



DSL-300G
ADSL Modem
User's Guide

(January 2004)

FCC Warning

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.

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 communications. 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.

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.

LIMITATION OF LIABILITY

IN NO EVENT WILL D-LINK BE LIABLE FOR ANY DAMAGES, INCLUDING LOSS OF DATA, LOSS OF PROFITS, COST OF COVER OR OTHER INCIDENTAL, CONSEQUENTIAL OR INDIRECT DAMAGES ARISING OUT THE INSTALLATION, MAINTENANCE, USE, PERFORMANCE, FAILURE OR INTERRUPTION OF A D-LINK PRODUCT, HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY. THIS LIMITATION WILL APPLY EVEN IF D-LINK HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

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Limited Warranty

Hardware:

D-Link warrants each of its hardware products to be free from defects in workmanship and materials under normal use and service for a period commencing on the date of purchase from D-Link or its Authorized Reseller and extending for the length of time stipulated by the Authorized Reseller or D-Link Branch Office nearest to the place of purchase.

This Warranty applies on the condition that the product Registration Card is filled out and returned to a D-Link office within ninety (90) days of purchase. A list of D-Link offices is provided at the back of this manual, together with a copy of the Registration Card.

If the product proves defective within the applicable warranty period, D-Link will provide repair or replacement of the product. D-Link shall have the sole discretion whether to repair or replace, and replacement product may be new or reconditioned. Replacement product shall be of equivalent or better specifications, relative to the defective product, but need not be identical. Any product or part repaired by D-Link pursuant to this warranty shall have a warranty period of not less than 90 days, from date of such repair, irrespective of any earlier expiration of original warranty period. When D-Link provides replacement, then the defective product becomes the property of D-Link.

Warranty service may be obtained by contacting a D-Link office within the applicable warranty period, and requesting a Return Material Authorization (RMA) number. If a Registration Card for the product in question has not been returned to D-Link, then a proof of purchase (such as a copy of the dated purchase invoice) must be provided. If Purchaser's circumstances require special handling of warranty correction, then at the time of requesting RMA number, Purchaser may also propose special procedure as may be suitable to the case.

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. The package must be mailed or otherwise shipped to D-Link with all costs of mailing/shipping/insurance prepaid. D-Link shall never be responsible for any software, firmware, information, or memory data of Purchaser contained in, stored on, or integrated with any product returned to D-Link pursuant to this warranty.

Any package returned to D-Link without an RMA number will be rejected and shipped back to Purchaser at Purchaser's expense, and D-Link reserves the right in such a case to levy a reasonable handling charge in addition mailing or shipping costs.

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Warranty service for software products may be obtained by contacting a D-Link office within the applicable warranty period. A list of D-Link offices is provided at the back of this manual, together with a copy of the Registration Card. If a Registration Card for the product in question has not been returned to a D-Link office, then a proof of purchase (such as a copy of the dated purchase invoice) must be provided when requesting warranty service. The term "purchase" in this software warranty refers to the purchase transaction and resulting license to use such software.

D-Link warrants that its software products will perform in substantial conformance with the applicable product documentation provided by D-Link with such software product, for a period of ninety (90) days from the date of purchase from D-Link or its Authorized Reseller. D-Link warrants the magnetic media, on which D-Link provides its software product, against failure during the same warranty period. This warranty applies to purchased software, and to replacement software provided by D-Link pursuant to this warranty, but shall not apply to any update or replacement which may be provided for download via the Internet, or to any update which may otherwise be provided free of charge.

D-Link's sole obligation under this software warranty shall be to replace any defective software product with product which substantially conforms to D-Link's applicable product documentation. Purchaser assumes responsibility for the selection of appropriate application and system/platform software and associated reference materials. D-Link makes no warranty that its software products will work in combination with any hardware, or any application or system/platform software product provided by any third party, excepting only such products as are expressly represented, in D-Link's applicable product documentation as being compatible. D-Link's obligation under this warranty shall be a reasonable effort to provide compatibility, but D-Link shall have no obligation to provide compatibility when there is fault in the third-party hardware or software. D-Link makes no warranty that operation of its software products will be uninterrupted or absolutely error-free, and no warranty that all defects in the software product, within or without the scope of D-Link's applicable product documentation, will be corrected.

