	<u>e Book</u>			
	<u>Time and Date</u>	<u>e</u>			
	ADVANCED HEL				
	VoIP Settings     O <u>Call F</u> O <u>SIP 5</u>	eature			
		Plan			
	O <u>Dial P</u> O <u>Code</u>	refix c			
	DNS     Dynamic DNS				
	Qos     VPN				
	MAINTENANCE I	HELP			
	System				
	o <u>Confi</u> o <u>Auto</u> o <u>SNMP</u>	Provision			
	<ul> <li>Log S</li> <li>Firmware Upd</li> </ul>	ietting late			
	Access Contro     Ping Test	ols			
	STATUS HELP				
	Device Info				
	VoIP Status     CDR     VPN Status				
	Network Statu     System Log	<u>JS</u>			
	Service and				

# **Configuration through IVR**

The VoIP Adapter provides a convenient IVR (Interactive Voice Response) function to help you query and configure the basic settings of the VoIP Adapter with a phone and without turning on a PC. To access IVR mode, plug a phone into the VoIP Adapter and then pick up the handset and press \* (star) 666 # (pound). You will hear voice instructions through the handset. Follow the system's instructions to set up or query the VoIP Adapter's settings. To exit IVR mode, simply hang up the phone. The IVR function only supports DHCP and Static mode configuration, other connection types need to be done via the web configuration interface. If you pick up the handset and can not hear a tone or press \*666# without IVR response, please press the Reset button for 1-2 seconds and try again. Please refer to the Rear Panel diagram on page 5 of this manual for the Reset button location.



D-Link Systems, Inc.

# **Frequently Asked Questions**

## Q: Why can't I access the web-based configuration utility?

**A:** When entering the IP address of the VoIP Adapter (192.168.1.150), you are not connecting to a website on the Internet and don't have to be connected to the Internet. The device has the utility built into a ROM chip in the device itself. Your computer must be on the same IP subnet to connect to the web-based utility.

- Make sure you have an updated Java-enabled web browser. We recommend the following:
  - Internet Explorer 6.0 or higher
  - Netscape 8 or higher
  - Mozilla 1.7.12 (5.0) or higher
  - Opera 8.5 or higher
  - Safari 1.2 or higher (with Java 1.3.1 or higher)
  - Camino 0.8.4 or higher
  - Firefox 1.5 or higher
- Verify physical connectivity by checking for solid link lights on the device. If you do not get a solid link light, try using a different cable or connect to a different port on the device if possible. If the computer is turned off, the link light may not be on.
- Disable any Internet security software running on the computer. Software firewalls such as Zone Alarm, Black Ice, Sygate, Norton Personal Firewall, and Windows<sup>®</sup> XP firewall may block access to the configuration pages.
- Configure your Internet settings:
  - Go to Start > Settings > Control Panel. Double-click the Internet Options Icon. From the Security tab, click the button to restore the settings to their defaults.
  - Click the Connection tab and set the dial-up option to Never Dial a Connection. Click the LAN Settings button. Make sure nothing is checked. Click OK.
  - Go to the **Advanced** tab and click the button to restore these settings to their defaults. Click **OK** three times.
  - Close your web browser (if open) and open it.
- Access the web-based utility. Open your web browser and enter the IP address of your DVG-2101S in the address bar. This should open the login page for the web-based utility.
- If you still cannot access the configuration, unplug the power to the VoIP Adapter for 10 seconds and plug it back in. Wait about 1 minute and try accessing the configuration. If you have multiple computers, try connecting using a different computer.

## Q: What can I do if I forgot my password?

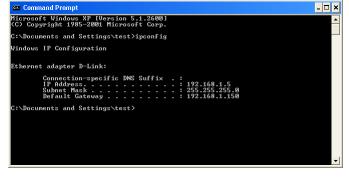
**A:** If you forgot your password, you must reset your VoIP Adapter. Unfortunately this process will change all of your settings back to the factory defaults.

