



# **Manual**

Version 1.0

DVG-2001S

## **VoIP Terminal Adapter**

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# Package Contents



## Your DVG-2001S purchase includes the following:

- D-Link DVG-2001S VoIP Terminal Adapter
- Ethernet Cable
- 12V DV 1.2A Power Adapter
- Manual and Warranty on CD
- Quick Installation Guide

## System Requirements for Configuration:

- A computer or laptop with an Ethernet adapter. We recommend that you use an Ethernet connection to configure the DVG-2001S.
- A current web-browser (e.g., Internet Explorer 6.0 or Netscape Navigator 7.0 or later) for configuration

# Introduction

D-Link®, an industry leader in networking, introduces DVG-2001S VoIP Telephone Terminal Adapter for the home environment. The DVG-2001S converts any existing analog (cord or cordless) telephone into an IP Phone. Also by plugging in a FAX machine, the DVG-2001S will enable users to send and receive fax the same way as a traditional analog telephone line.

The DVG-2001S supports the SIP protocol, which is the widely deployed by VoIP providers on the market. It also supports the most popular audio CODECs to ensure compatibility and voice quality.

The DVG-2001S comes with one FXS port to connect to the existing analog telephone and one Fast Ethernet (10/100) port to connect to the broadband router.

With a built-in secured provisioning feature, VoIP service providers can configure service settings such as a server address, CODEC and STUN settings via HTTPS/TFTP directly to the DVG-2001S.

For additional security, all of the configuration settings are encrypted. Only the VoIP service providers/resellers with the authenticated password and user name can access it.

The DVG-2001S features both the VAD (Voice Activity Detection) and CNG (Comfort Noise Consumption) to reduce the bandwidth consumption and to sustain voice quality.

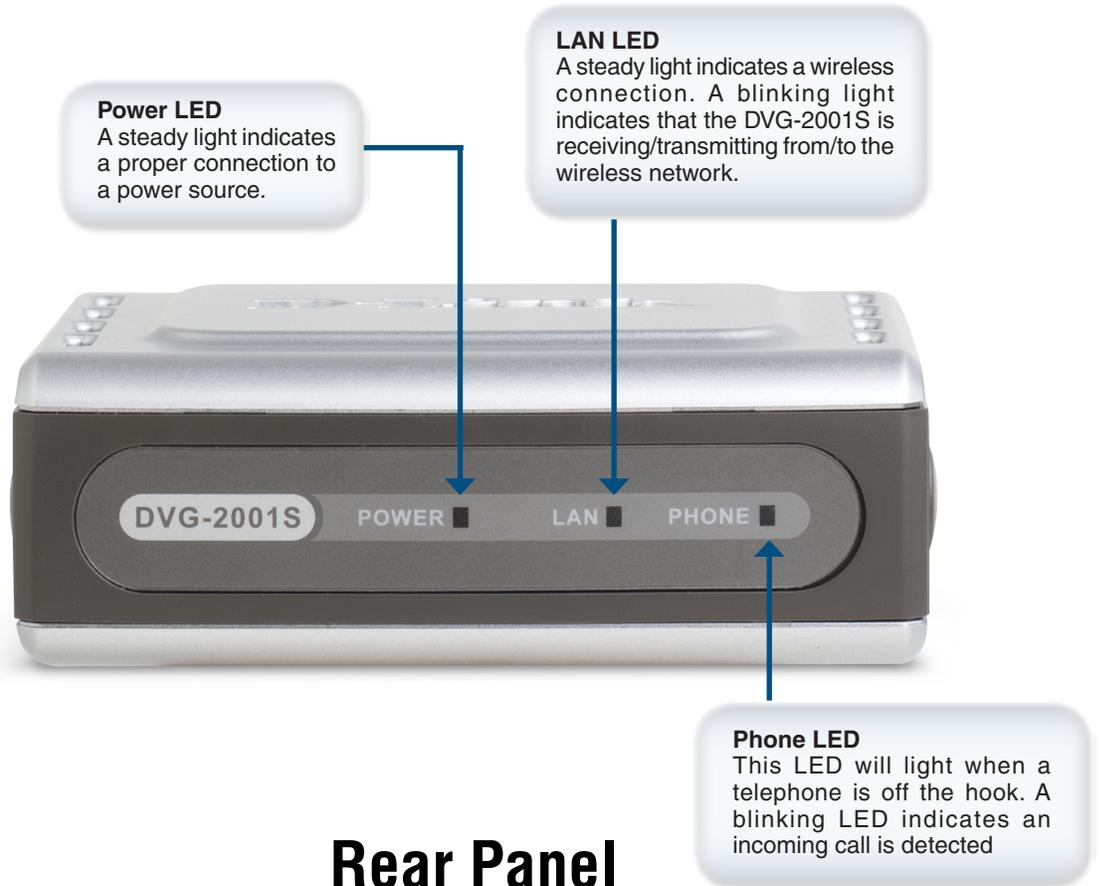
The DVG-2001S has a built-in QoS setting to provide voice priority in IP networks and prevent dropped calls. By delivering a consistent quality of service, resellers will avoid having frustrated customers from switching to another VoIP service provider.

The DVG-2001S is the ideal VoIP adapter solution that will help VoIP service providers or resellers with all of the required attributes to grow and retain customers by delivering a robust and consistent VoIP solution.

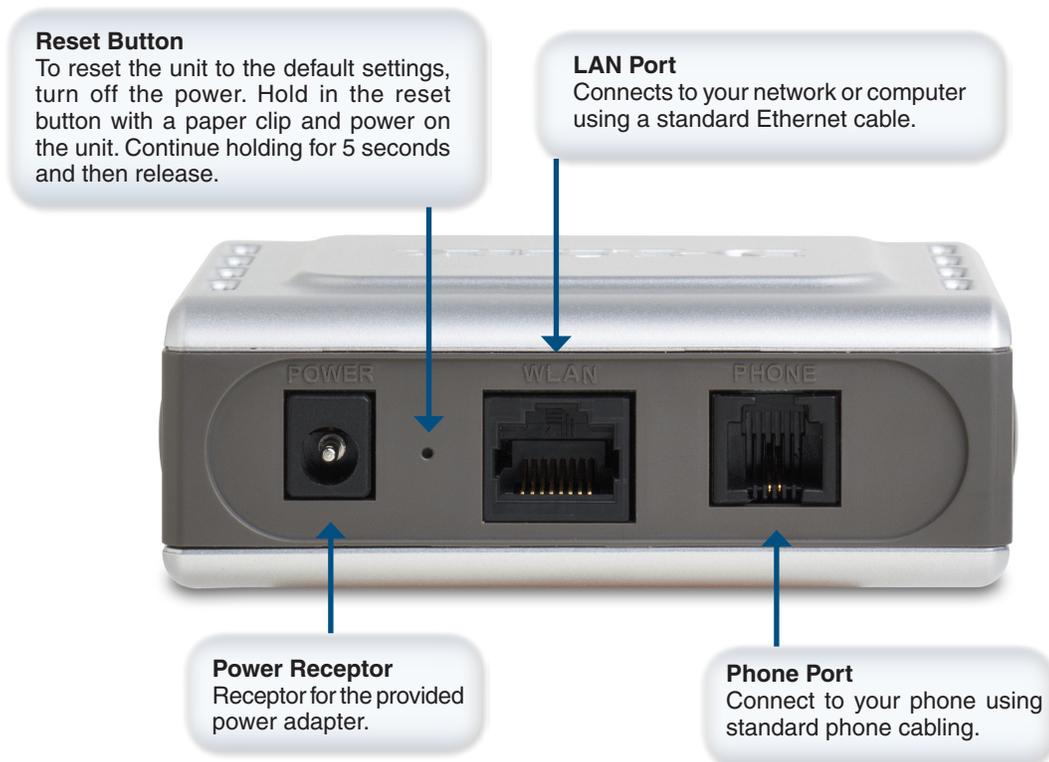
# Features

- 1 Foreign Exchange Subscriber (FXS) POTS port (RJ-11 Jack)
- 1 NWay 10/100BASE-TX Fast Ethernet port for network connection
- Voice Activity Detection (VAD)/Comfort Noise Generation (CNG)
- Silence suppression to reduce bandwidth consumption
- Adaptive jitter buffer for smooth voice reception
- Lost packet recovery ability for improved voice quality
- Support QoS (Quality of Service) for voice quality guarantee
- IP address assignment using DHCP or static configuration
- Support Caller ID function
- Remote configuration and management over the Internet using web browsers

# Front Panel



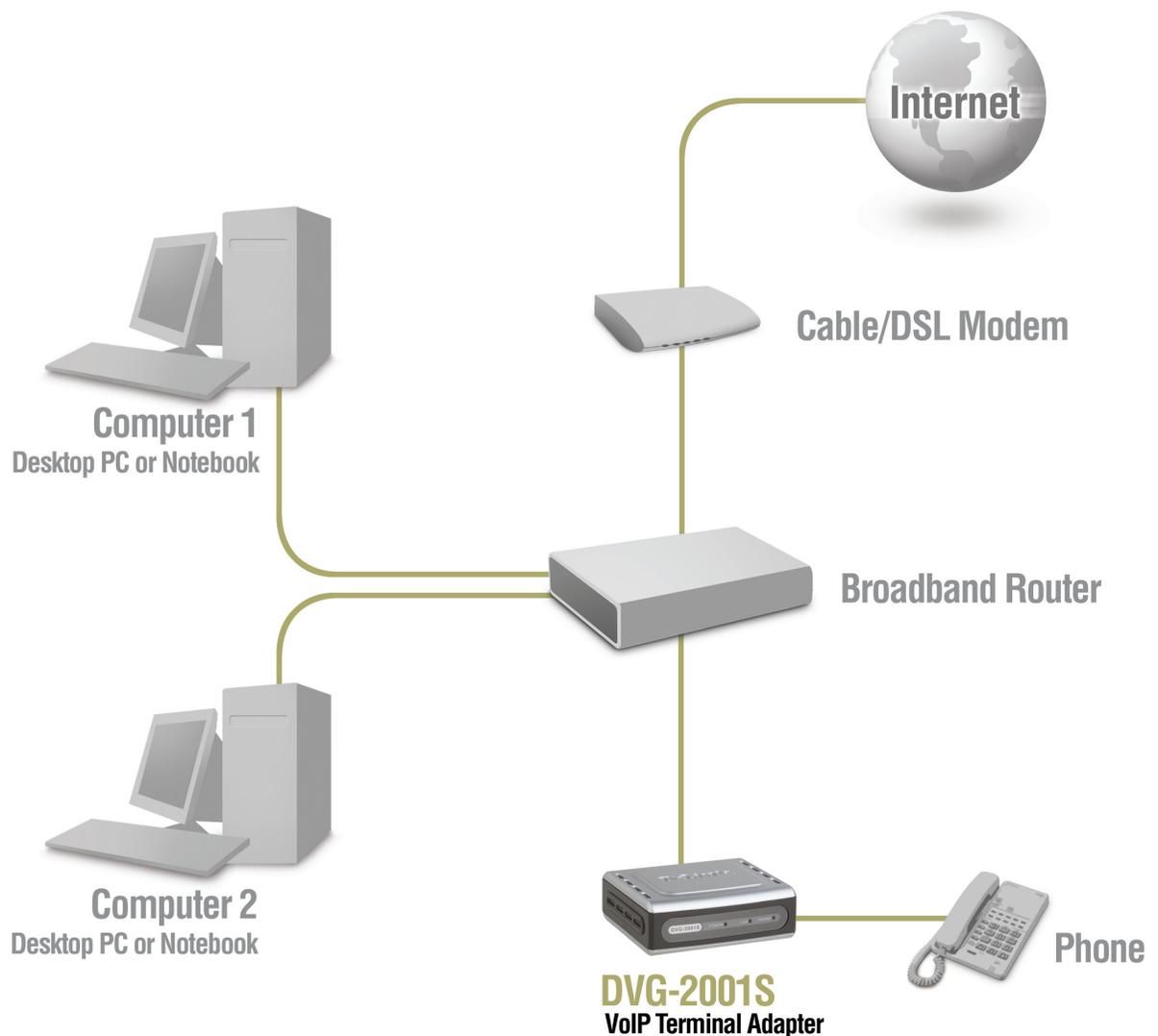
# Rear Panel



The Ethernet Port (LAN) is auto MDI/MDIX, meaning you can use either a straight-through or a crossover Ethernet cable.