CONTENTS

ABOUT THIS USER'S GUIDE	V
Before You Start	v
REQUIREMENTS	V
Packing List	vii
INTRODUCTION	1
MODEM DESCRIPTION AND OPERATION	1
Modem Features.....	1
Front Panel	2
Rear Panel	2
HARDWARE INSTALLATION	3
Connect ADSL Line.....	3
Computer to Modem Connection.....	3
CONNECT ETHERNET LAN TO MODEM	3
HUB OR SWITCH TO MODEM CONNECTION	4
POWER ON MODEM	4
CONFIGURING THE MODEM FOR THE FIRST TIME	5
Configuring IP Settings on Your Computer.....	5
ACCESS THE WEB CONFIGURATION MANAGER	12
WEB CONFIGURATION MANAGEMENT GUIDE	15
Quick Configuration	16
System View	17
Change LAN IP Settings.....	18
DHCP Service Modes	19
PPP Configuration.....	21
IpoA Configuration	23
EOA Configuration	25
NAT	27
BRIDGE CONFIGURATION	29
ATM VC Configuration.....	31
Changing the Manager Password.....	33
Save & Reboot	34
TECHNICAL SPECIFICATIONS	38
LOW PASS FILTERS	39

About This User's Guide

This user's guide provides instructions on how to install the DSL-300G ADSL Modem and use it to connect a computer or Ethernet LAN to the Internet.

If you are using a computer with a functioning Ethernet port, you can use the Quick Installation Guide to quickly establish your ADSL connection and access the Internet.

Guide Overview

Introduction – Describes the Modem and its key features. Provides an introduction to ADSL. Lists standards to which the Modem complies. Contains a packing list.

Hardware Installation – Discusses how to connect the Modem to an Ethernet LAN.

First Time Set Up – Provides information on how to configure the Modem and establish the ADSL connection using the web-based manager.

Web-based Configuration – Describes how to use the web-based manager to change Modem settings and configure additional virtual connections (PVCs).

Appendix A - Technical Specifications – Lists the technical specifications of the Modem, including standards compliance.

Appendix B - Low Pass Filters – Contains illustrated examples of how to use low pass filters.

Before You Start

Please read and make sure you understand all the prerequisites for proper installation of your new Modem. Have all the necessary information and equipment on hand before beginning the installation.

Installation Overview

The procedure to install the Modem can be described in general terms in the following steps:

1. Gather information and equipment needed to install the device. Before you begin the actual installation make sure you have all the necessary information and equipment.
2. Install the hardware, that is, connect the cables (Ethernet and telephone) to the device and connect the power adapter.
3. Check the IP settings on your computer and change them if necessary so the computer can access the web-based software built into the Modem.
4. Use the web-based management software to configure the device to suit the requirements of your ADSL account.

Requirements

To install and use the Modem you need a computer equipped with an Ethernet port (such as an Ethernet NIC) and a web browser. You may also need to use information given to you by your ISP or ADSL service provider. This information is stored in the Modem's memory and used to establish the ADSL connection and confirm your identity. Read the next page for more details about these requirements.

Low Pass Filters

Since ADSL and telephone services share the same copper wiring to carry their respective signals, a filtering mechanism may be necessary to avoid mutual interference. A low pass filter device can be installed for each telephone that shares the line with the ADSL line. These filters are easy to install passive devices that connect to the ADSL device and/or telephone using standard telephone cable. Ask your service provider for more information about the use of low pass filters with your installation. Appendix B provides illustrated examples of how to install two common styles of low pass filters.

Operating System

The DSL-300G uses an HTML-based web interface for setup and management. The web configuration manager may be accessed using any operating system capable of running web browser software.