To reset the VoIP Adapter, locate the reset button on the rear panel of the unit. With the VoIP Adapter powered on, use a paperclip to hold the button down for 10 seconds. Release the button and the VoIP Adapter will go through its reboot process. Wait about 1 minute to access the VoIP Adapter. The default IP address is 192.168.1.150. When logging in, the username is admin and leave the password box empty.

## Q: How can I check if my IP address is correct for logging in?

A: After you install your DVG-2101S, by default, the TCP/IP settings should be set to obtain an IP address from a DHCP server automatically. To verify your IP address, please follow the steps below. Click on Start > Run. In the

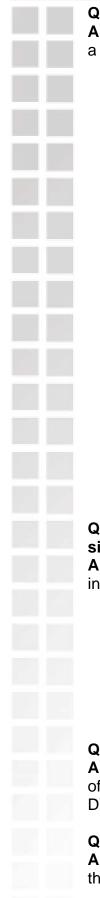
run box type **cmd** and click **OK**. At the prompt, type **ipconfig** and press **Enter**.



This will display the IP address, subnet mask, and the default gateway of your adapter.

If the address is 0.0.0.0, check your adapter installation, security settings, and the settings on your Adapter. Some firewall software programs may block a DHCP request on newly installed adapters.

If you are connecting to a wireless network at a hotspot (e.g. hotel, coffee shop, airport), please contact an employee or administrator to verify their wireless network settings.



## Q: How can I set my computer to use a static IP address?

**A:** If you are not using a DHCP capable gateway/router, or you need to assign a static IP address, please follow the steps below:

- Windows<sup>®</sup> XP: Click on Start > Control Panel > Network Connections. Windows<sup>®</sup> 2000: From the desktop, right-click My Network Places >
- Properties.
  2. Right-click on the Local Area Connection which represents your network adapter and select Properties.
- 3. Highlight Internet Protocol (TCP/IP) and click Properties.
- Click Use the following IP address and enter an IP address that is on the same subnet as your network or the LAN IP address on your Adapter.

	automatically if your network supports ed to ask your network administrator for	
he appropriate IP settings.		
Obtain an IP address automatically ③ Use the following IP address:		
Subnet mask:	255 . 255 . 255 . 0	
Default gateway:	192.168.8.1	
Obtain DNS server address automatically		
Use the following DNS server addresses:		
Preferred DNS server:	192.168.8.1	
Alternate DNS server:		
	Advanced	

Example: If the Adapter's LAN IP address is 192.168.1.150, make your IP address 192.168.1.x where x is a number between 1 and 254 but except (192.168.1.1 for example). Make sure that the number you choose is not in use on the network. Set **Default Gateway** the same as the LAN IP address of your DVG-2101S (192.168.1.150).

5. Click **OK** twice to save your settings.

# Q: I get a dial tone, but when I dial any phone number I receive a busy signal.

**A:** The unit may not have been properly configured with the correct account information in the web-based utility.

- 1. Access the web-based utility by entering the IP address: 192.168.1.150 in the Address bar.
- 2. Select the **Setup** tab and click the **SIP Account List** submenu.
- 3. Enter the account information provided by your VoIP service provider, including Display Name, User Name, Authentication Name, Password, Proxy Server (if applicable), Outbound Proxy Server (if applicable), etc.

## Q: After setting up the DVG-2101S, I cannot access the Internet.

**A:** Make sure that the Ethernet cable from the PC is plugged into the LAN port of broadband modem or router after you finish the configuration of the DVG-2101S.