# Network Overview

Once you've completed your DVG-2001S installation, your network may appear similar to the diagram below.



**Note that an electrical power outage or a broadband provider outage will prevent operation of the VoIP phone, including for emergency purposes (e.g. calling 911).**

# Using the Configuration Utility

If you are going to connect the DVG-2001 to a D-Link router using the default LAN IP address (192.168.0.1), or to an existing network with a network IP of 192.168.0.xxx, plug the DVG-2001 into the router using an Ethernet cable and skip to the last step below. The default IP address of the DVG-2001 is 192.168.0.80.

If you are setting up the DVG-2001S for the first time, you will need to connect the unit directly to a computer for configuration.

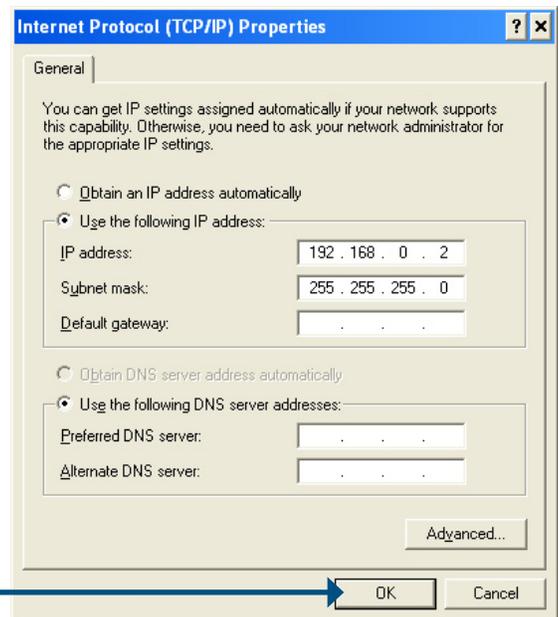
Insert one end of the Ethernet cable into the Ethernet (LAN) port on the back panel of the DVG-2001S and the other end of the cable to an Ethernet adapter on your computer.

Connect the power adapter to the power input at the back panel of the VoIP Adapter and then plug the other end of the power adapter to a wall outlet or power strip. On the front of the device, the Power LED will turn ON to indicate proper operation.

**Windows 2000/XP:** Go to **Start** > right-click **My Network Places** > select **Properties** > Right-click **Local Area Connection** > select **Properties** > double-click **Internet Protocol (TCP/IP)**. Remember your original settings since you will change them back when completing the configuration.

Set your PC's IP address to 192.168.0.2 and the subnet mask to 255.255.255.0. The default gateway and primary DNS server IP addresses can be left blank at this time.

Click **OK**.



To access the web-based configuration utility, open a web browser such as Internet Explorer and enter the IP address of the DVG-2001S.

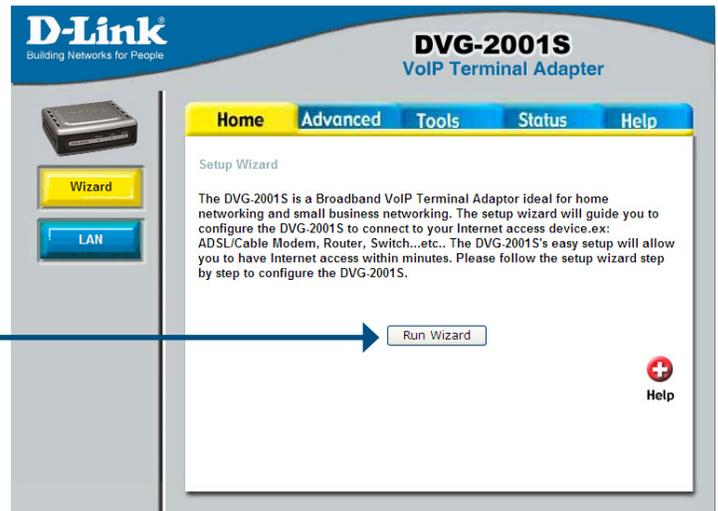
Open a web browser and type in the IP address of the DVG-2001S.



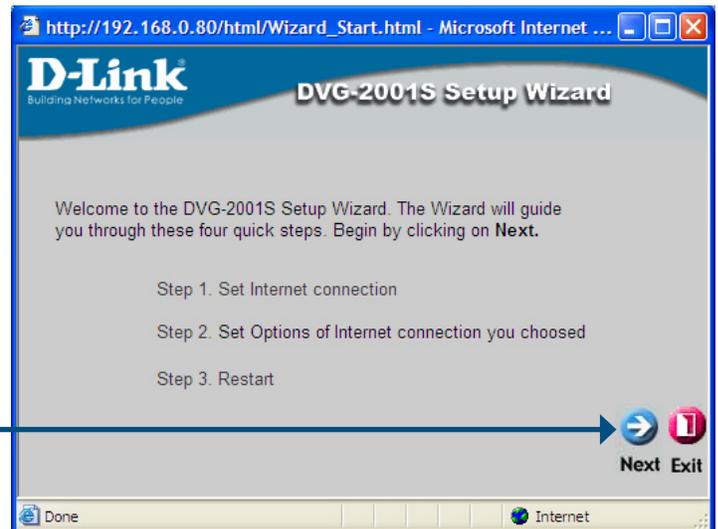
*Note: if you have changed the default IP address assigned to the DVG-2001S, make sure to enter the correct IP address.*

# Using the Configuration Utility (continued)

Click on **Run Wizard.**

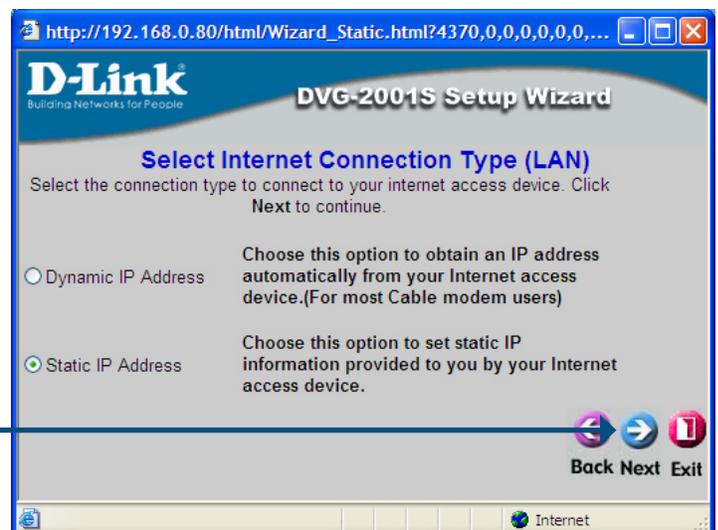


Click **Next.**



Select to use a dynamic IP address (assigned by your DHCP server) or a Static IP address (recommended).

Click **Next.**



## Using the Configuration Utility (continued)

If you selected Static, enter the IP address, subnet mask, default gateway, and DNS server(s). The default gateway and primary DNS server must be the (LAN) IP address of your router.

http://192.168.0.80/html/Wizard\_IpAddr.html?4361,0,0,0,0,0,0...

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**DVG-2001S Setup Wizard**

**Set Static IP Address**

Enter in the static IP information provided to you by your internet access device. Click **Next** to continue.

LAN IP Address	192	168	0	80
LAN Subnet Mask	255	255	255	0
LAN Gateway Address	192	168	0	1
Primary DNS Address	0	0	0	0
Secondary DNS Address	0	0	0	0

(optional)

Back Next Exit

javascript:onClickNext()

Internet

Click **Next**.

Setup is finished. Click **Restart** to reboot the DVG-2001S. If you have selected Dynamic, the DVG-2001 will obtain an IP address from your DHCP server. You must use the new IP address to access the web based configuration utility on the DVG-2001.

http://192.168.0.80/html/Wizard\_Finish\_Static.html?5121,0,0,0,0,0,0...

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**DVG-2001S Setup Wizard**

**Setup Completed**

The Setup Wizard has completed. Click on **Back** to modify changes or mistakes. Click **Restart** to save the current settings and reboot the DVG-2001S

Back Restart Exit

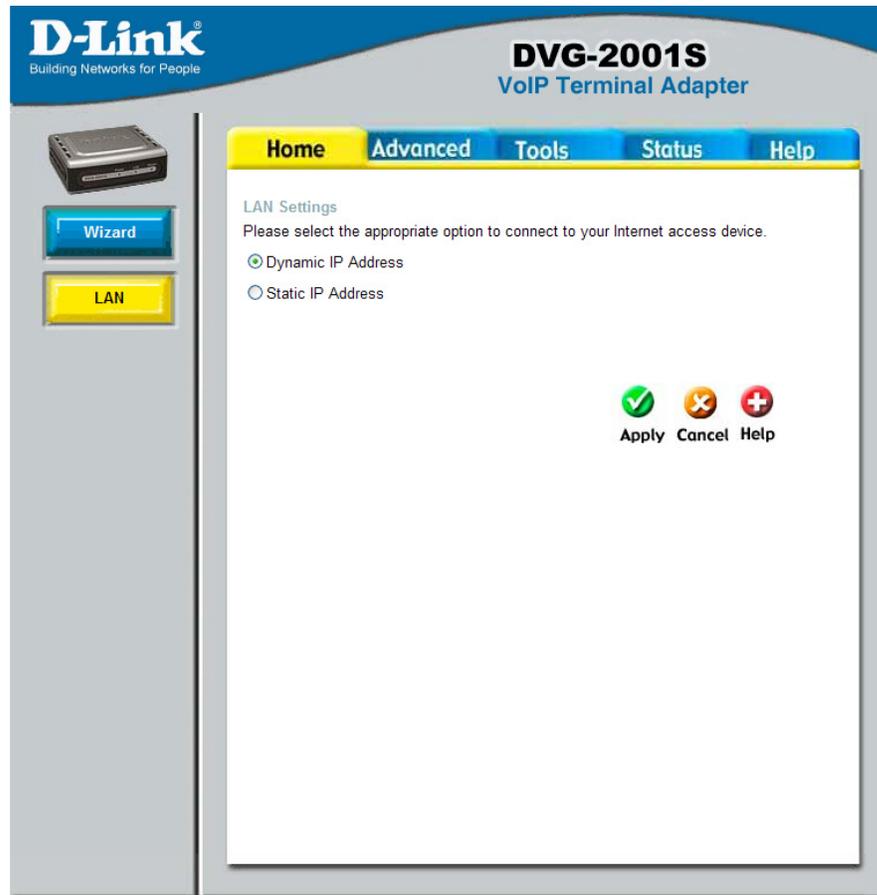
Done

Internet

Click **Restart**.