Web Browser

Any common web browser can be used to configure the Modem using the web configuration management software. The program is designed to work best with more recently released browsers such as Microsoft Internet Explorer® version 5.0, Netscape Navigator® version 4.7, or later versions. The web browser must have JavaScript enabled. JavaScript is enabled by default on many browsers. Make sure JavaScript has not been disabled by other software (such as virus protection or web user security packages) that may be running on your computer.

Ethernet Port (NIC Adapter)

Any computer that uses the Modem must be able to connect to it through the Ethernet port on the Modem. This connection is an Ethernet connection and therefore requires that your computer be equipped with an Ethernet port as well. Most notebook computers are now sold with an Ethernet port already installed. Likewise, most fully assembled desktop computers come with an Ethernet NIC adapter as standard equipment. If your computer does not have an Ethernet port, you must install an Ethernet NIC adapter before you can use the Modem. If you must install an adapter, follow the installation instructions that come with the Ethernet NIC adapter.

Additional Software

It may be necessary to install software on your computer that enables the computer to access the Internet (through computers operated by your ISP or service provider). Additional software must be installed if you are using what is called a “bridged” connection. For a bridged connection, the information needed to make and maintain the Internet connection is stored on your computer, not in the Modem. This type of connection is similar to the arrangement used for analog dial-up Modems, but the connection speed is much faster. Various terms are to describe a bridged ADSL connection including the term “RFC 1483 Bridge” which is used in this guide.

If your ADSL service is delivered through a PPP (Point to Point Protocol) or IPoA connection, the information needed to establish and maintain the Internet connection is stored in the Modem. In this case, it is not necessary to install software on your computer.

Account Information (User Name and Password)

Most users will need to supply a user name and password used to access the service provider's network (and ultimately, the Internet). This information is stored either in the Modem's memory or on your computer depending on the type of ADSL connection you have.

ACCOUNT INFORMATION (PPP Connections Only)
User Name:
Password:

Additional PVC Settings

If you are using multiple virtual connections it will be necessary to provide additional VPI and VCI values for the device. These numbers define a unique route used on the ATM backbone of the WAN. Chapter 5 contains instruction on how to set up additional PVCs for accounts using more than one virtual connection.

Packing List

Open the shipping carton and carefully remove all items. In addition to this User's Guide, ascertain that you have:

1. One DSL-300G ADSL Ethernet Modem
2. One CD-ROM with this User's Guide and the Quick Installation Guide
3. One twisted-pair telephone cable used for ADSL connection
4. One straight-through Ethernet cable
5. One AC power adapter suitable for your electric service
6. One Quick Installation Guide hardcopy



Introduction

This section provides a brief description of the Modem, its associated technologies and a list of Modem features.

What is ADSL?

Asymmetric Digital Subscriber Line (ADSL) is broadband access technology that provides high-speed digital data transmission and interactive multimedia applications for business and residential customers over ordinary telephone line.

ADSL greatly increases the signal carrying capacity of copper telephone lines without interfering with regular telephone services. For the ADSL user, this means faster downloads and more reliable connectivity. ADSL devices enable high-speed Internet access without any loss of quality or disruption of telephone services.

ADSL provides a dedicated service over a single telephone line operating at speeds of up to 8 Mbps downstream and up to 640 Kbps upstream. A secure point-to-point connection is established between the user and the central office of the service provider.

D-Link ADSL devices incorporate the recommendations of the ADSL Forum regarding framing, data format, and upper layer protocols.

Modem Description and Operation

The DSL-300G ADSL Modem is designed to provide a simple, cost-effective and secure ADSL Internet connection for your small to medium-sized private network. The ADSL connection technology enables many interactive multi-media applications such as video conferencing and collaborative computing.

The Modem is easy to install and use. The DSL-300G connects to an Ethernet LAN or single computer via a standard Ethernet interface. The ADSL connection is made using ordinary twisted-pair telephone line with standard RJ-11 connectors.