## Q: Can I use my DVG-2101S on a MGCP network?

**A:** No, DVG-2101S is a SIP device and uses the SIP protocol in handling all of the telephony elements.

# **Technical Specifications**

Call Control Protocols Compliance Voice Compression Analog Voice Ports	SIP2 (RFC3261) SIP1 (RFC2543) G.711 a/u-law, G.726, G.729A/B, G.723.1 Loop-Start FXS interface DTMF tone detection/generation V.21/V.25 Modem/Fax tone detection Echo Cancellation: G.168
Ethernet Ports	WAN: 10/100 Auto MDI/MDI-X Ethernet port IEEE 802.3 10BASE-T Ethernet compliant IEEE 802.3u 100BASE-TX Fast Ethernet compliant
Quality of Service	Voice service is prioritized over the data traffic (When unit is connected directly to the modem)
Network Protocols	Will route all standard protocols DHCP: Dynamic Host Configuration Protocol server and client NAT: Network Address Translation PPPoE: PPP over Ethernet Client
Network Management	Manage functions through a web-based configuration interface
LEDs	Power, Provision, Register, WAN and Phone
Dimensions	3.5" x 3" x 1.875" (W x D x H)
Number of Ports	One Ethernet port (WAN)
	One FXS RJ-11 port (Phone)
Power Supply	DC Input: 12VDC/1.5A
Operating Temperature	
Storage Temperature	-10-55°C
Humidity Sefety	5% - 95% non-condensing C-Tick/CUL
Safety	FCC Class B
Emission (EMI)	CE Class B

# **Contacting Technical Support**

You can find software updates and user documentation on the D-Link website. D-Link provides free technical support for customers within the United States and within Canada for the duration of the warranty period on this product. U.S. and Canadian customers can contact D-Link technical support through our web site, or by phone.

## Technical Support for customers within the United States:

D-Link Technical Support over the Telephone: (877) 453-5465 24 hours a day, seven days a week. D-Link Technical Support over the Internet: http://support.dlink.com email:support@dlink.com

## Technical Support for customers within Canada:

D-Link Technical Support over the Telephone: (800) 361-5265 Monday to Friday 7:30am to 9:00am EST D-Link Technical Support over the Internet: http://support.dlink.ca email:support@dlink.ca

When contacting technical support, please provide the following information:

- Serial number of the unit
- Model number or product name
- Software type and version number

# Warranty

Subject to the terms and conditions set forth herein, D-Link Systems, Inc. ("D-Link") provides this Limited warranty for its product only to the person or entity that originally purchased the product from:

- D-Link or its authorized reseller or distributor and
- Products purchased and delivered within the fifty states of the United States, the District of Columbia, U.S. Possessions or Protectorates, U.S. Military Installations, addresses with an APO or FPO.

**Limited Warranty:** D-Link warrants that the hardware portion of the D-Link products described below will be free from material defects in workmanship and materials from the date of original retail purchase of the product, for the period set forth below applicable to the product type ("Warranty Period"), except as otherwise stated herein.

1-Year Limited Warranty for the Product(s) is defined as follows:

- Hardware (excluding power supplies and fans) One (1) Year
- Power Supplies and Fans One (1) Year
- Spare parts and spare kits Ninety (90) days

D-Link's sole obligation shall be to repair or replace the defective Hardware during the Warranty Period at no charge to the original owner or to refund at D-Link's sole discretion. Such repair or replacement will be rendered by D-Link at an Authorized D-Link Service Office. The replacement Hardware need not be new or have an identical make, model or part. D-Link may in its sole discretion replace the defective Hardware (or any part thereof) with any reconditioned product that D-Link reasonably determines is substantially equivalent (or superior) in all material respects to the defective Hardware. Repaired or replacement Hardware will be warranted for the remainder of the original Warranty Period from the date of original retail purchase. If a material defect is incapable of correction, or if D-Link determines in its sole discretion that it is not practical to repair or replace the defective Hardware, the price paid by the original purchaser for the defective Hardware (or part thereof) that is replaced by D-Link, or for which the purchase price is refunded, shall become the property of D-Link upon replacement or refund.