Once you are finished configuring the DVG-2001S, disconnect the Ethernet cable that is connecting the DVG-2001S to your computer. Connect your computer back to your network and then connect the DVG-2001S to your router or switch (hub). Connect your phone using a standard phone cable and insert it into the Phone port on the DVG-2001S. You must have an account and be provisioned with a VoIP service provider before using your phone.

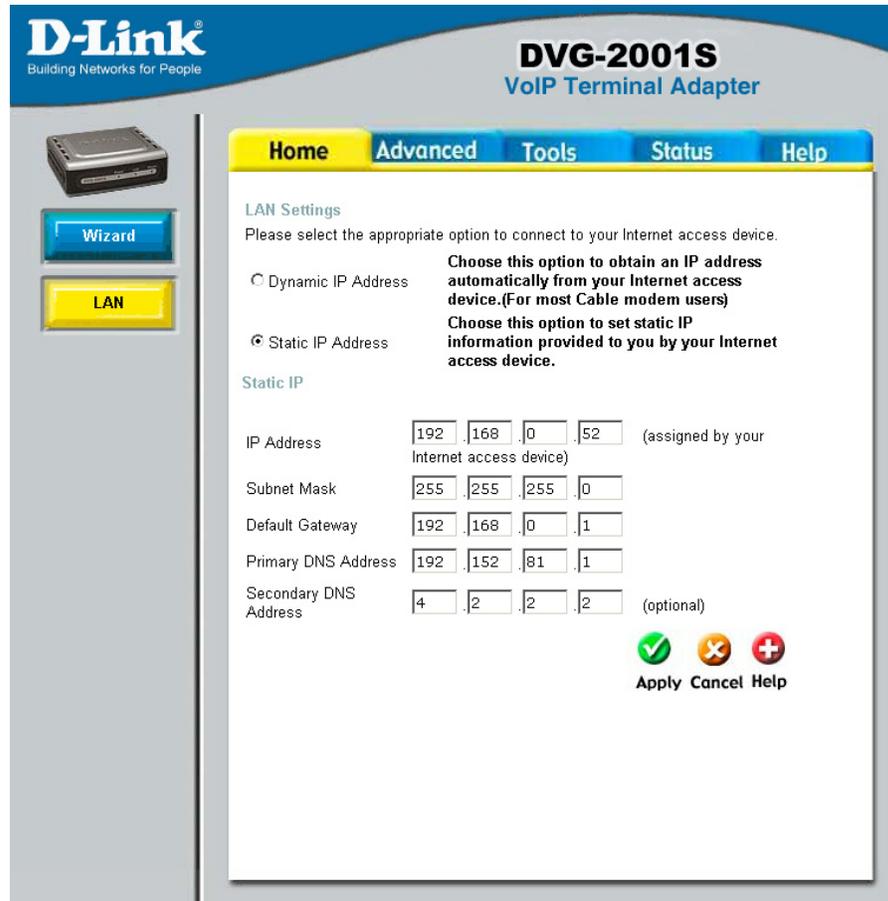
# Home > LAN > Dynamic IP



**Dynamic IP Address:** Choose Dynamic IP Address to obtain IP Address information automatically from your DHCP server (e.g. router).

**Apply:** Click **Apply** to save the changes.

# Home > LAN > Static IP



**Static IP Address:** Choose Static IP Address if you want to assign the DVG-2001 your own IP settings.

**IP Address:** Enter the IP Address.

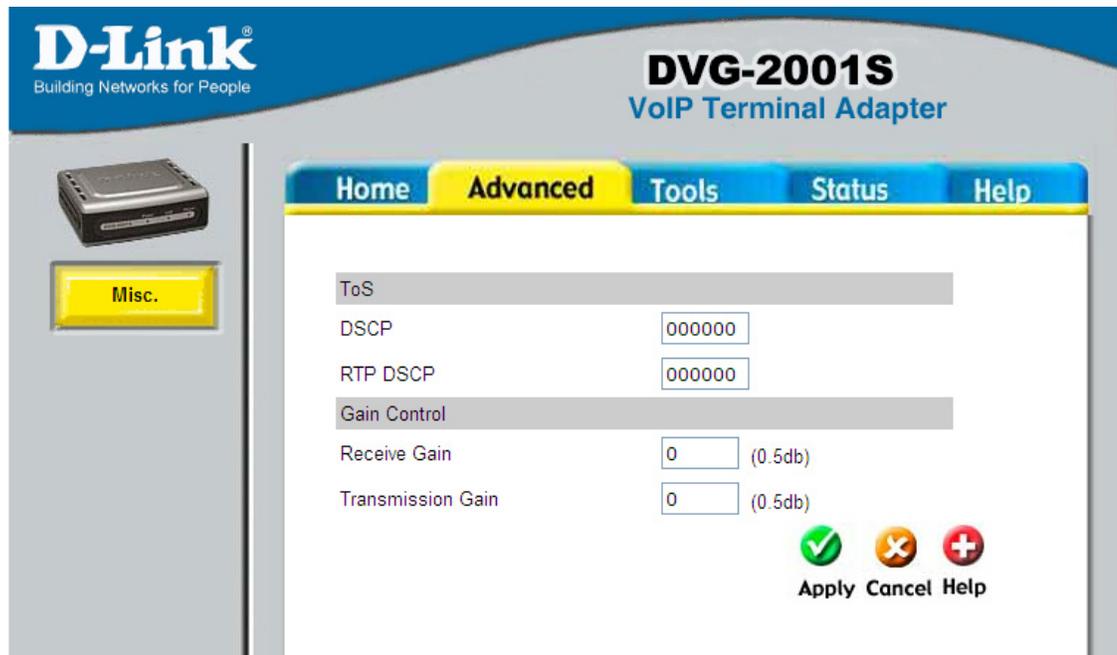
**Subnet Mask:** Enter the subnet mask.

**Default Gateway:** Enter the default gateway.

**Primary/Secondary DNS Address:** Enter the DNS Address provided by your ISP. In most cases, the primary DNS address should be the LAN (local) IP address of your router.

**Apply:** Click **Apply** to save the changes.

## Advanced > Misc



**DSCP:** DSCP (Differentiated Services Code Point) is an integer value encoded in the DS field of an IP header. The DSCP is an example of traffic marking because its value corresponds with a preferred QoS as the packet traverses the network. The DSCP value corresponds to a specific QoS.

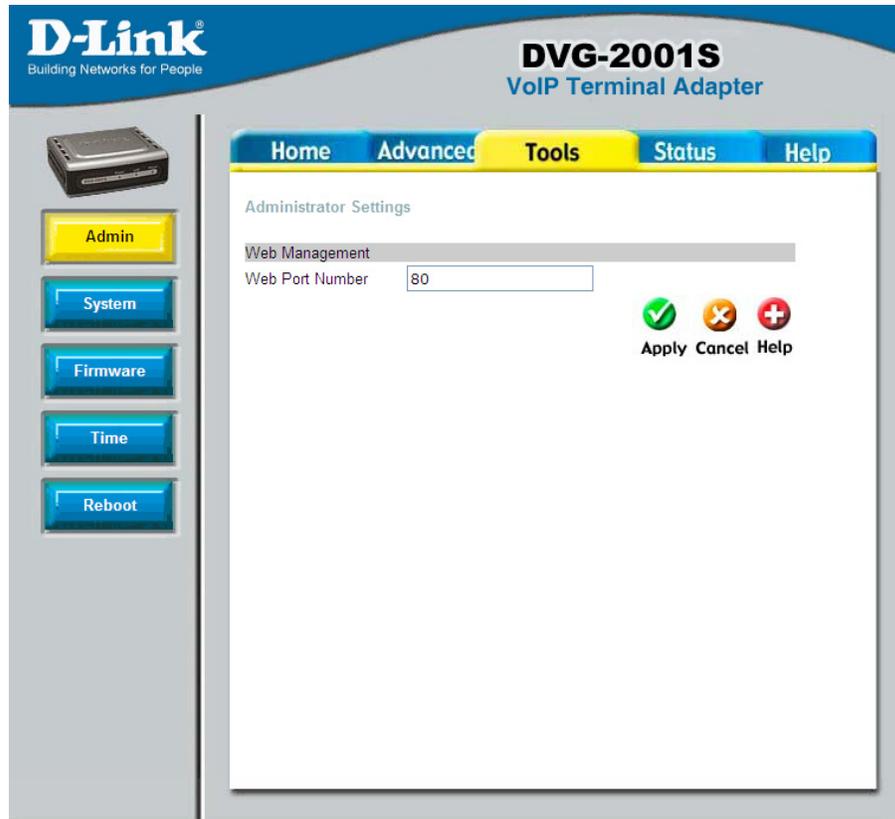
Differentiated Services (DS) is an approach to providing quality of service in networks; it employs a small, well-defined set of building blocks from which a variety of aggregate behaviors may be built. A short bit pattern in each packet, in the IPv4 Type of Service (now called the DS octet) byte or the IPv6 Traffic Class byte, is used to mark a packet to receive a particular forwarding treatment, or per-hop behavior, at each network node. DS is thought to provide a scalable way of implementing layer 3 services because the requisite actions are distributed throughout the network without the need for networkwide state machines.

**RTP DSCF:** Real-Time Transport Protocol. RTP is designed to provide end-to-end network transport functions for applications transmitting real-time data, such as audio, video, or simulation data, over multicast or unicast network services. RTP provides services such as payload type identification, sequence numbering, time-stamping, and delivery monitoring to real-time applications.

**Receive Gain:** This is used to set the Receive gain of the device.

**Transmission Gain:** This is used to set the Transmit gain of the device.

# Tools > Admin



**Web Port Number:** Enter the port number used to access the VoIP Terminal Adapter. The default port number for web management is 80. If you select a port number other than 80, you must add a colon (:) followed by the port number you select in the URL when accessing the configuration.

For example, if you choose port 1000, you must enter **http://192.168.0.80:1000** (192.168.0.80 is the default IP address of the DVG-2001) to access the web-based configuration.