Modem Features

The DSL-300G ADSL Ethernet Modem utilizes the latest ADSL enhancements to provide a reliable Internet portal suitable for most small to medium sized offices. DSL-300G advantages include:

- Data rates up to 8 Mbps for downstream and 640 Kbps for upstream
- Friendly web-based graphical user interface for configuration and management
- Supports up to eight simultaneous virtual connections for a single ADSL account
- Supports T1.413 issue 2, G.dmt and G.lite standards
- Auto-handshake and rate adaptation for different ADSL flavors
- Widest range of DSLAM interoperability
- Supports bridged Ethernet over ATM (RFC 2684)
- Built-in MIBs for SNMP management
- Upgradeable firmware through TFTP

Front Panel

Place the Modem in a location where the LED indicators can be easily viewed.



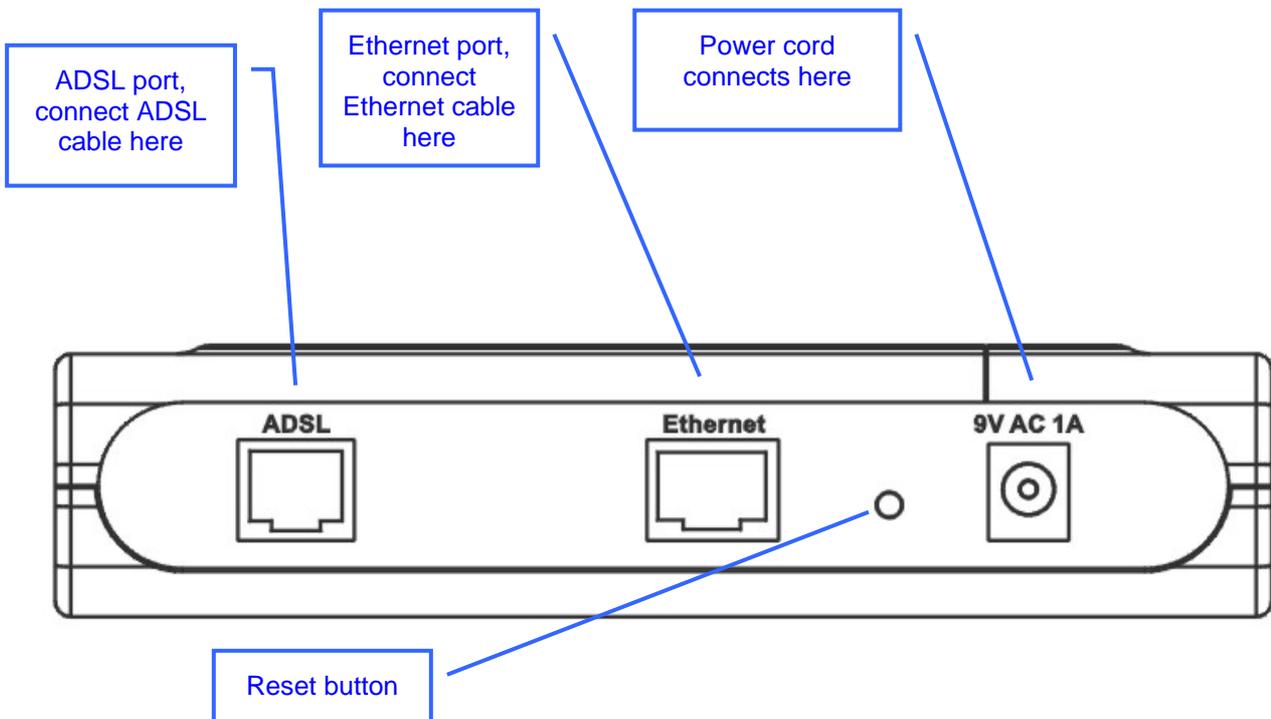
Front Panel Display with LED Indicators

The LED Indicators read as follows:

Power	Steady green light indicates the unit is powered on.
Status	Blinking green indicates normal operation.
ADSL: Link/Act	Steady green light indicates a valid ADSL connection. This will light after the ADSL negotiation process has been settled. Blinking green light indicates an active WAN session.
Ethernet: Link/ Act	Steady green light indicates a valid Ethernet connection. Blinking green indicates an active Ethernet session.