Limited Software Warranty: D-Link warrants that the software portion of the product ("Software") will substantially conform to D-Link's then current functional specifications for the Software, as set forth in the applicable documentation, from the date of original retail purchase of the Software for a period of ninety (90) days ("Warranty Period"), provided that the Software is properly installed on approved hardware and operated as contemplated in its documentation. D-Link further warrants that, during the Warranty Period, the magnetic media on which D-Link delivers the Software will be free of physical defects. D-Link's sole obligation shall be to replace the non-conforming Software (or defective media) with software that substantially conforms to D-Link's functional specifications for the Software or to refund at D-Link's sole discretion. Except as otherwise agreed by D-Link in writing, the replacement Software is provided only to the original licensee, and is subject to the terms and conditions of the license granted by D-Link for the Software. Software will be warranted for the remainder of the original Warranty Period from the date or original retail purchase. If a material non-conformance is incapable of correction, or if D-Link determines in its sole discretion that it is not practical to replace the nonconforming Software, the price paid by the original licensee for the non-conforming Software will be refunded by D-Link; provided that the non-conforming Software (and all copies thereof) is first returned to D-Link. The license granted respecting any Software for which a refund is given automatically terminates.

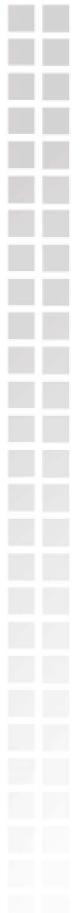
**Non-Applicability of Warranty:** The Limited Warranty provided hereunder for hardware and software of DLink's products will not be applied to and does not cover any refurbished product and any product purchased through the inventory clearance or liquidation sale or other sales in which D-Link, the sellers, or the liquidators expressly disclaim their warranty obligation pertaining to the product and in that case, the product is being sold "As-Is" without any warranty whatsoever including, without limitation, the Limited Warranty as described herein, notwithstanding anything stated herein to the contrary.

**Submitting A Claim:** The customer shall return the product to the original purchase point based on its return policy. In case the return policy period has expired and the product is within warranty, the customer shall submit a claim to D-Link as outlined below:

- The customer must submit with the product as part of the claim a written description of the Hardware defect or Software nonconformance in sufficient detail to allow D-Link to confirm the same.
- The original product owner must obtain a Return Material Authorization ("RMA") number from the Authorized D-Link Service Office and, if requested, provide written proof of purchase of the product (such as a copy of the dated purchase invoice for the product) before the warranty service is provided.
- After an RMA number is issued, the defective product must be packaged securely in the
  original or other suitable shipping package to ensure that it will not be damaged in transit,
  and the RMA number must be prominently marked on the outside of the package. Do not
  include any manuals or accessories in the shipping package. D-Link will only replace the
  defective portion of the Product and will not ship back any accessories.
- The customer is responsible for all in-bound shipping charges to D-Link. No Cash on Delivery ("COD") is allowed. Products sent COD will either be rejected by D-Link or become the property of D-Link. Products shall be fully insured by the customer. D-Link will not be held responsible for any packages that are lost in transit to D-Link. The repaired or replaced packages will be shipped to the customer via UPS Ground or any common carrier selected by D-Link, with shipping charges prepaid. Expedited shipping is available if shipping charges are prepaid by the customer and upon request.
- Return Merchandise Ship-To Address USA: 17595 Mt. Herrmann, Fountain Valley, CA 92708 Canada: 2180 Winston Park Drive, Oakville, ON, L6H 5W1 (Visit http://www.dlink.ca for detailed warranty information within Canada)

D-Link may reject or return any product that is not packaged and shipped in strict compliance with the foregoing requirements, or for which an RMA number is not visible from the outside of the package. The product owner agrees to pay D-Link's reasonable handling and return shipping charges for any product that is not packaged and shipped in accordance with the foregoing requirements, or that is determined by D-link not to be defective or non-conforming.