# Tools > System

The screenshot displays the configuration utility for the DVG-2001S VoIP Terminal Adapter. The interface is divided into a left-hand navigation pane and a main content area. The navigation pane includes a D-Link logo and a list of menu items: Admin, System (which is highlighted in yellow), Firmware, Time, and Reboot. The main content area has a top navigation bar with tabs for Home, Advanced, Tools (which is active), Status, and Help. Under the 'Tools' tab, there are three main sections: 'Backup and Restore Configuration file' containing a 'Backup' button; 'Restore Configuration File' containing a text input field and a 'Browse...' button; and 'System Settings' containing a 'Reset to Factory Default' button. A red circular 'Help' icon is located in the bottom right corner of the main content area.

The current system settings can be saved as a file onto the local hard drive. The saved file or any other saved setting file created by the DVG-2001S can be uploaded into the unit. To restore a system settings file, click on **Browse** to search the local hard drive for the file to be used.

**Backup:** Click the **Backup** button to save your current settings to a file.

**Browse:** Click the **Browse** button to locate a saved configuration file.

**Upload:** Once you locate the file, click **Upload** to overwrite the current settings with the settings saved to the file.

**Reset to Factory Default:** Click **Reset to Factory Default** to restore the default settings.

## Tools > Firmware

The screenshot shows the configuration utility for the DVG-2001S VoIP Terminal Adapter. The 'Tools' tab is selected, and the 'Firmware Update' section is active. The 'TFTP Server Address' field is set to 0.0.0.0. The 'Firmware Update' dropdown menu is set to 'disabled'. The 'File Name' field is empty. The 'Last Update Status' field is empty. There are three buttons at the bottom right: 'Apply' (green checkmark), 'Cancel' (orange X), and 'Help' (red plus).

You can upgrade the firmware of the VoIP Terminal Adapter here. Make sure the firmware you want to use is on the local hard drive of the computer. Please check the D-Link Support site for firmware updates at <http://support.dlink.com>. You can download firmware upgrades to your hard drive from the D-Link support site.

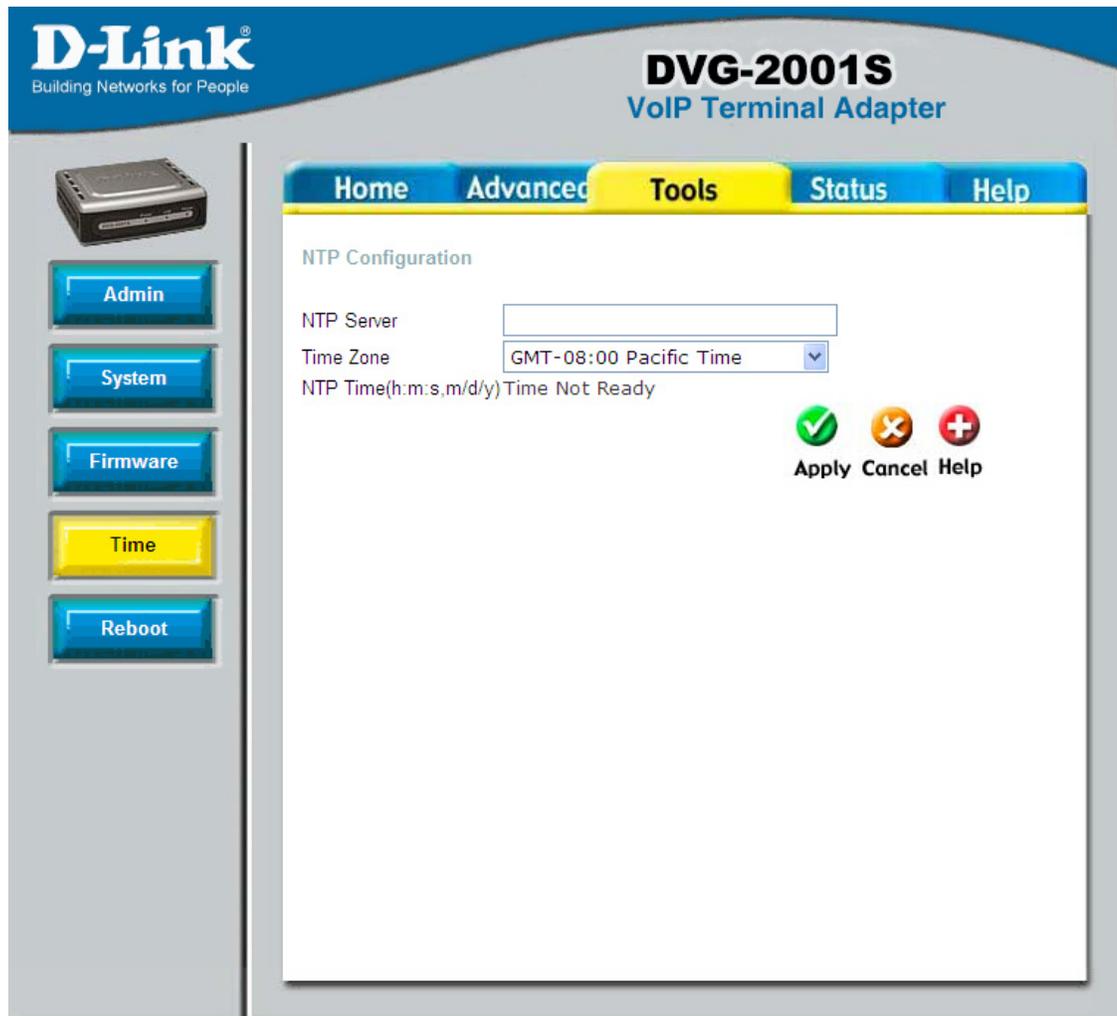
**TFTP Server Address:** Enter the IP address of your TFTP server.

**Firmware Update:** Click on the link in this screen to find out if there is an updated firmware; if so, download the new firmware to your hard drive.

**File Name:** Enter the firmware file name and DOS path in this field. For example, C:\firmware.had

**Apply:** Click **Apply** to update the firmware.

# Tools > Time



The screenshot shows the configuration utility for the D-Link DVG-2001S VoIP Terminal Adapter. The interface includes a navigation menu on the left with buttons for Admin, System, Firmware, Time (highlighted), and Reboot. The main content area is titled 'NTP Configuration' and contains the following fields:

- NTP Server:
- Time Zone:
- NTP Time(h:m:s,m/d/y): Time Not Ready

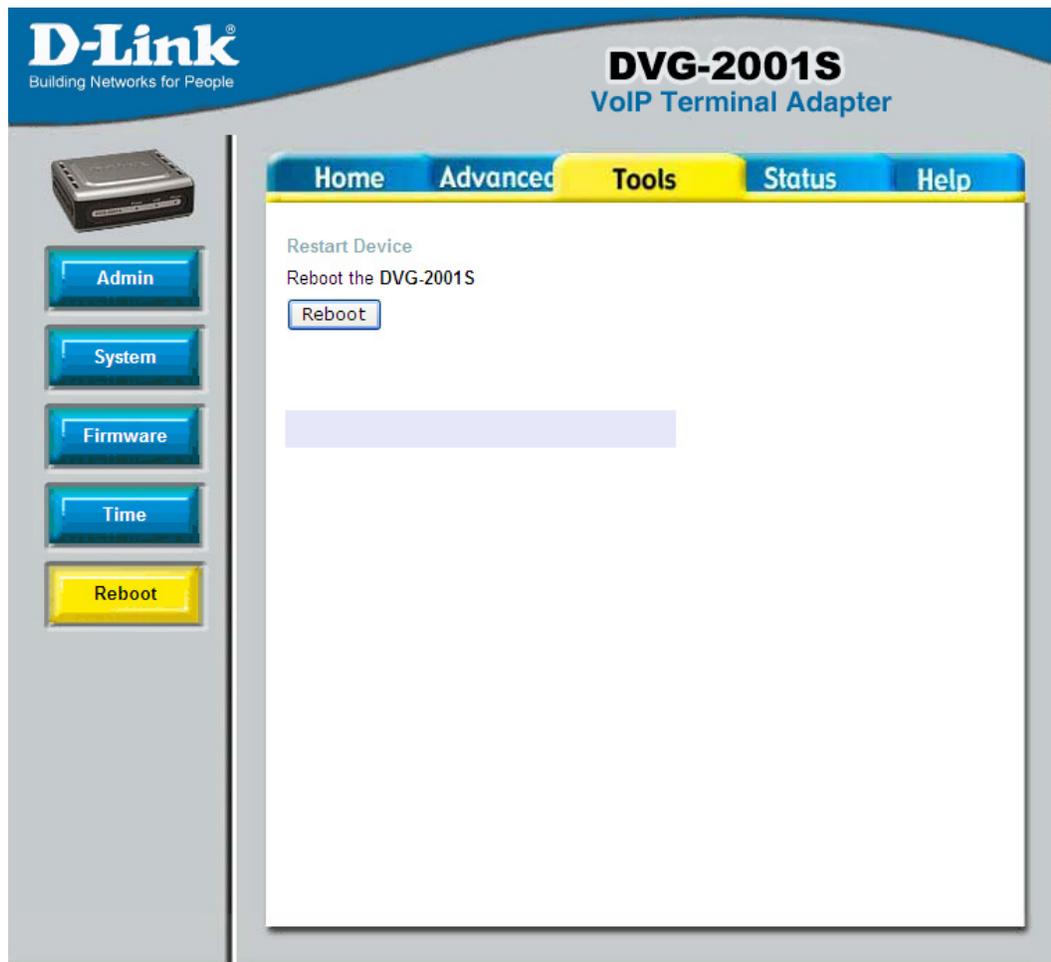
At the bottom right of the configuration area, there are three buttons: Apply (with a green checkmark icon), Cancel (with a red X icon), and Help (with a red plus icon).

**NTP Server:** Enter the domain name or IP address of a NTP server (leave blank for the default time server).

**Time Zone:** Select your time zone from the drop-down menu.

**Apply:** Click **Apply** to update the firmware.

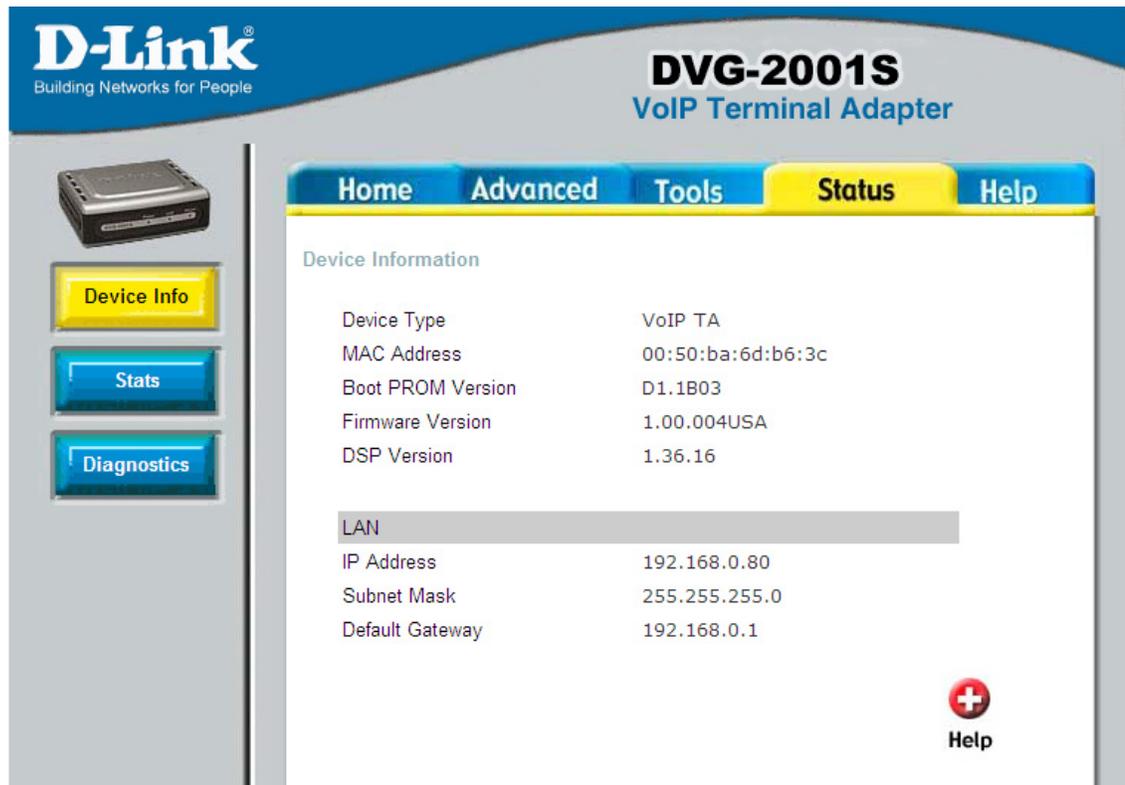
## Tools > Reboot



This screen allows you to reboot the VoIP Terminal Adapter. To reboot the DVG-2001, click the **Reboot** button.

*Note: This simply restarts the DVG-2001. It does not change any of your settings.*

## Status > Device Info



The screenshot shows the D-Link configuration utility interface for the DVG-2001S VoIP Terminal Adapter. The interface includes a navigation menu with 'Home', 'Advanced', 'Tools', 'Status', and 'Help'. The 'Status' tab is active, displaying 'Device Information' and 'LAN' settings. A 'Device Info' button is highlighted in the left sidebar, and a 'Help' icon is visible in the bottom right corner.

Device Information	
Device Type	VoIP TA
MAC Address	00:50:ba:6d:b6:3c
Boot PROM Version	D1.1B03
Firmware Version	1.00.004USA
DSP Version	1.36.16

LAN	
IP Address	192.168.0.80
Subnet Mask	255.255.255.0
Default Gateway	192.168.0.1

This page displays the current information for the DVG-2001S.

# Status > Stats

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**DVG-2001S**  
VoIP Terminal Adapter

Home Advanced Tools **Status** Help

Traffic Statistics

Traffic Statistics display Receive and Transmit packets passing through the DVG-2001S.

Refresh Reset

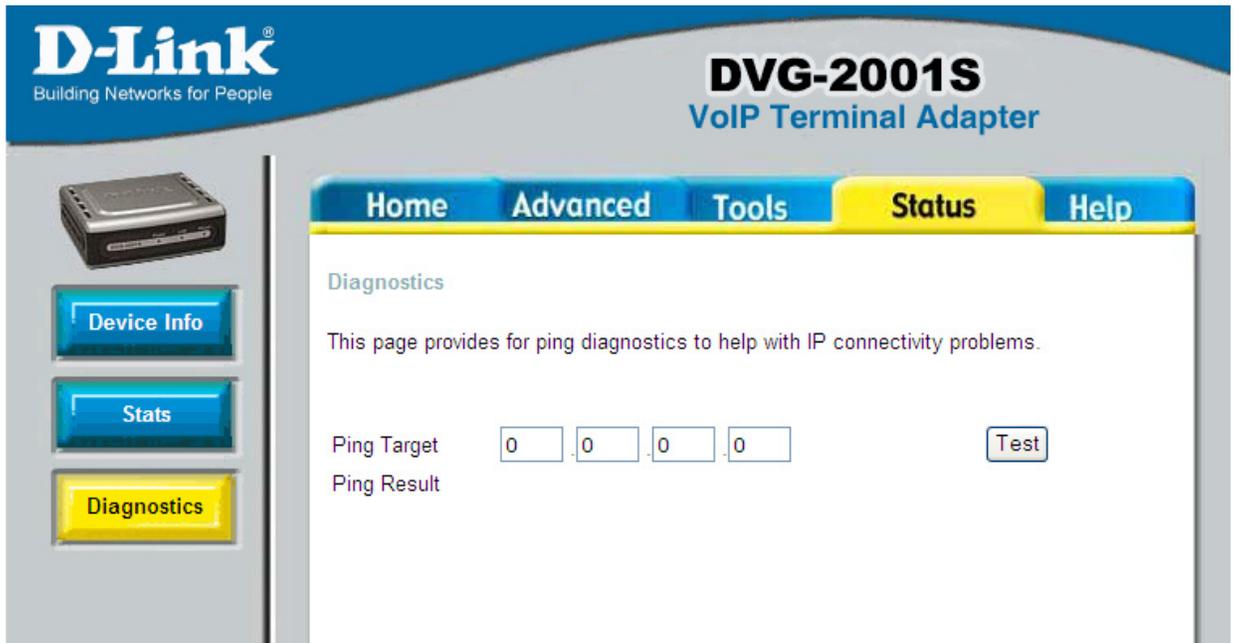
LAN	Receive		Transmit	
	packets	1643	packets	2062
	bytes	211766	bytes	975729
	NonUcastPackets	0	NonUcastPackets	503
	DiscardPackets	0	DiscardPackets	0
	FrameTooLong	0	HeartbeatErrors	0
	NonAlignedErrors	0	LateCollision	0
	CollisionErrors	0	RetransmissionLimit	0
	ShortFrames	0	UnderrunPackets	0
	CRCErrors	0	CarrierSenseLost	0
	OverrunPackets	0		

Phone Port Statistics

Phone Port	1	
Channel	1	3
RxVoicePackets	0	0
RxMinJitter	0	0
RxMaxJitter	0	0
RxRTPAvgJitter	0	0
RxDTMFPackets	0	0
TxVoicePackets	0	0
TxGrantReSyncCount	0	0
TxDTMFPackets	0	0
MicroOverflowCount	0	0
PktsLostByNetwork	0	0
TxHoldDropCount	0	0
RxHoldDropCount	0	0

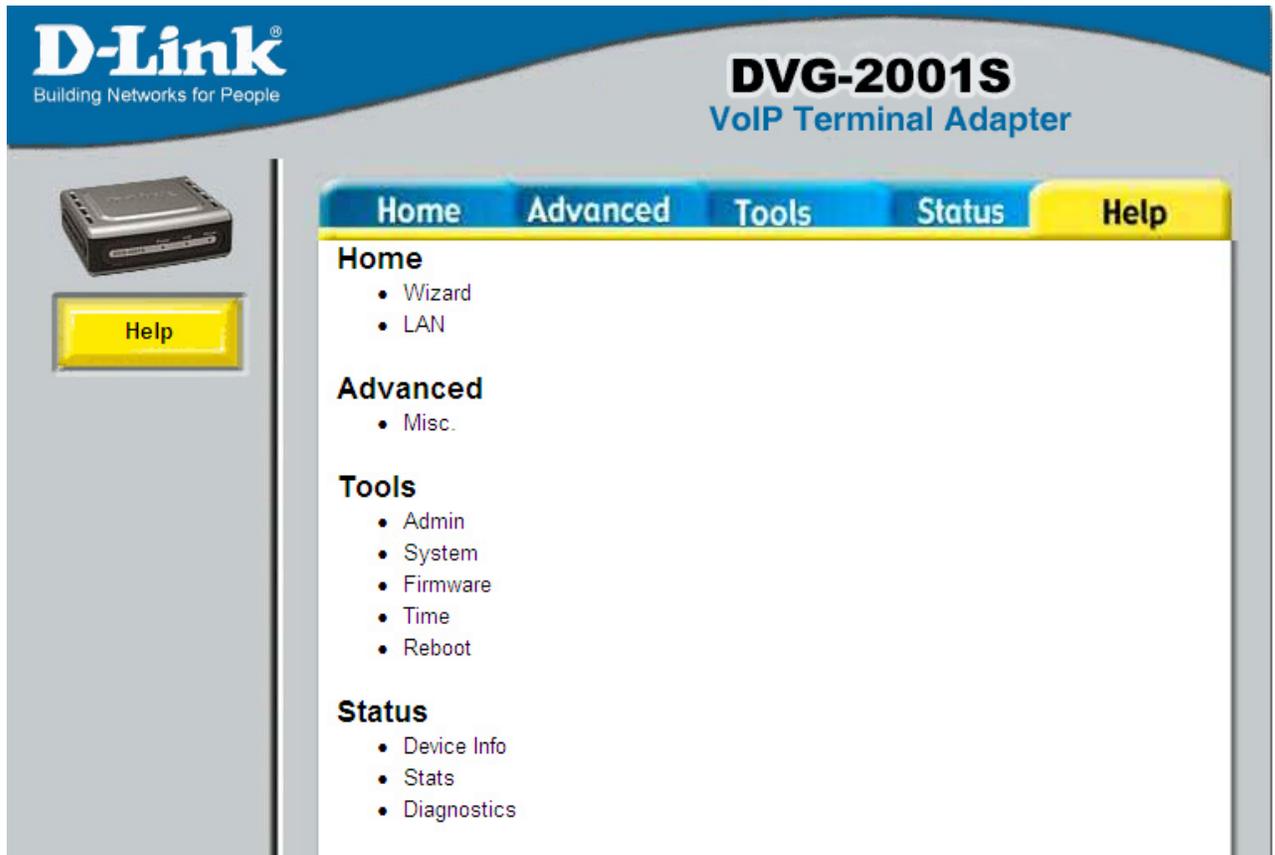
The screen above displays the Traffic Statistics. Here you can view the amount of packets that pass through the DVG-2001S on the LAN port. The traffic counter will reset if the device is rebooted or can be reset by clicking the Reset button. To refresh current statistics, click the Refresh button.

# Status > Diagnostics



The VoIP Terminal Adapter offers you to conduct a Ping test by entering the IP address in the Ping Target field and then clicking the **Test** button.

# Help



The Help tab will give basic information referring to various screens located in the VoIP Terminal Adapter. To view a specific section, click on its hyperlinked name. A new window of information will appear.

# Advanced Configuration

**WARNING:** The following is for service providers only. Do NOT change these settings unless instructed by your service provider.

## VoIP > Server Configuration

The terminal adapter can be configured to handle voice signals over the Internet Protocol (Voice Over IP - VoIP). The screen shown below, along with those on the following pages, are used to configure your TA to communicate with the devices that will send and receive telephone calls over the Internet.

This page can be accessible through <http://192.168.0.80/admin>. The username is **Admin** and the password is **Admin** (case-sensitive).