What Is Not Covered: This limited warranty provided by D-Link does not cover: Products, if in D-Link's judgment, have been subjected to abuse, accident, alteration, modification, tampering, negligence, misuse, faulty installation, lack of reasonable care, repair or service in any way that is not contemplated in the documentation for the product, or if the model or serial number has been altered, tampered with, defaced or removed; Initial installation, installation and removal of the product for repair, and shipping costs; Operational adjustments covered in the operating manual for the product, and normal maintenance; Damage that occurs in shipment, due to act of God, failures due to power surge, and cosmetic damage; Any hardware, software, firmware or other products or services provided by anyone other than D-Link; Products that have been purchased from inventory clearance or liquidation sales or other sales in which D-Link, the sellers, or the liquidators expressly disclaim their warranty obligation pertaining to the product. Repair by anyone other than D-Link Service Office will void this Warranty.



Disclaimer of Other Warranties: EXCEPT FOR THE LIMITED WARRANTY SPECIFIED HEREIN. THE PRODUCT IS PROVIDED "AS-IS" WITHOUT ANY WARRANTY OF ANY KIND WHATSOEVER INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT. IF ANY IMPLIED WARRANTY CANNOT BE DISCLAIMED IN ANY TERRITORY WHERE A PRODUCT IS SOLD. THE DURATION OF SUCH IMPLIED WARRANTY SHALL BE LIMITED TO NINETY (90) DAYS. EXCEPT AS EXPRESSLY COVERED UNDER THE LIMITED WARRANTY PROVIDED HEREIN, THE ENTIRE RISK AS TO THE QUALITY, SELECTION AND PERFORMANCE OF THE PRODUCT IS WITH THE PURCHASER OF THE PRODUCT. Limitation of Liability: TO THE MAXIMUM EXTENT PERMITTED BY LAW, D-LINK IS NOT LIABLE UNDER ANY CONTRACT, NEGLIGENCE, STRICT LIABILITY OR OTHER LEGAL OR EQUITABLE THEORY FOR ANY LOSS OF USE OF THE PRODUCT, INCONVENIENCE OR DAMAGES OF ANY CHARACTER, WHETHER DIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL (INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF GOODWILL, LOSS OF REVENUE OR PROFIT, WORK STOPPAGE, COMPUTER FAILURE OR MALFUNCTION, FAILURE OF OTHER EQUIPMENT OR COMPUTER PROGRAMS TO WHICH D-LINK'S PRODUCT IS CONNECTED WITH, LOSS OF INFORMATION OR DATA CONTAINED IN, STORED ON, OR INTEGRATED WITH ANY PRODUCT RETURNED TO D-LINK FOR WARRANTY SERVICE) RESULTING FROM THE USE OF THE PRODUCT, RELATING TO WARRANTY SERVICE, OR ARISING OUT OF ANY BREACH OF THIS LIMITED WARRANTY, EVEN IF D-LINK HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. THE SOLE REMEDY FOR A BREACH OF THE FOREGOING LIMITED WARRANTY IS REPAIR, REPLACEMENT OR REFUND OF THE DEFECTIVE OR NON-CONFORMING PRODUCT. THE MAXIMUM LIABILITY OF D-LINK UNDER THIS WARRANTY IS LIMITED TO THE PURCHASE PRICE OF THE PRODUCT COVERED BY THE WARRANTY. THE FOREGOING EXPRESS WRITTEN WARRANTIES AND REMEDIES ARE EXCLUSIVE AND ARE IN LIEU OF ANY OTHER WARRANTIES OR REMEDIES. EXPRESS. IMPLIED OR STATUTORY.

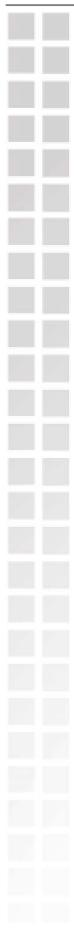
**Governing Law:** This Limited Warranty shall be governed by the laws of the State of California. Some states do not allow exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the foregoing limitations and exclusions may not apply. This limited warranty provides specific legal rights and the product owner may also have other rights which vary from state to state.

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**CE Mark Warning:** This is a Class B product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.



**FCC Statement:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communication. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

## FCC Caution:

The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment; such modifications could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

## **IMPORTANT NOTE:**

## FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

# Registration



Product registration is entirely voluntary and failure to complete or return this form will not diminish your warranty rights.