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VoIP Terminal Adapter

**Advanced**

SIP Configuration:

Server Configuration  Provisioning  STUN Configuration  User Agent

Peer to Peer  Telephony

SIP Configuration-Server

Server FQDN: disabled

IP Address: 0 . 0 . 0 . 0

Domain Name:

Port: 5060

Outbound Proxy State: disabled

Outbound Proxy Server FQDN: disabled

Outbound Proxy IP Address: 0 . 0 . 0 . 0

Outbound Proxy Domain Name:

Outbound Proxy Port: 0

- Server FQDN:** Use this drop-down menu to Enable or Disable the Server Fully Qualified Domain Name (FQDN) function. This is disabled when the SIP URL domain name is different from the SIP proxy server domain name. The phone will then use the domain name in Domain Name field as part of SIP URL but send and receive SIP messages through the SIP proxy server defined in the Service Domain field.
- IP Address:** Enter the IP address of the SIP Server in this field. This field is disabled when Server FQDN field is enabled.
- Domain Name:** Enter the domain name corresponding to the IP address entered above in this field.
- Port:** Enter the SIP server's listening port for the SIP in this field. Leave this field set to the default if your VoIP service provider did not give you a server port number for SIP.
- Outbound Proxy State:** Use this drop-down menu to Enable or Disable the Proxy State function.
- Outbound Proxy Server FQDN:** Use this drop-down menu to Enable or Disable the Proxy Server FQDN function.
- IP Address:** Enter the IP address of the outbound proxy server in this field.
- Outbound Proxy Domain:** Name Enter the domain name corresponding to the IP address entered above in this field.
- Outbound Proxy Port:** Enter the server's listening port in this field.
- Service Domain:** Enter the SIP service domain name in this field.
- URL Format:** Select SIP-URL to have the TA include the domain name with the SIP number in the SIP messages that it sends. Select TEL-URL to have the TA use the SIP number without a domain name in the SIP messages that it sends.
- User Parameter Phone:** You can set this to phone or none. This determines whether or not the phone number is appended to the information forwarded to your SIP server. Your VoIP service provider will instruct you which setting to use.
- Register Expiration:** Use this field to set how long the TA will wait before sending a repeat registration request if a registration attempt fails or there is no response from the registration server.
- Session Expires:** This field will set the longest time that the TA will allow a SIP session to remain idle (without traffic) before dropping it.



**Min-SE:** When two SIP devices negotiate a SIP session, they must negotiate a common expiration time for idle SIP sessions. This field sets the shortest expiration time that the TA will accept. The TA checks the session expiration values of incoming SIP INVITE requests against the minimum session expiration value that you enter here. If the session expiration of an incoming INVITE request is less than this value, the TA negotiates with the other SIP device to increase the session expiration value to match the minimum session expiration value.

**Session Expires Refresher:** This determines which side of an expired call session will initiate the session refresh. uac – specifies the Caller side will initiate the session refresh. uas – specifies the Call receiver (the “Callee”) will initiate the session refresh.

# VoIP > Provisioning

The screenshot shows the D-Link DVG-2001S VoIP Terminal Adapter web interface. The page title is "DVG-2001S VoIP Terminal Adapter". The "Advanced" tab is selected. Under "SIP Configuration", the "Provisioning" radio button is selected. The "XML Provisioning" section includes a "Provisioning Function" dropdown menu set to "disabled", an "SSL" dropdown menu set to "enabled", and input fields for "Server URL", "Proxy Address", "Proxy Port Number" (set to 8080), and "Authentication Key". A "Clear Key" button is located below the "Authentication Key" field. At the bottom right, there are "Apply" and "Cancel" buttons.

Provisioning is a function that automatically updates your DVG-2001S's VoIP configuration by using a TFTP server located on the Internet. If you have access to such service, you will need to know the URL and Proxy Address of the Provisioning Server.

**Provisioning Function:** Use this drop-down menu to Enable or Disable the Provisioning Function.

**SSL:** Use this drop-down menu to Enable or Disable the Secure Sockets Layer (SSL) Function.

**Server URL:** Enter the URL of the Provisioning Server in this field.

**Proxy Address:** Enter the IP address of the Proxy Server in this field.

**Proxy Port Number:** Proxy Port Number Enter the port number the Proxy Server will use to make the connection in this field.

# VoIP > STUN Configuration

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VoIP Terminal Adapter

**Advanced**

SIP Configuration:  
 Server Configuration  Provisioning  STUN Configuration  User Agent  
 Peer to Peer  Telephony

STUN Configuration

STUN State: disabled

STUN Server IP Address: 0 . 0 . 0 . 0

STUN Server Port: 3478

STUN ReqInterval: 60

STUN NAT Type: UnKnown

NAT Type Detect **Apply** **Cancel**

Simple Traversal of UDP over NAT (STUN) is a protocol which enables a VoIP device, such as this TA or an IP phone, to detect the presence and type of NAT behind which the phone is placed. This TA supports STUN and can intelligently modify the private IP address and port in its SIP/SDP message by using the NAT mapped public IP address and port through a series of STUN queries against a STUN server located on the public Internet. This will allow SIP signaling and RTP media to successfully traverse a NAT without requiring any configuration changes on the NAT.

STUN is useful if you need to use the DVG-2001S behind a modem or router that does not support symmetric NAT. To use STUN, you will need the STUN server IP address.

**STUN State:** Use this drop-down menu to Enable or Disable STUN on the TA.

**STUN Server IP Address:** Enter the IP address of a STUN server in this field.

**STUN Server Port:** Enter the port number the STUN server will use in this field. If you do not have any information as to the proper port number, leave the default setting here.

**STUN ReqInterval:** This determines the amount of time, in seconds, between STUN requests. If you do not have any information as to the proper interval, leave the default setting here.

**STUN NAT Type:** Displays the result of the STUN NAT examination.

## VoIP > User Agent

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**Advanced**

SIP Configuration:

Server Configuration
  Provisioning
  STUN Configuration
  User Agent
  Peer to Peer
  Telephony

SIP Configuration - User Agent

Phone Number

Display Name

User Agent Port

Authentication Username

Password

Retype Password

Apply
  Cancel

User Agent option of SIP configuration can be configured through the screen shown on the right.

**Phone Number:** The telephone number assigned to the User Agent.

**Display Name:** The name that will be displayed when the User Agent is in use.

**User Agent Port:** This selects the port number the TA will listen to when determining when calls are being made.

**Authentication Name:** The Username used to access your SIP server and your VoIP service provider.

**Password:** The Password used to access your SIP server and your VoIP service provider.

**Retype Password:** Retype your password to confirm.

# VoIP > Peer to Peer

The screenshot shows the D-Link DVG-2001S VoIP Terminal Adapter web interface. The page is titled "Advanced" and is part of the "VoIP" configuration section. The "SIP Configuration" options include "Server Configuration", "Provisioning", "STUN Configuration", "User Agent", "Peer to Peer" (selected), and "Telephony". The "Peer to Peer" configuration fields are: Index (1), Phone Number (empty), User IP Address (0.0.0.0), and Port (5060). There are "Apply" and "Cancel" buttons. Below the configuration fields is a table titled "SIP - Peer to Peer" with columns for Index, Phone Number, User IP Address, Port, Edit, and Delete.

Index	Phone Number	User IP Address	Port	Edit	Delete
1		@ 0.0.0.0	5060		
2		@ 0.0.0.0	5060		
3		@ 0.0.0.0	5060		

Peer to Peer option of SIP configuration can be configured through the screen shown above.

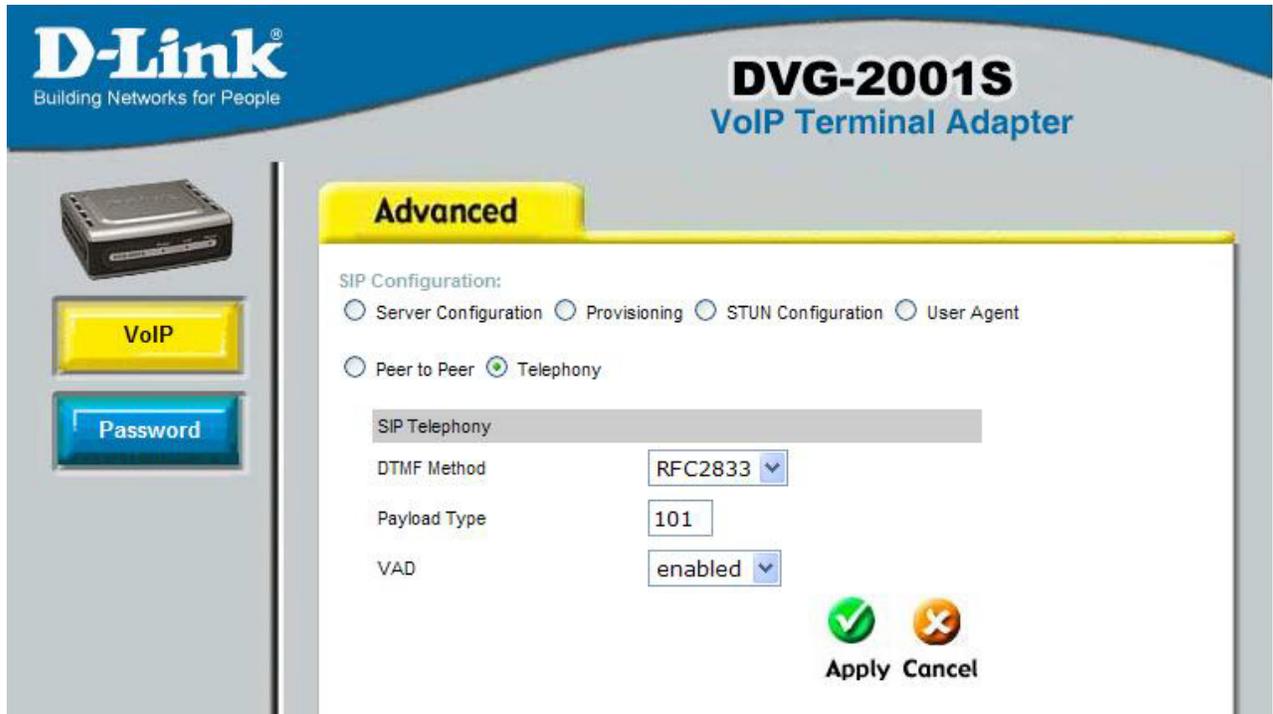
**Index:** Use this field to assign **line 1** or **line 2** telephone sockets (on the back of the TA) to the information entered in the User Agent.

**Phone Number:** The telephone number assigned to this entry.

**User IP Address:** Enter the IP address of the remote peer in this field.

**Port:** Enter the UDP port number the remote peer will use to make the connection in this field. If you do not have any information as to the proper port number, leave the default setting here.

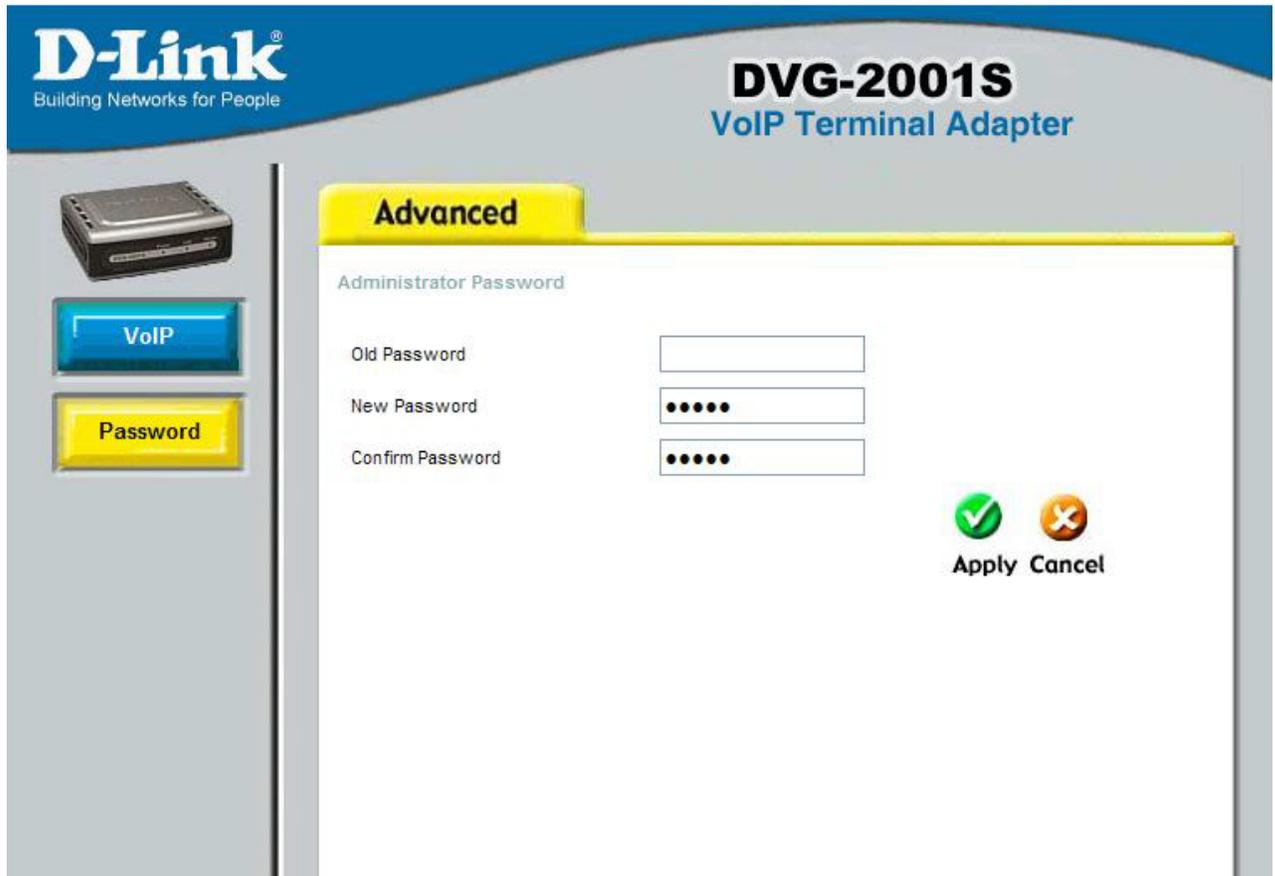
# VoIP > Telephony



Peer to Peer option of SIP configuration can be configured through the screen shown above.

- DTMF Method:** DTMF (dual tone multi frequency) is the signal to the telephone company that is generated when pressing a normal telephone's touch keys (also known as touchtone phone).
- Payload Type:** Payload Type will depend on the RFC (Request for Comment) you use.
- VAD:** VAD (voice activation detection) allows the detection of absence of audio in the voice network and prevent the transmission of silent packets to conserve bandwidth.

# VoIP > Telephony



At this page, the DVG-2001S administrator can change the system password to access the <http://192.168.0.80/admin> page.

**Password:** Enter the password here and the same password in the Confirm Password field. This will be the password that the administrator will use to gain access to the configuration menu of the device. The default password for this device is admin.

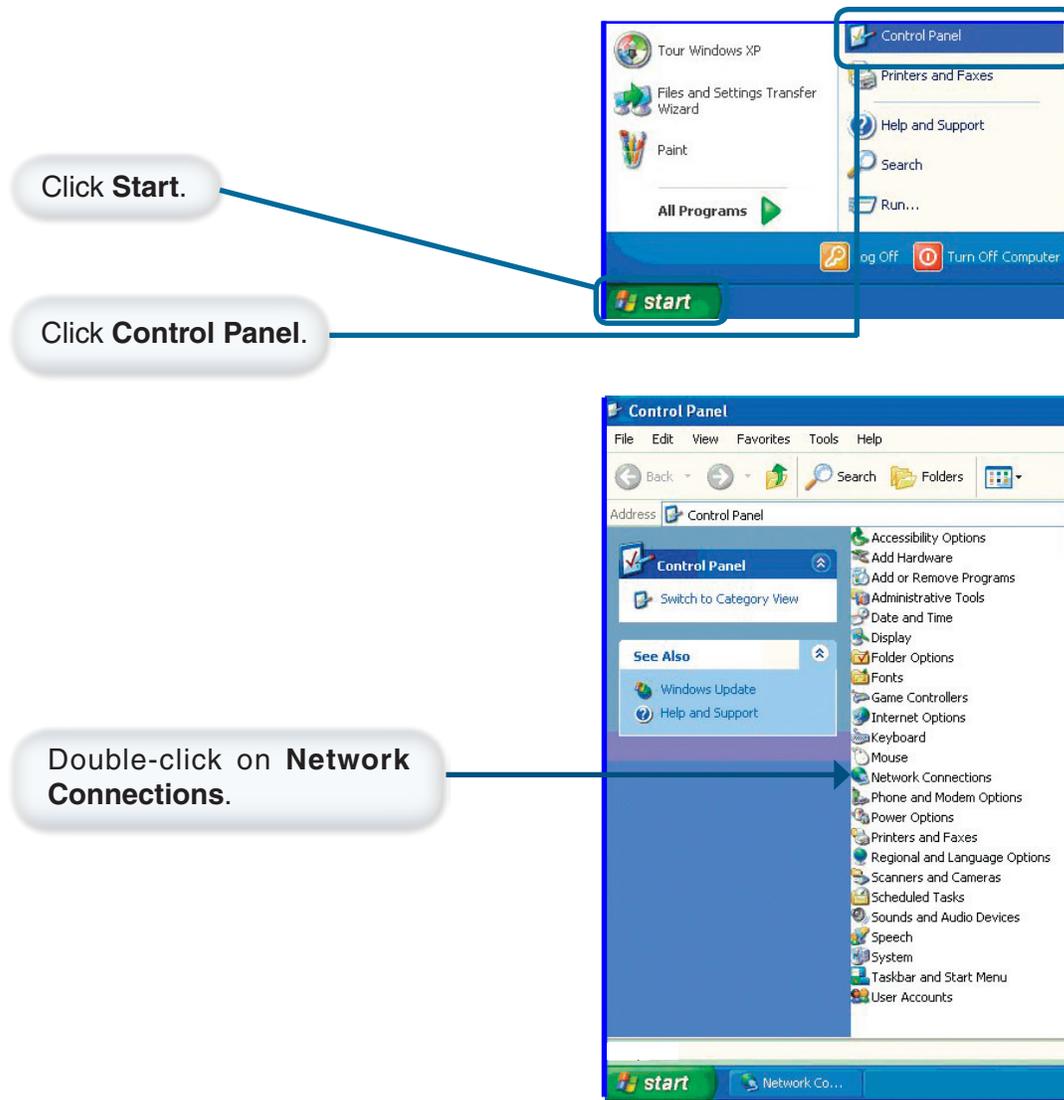
# Troubleshooting

This section provides solutions to situations that can occur during the installation and operation of the DVG-2001S Adapter.

## 1. How do I assign a static IP address in Windows XP/2000?

*Please note that routers will automatically assign IP addresses to the computers on the network, using DHCP (Dynamic Host Configuration Protocol) technology. If you are using a DHCP-capable router you will not need to assign static IP addresses.*

If you are not using a DHCP capable router, or you need to assign a static IP address, please follow these instructions:

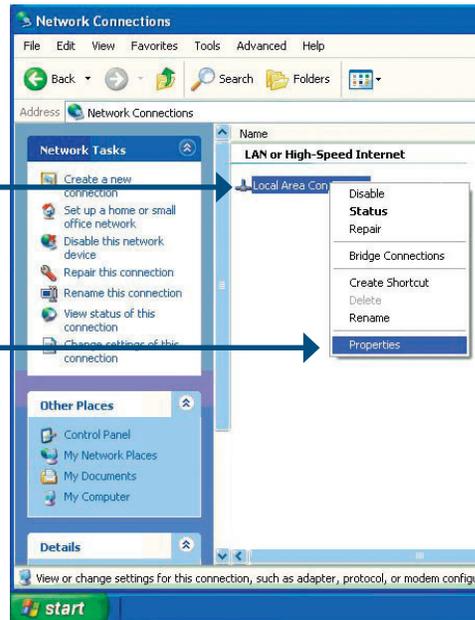


# Troubleshooting (continued)

## How do I assign a Static IP Address in Windows XP/2000? (continued)

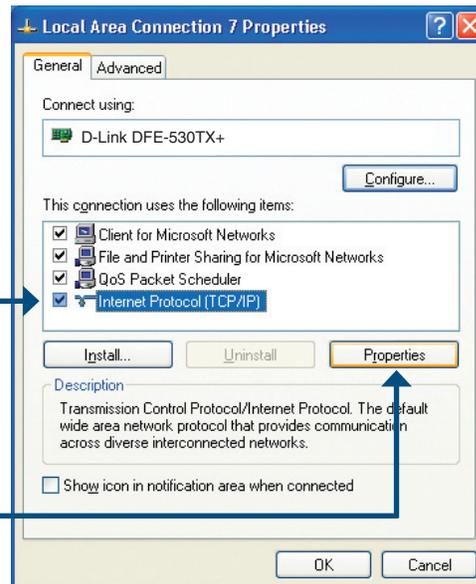
Right-click on **Local Area Connection**.

Click on **Properties**.



Click on **Internet Protocol (TCP/IP)**.

Click on **Properties**.



# Troubleshooting (continued)

## How do I assign a Static IP Address in Windows XP/2000? (continued)

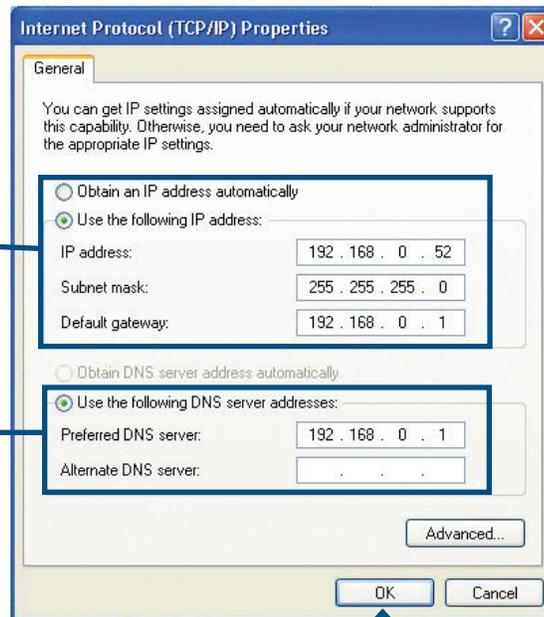
Click the radio button next to **Use the Following IP Address.**

Enter the IP address, subnet mask, and the default gateway. (The default gateway is the LAN IP address of your router or gateway).

Select **Use the following DNS server address.**

Enter the LAN IP address of the your router or gateway.

Click **OK.**



*You have completed the assignment of a static IP address in Windows XP/2000!*

The IP addresses on your network must be within the same range. For example, if one computer has an IP address of 192.168.0.2, the other computers should have IP addresses such as 192.168.0.3 and 192.168.0.4. The subnet mask must be the same for all the computers on the network.

# Troubleshooting (continued)

## 2. How do I assign a static IP address in Macintosh OSX?

Go to the **Apple Menu** and select **System Preferences**.

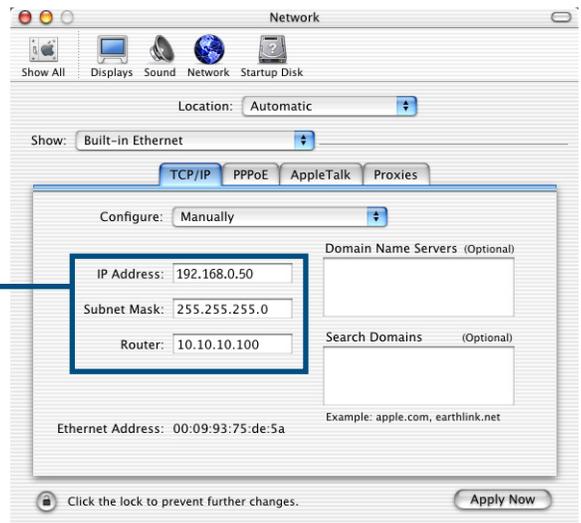
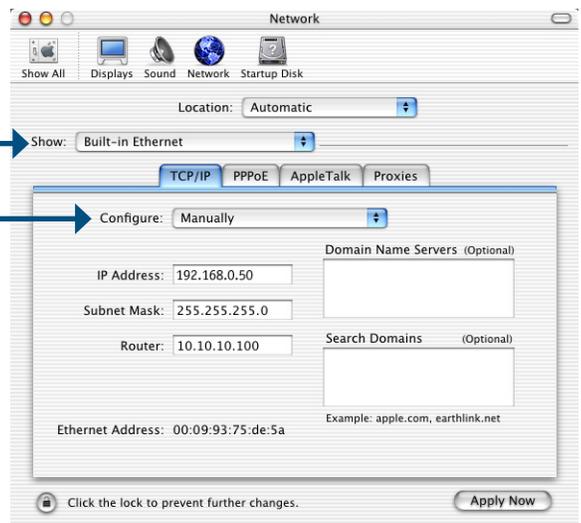
Click **Network**.

Select **Built-in Ethernet** in the **Show** pull-down menu.

Select **Manually** in the **Configure** pull-down menu.

Input the static IP address, the subnet mask and the router IP address in the appropriate fields.

Click **Apply Now**.



*You have completed the assignment of a static IP address in Macintosh OS X!*

# Troubleshooting (continued)

## 3. Why doesn't the Power LED light up?

Check to see if the DVG-2001S VoIP Adapter is connected properly to a known good power outlet.

## 4. Why doesn't the LAN LED light up?

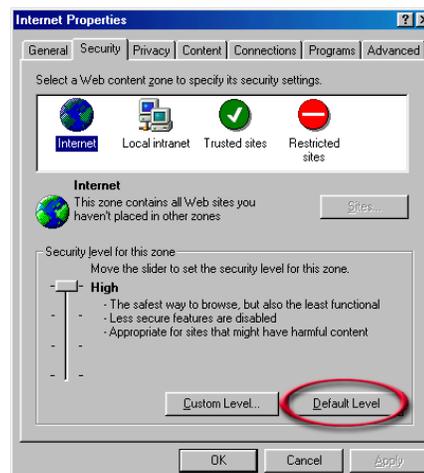
- Make sure that the Ethernet cable is connected properly.
- Make sure the AC power adapter is plugged in properly.

## 5. Why can't I access the web-based configuration for my DVG-2001S?

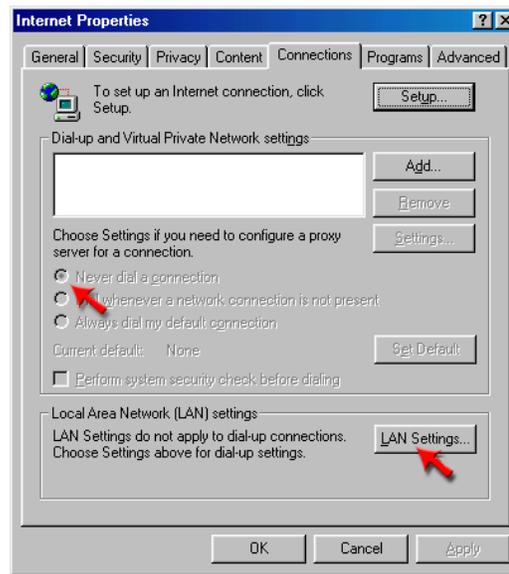
When entering the IP address of the DVG-2001S (192.168.0.80 for example), you are not connecting to a website on the Internet or have to be connected to the Internet. The device has the utility built-in to the device itself. Your computer must be on the same IP subnet to connect to the utility.

To resolve difficulties accessing a D-Link model that has a web utility, please follow the steps below.

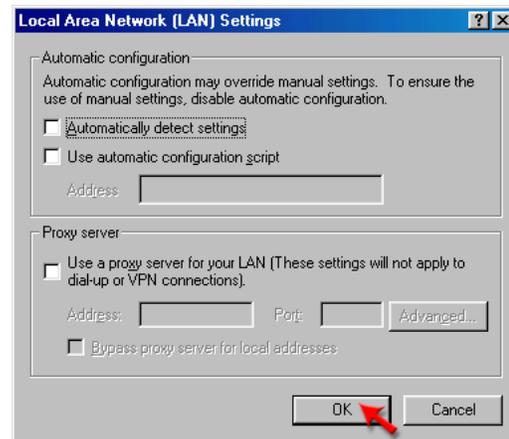
- Verify physical connectivity by checking for solid link lights on the device. If you do not get a solid link light, try using a different cable or connect to a different port on the device if possible. If the computer is turned off, the link light may not be on.
- Disable any internet security software running on the computer. Software firewalls such as Zone Alarm, Black Ice, Sygate, Norton Personal Firewall, and Windows XP firewall may block access to the configuration pages. Check the help files included with your firewall software for more information on disabling or configuring it.
- 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.



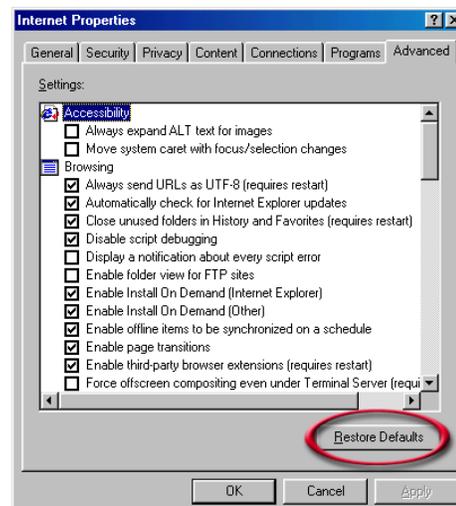
Click the **Connections** tab and set the dial-up option to **Never Dial a Connection**.  
Click the **LAN Settings** button.



Nothing should be checked. Click **OK** to continue.



Go to the **Advanced** tab and click the button to restore these settings to their defaults.



Click **OK** out to the desktop and close any open windows.

# Technical Specifications

## Standards

- IP, TCP, UDP, ARP, HTTP

## Connection Port

- RJ-11, FXS Port
- RJ-45 Ethernet Port

## Ethernet Port

- IEEE 802.3 for 10M Ethernet
- IEEE 802.3u for 100M Ethernet

## Telephony Support

- SIP Call Control Protocol
- Supports Audio CODEC:
  - G.711 (A-law and U-law)
  - G.723.1
  - G.726
  - G.729A
  - G.168 (Echo Cancellation)
- DTMF Relay
  - G.711 (In Band)
  - RFC2833

## Device Management

- TFTP Client
- HTTP Web Interface

## Configuration/Management

- DHCP RFC2131
- Embedded Web Server HTTP1.0
- Auto-Provisioning Via Automated Centralized Configuration File
- Configuration Restore/Backup
- TELNET
- TFTP Client
- Performance Monitor DSP/Ethernet Statistics

## Quality of Service (QoS)

- TOS-Type of Service Supports 3 Levels:
  - Normal
  - Signaling
  - RTP Packets

## Security

- SIP Authentication
- HTTP Digest Authentication
- Configuration Download Using HTTPS and SSL/TLS Clients Certification Encryption and Authentication
- Encryption of Configuration File
- VoIP NAT Traversal (SIP/STUN)

## Fax Support

- FAX Relay
- PCM (G.711)

## LEDs

- Power ON/OFF
- LAN Link & Activity
- Phone ON/OFF Hook & Ringing

## Power

- External AC Power Adapter
- Output: 12V AC, 1.2A

## Temperature

- Operation: 0o C to 40o C
- Storage: -10o C to 55o C

## Humidity

- 5% to 95% Non-Condensing

## Certifications

- EMC: FCC Class B, VCCI Class B, CE Class B
- UL/CUL

## Dimensions

- 90mm x 82.46mm x 31mm (WxDxH)

## Warranty

- One Year Limited Warranty

## 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.

### **Tech 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](mailto:support@dlink.com)

### **Tech Support for customers within Canada:**

#### ***D-Link Technical Support over the Telephone:***

(800) 361-5265

Monday to Friday 7:30am to 9:00pm EST

#### ***D-Link Technical Support over the Internet:***

<http://support.dlink.ca>

email: [support@dlink.ca](mailto:support@dlink.ca)

# 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 will be refunded by D-Link upon return to D-Link of the defective Hardware. All 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 of 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 non-conforming 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 D-Link'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 or an Authorized 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.

The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this 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.

**IC statement:** The Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulation

**FCC Caution:**

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

**IMPORTANT NOTE:**

**FCC Radiation Exposure Statement:**

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

**INFORMATION TO USER:**

The user's manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

# Registration

**Register your product online at:  
<http://support.dlink.com/register>**



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

Version 1.0  
Revised: 02/06/2006