Rear Panel

All cable connections to the Modem are made at the rear panel. The factory-reset button is located here as well..



Hardware Installation

In this chapter you will learn about the various connections you will need to make in order to use the Modem.

When selecting the location for the Modem, allow ample room to access the connections on the rear panel. For convenience, try to place the Modem near your computer so you can monitor the LED indicators. Allow some space above the Modem for ventilation to avoid problems with overheating.

Connect ADSL Line

Use the twisted-pair ADSL cable (standard telephone cable) included with the Modem to connect it to your telephone line. Simply plug one end of the cable into the ADSL port (RJ-11 receptacle) on the rear panel of the Modem and insert the other end into the wall jack.

Computer to Modem Connection

You can connect the Modem directly to a 10/100BASE-TX Ethernet adapter card (NIC) installed on a PC using the Ethernet cable provided as shown in this diagram.

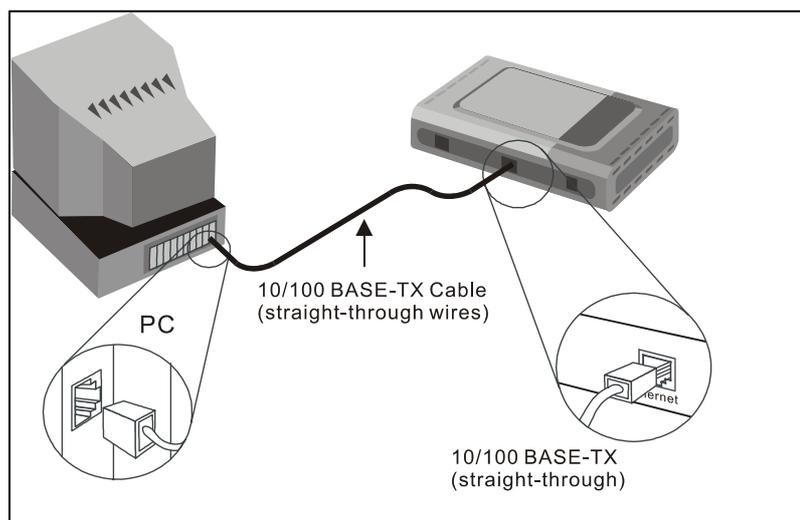


Figure 1. PC to Modem Connection

Connect Ethernet LAN to Modem

The Modem may be connected to any 10/100BASE-TX Ethernet LAN. Any connection to an Ethernet concentrating device such as a switch or hub must operate at a speed of 10/100 Mbps only. When connecting the Modem to any Ethernet device that is capable of operating at speeds higher than 10Mbps, be sure that the device has auto-negotiation (NWay) enabled for the connecting port.

Use standard twisted-pair cable with RJ-45 connectors. The RJ-45 port on the Modem is a crossed port (MDI-X). Follow standard Ethernet guidelines when deciding what type of cable to use to make this connection. When connecting the Modem directly to a PC or server use a normal straight-through cable. You should use a crossed cable when connecting the Modem to a normal (MDI-X) port on a switch or hub. Use a normal straight-through cable when connecting it to an uplink (MDI-II) port on a hub or switch. The Ethernet Link LED indicator will indicate a valid connection.

The rules governing Ethernet cable lengths apply to the LAN to Modem connection. Be sure that the cable connecting the LAN to the Modem does not exceed 100 meters.

Hub or Switch to Modem Connection

Connect the Modem to an uplink port (MDI-II) on an Ethernet hub or switch with a straight-through cable as shown in the diagram below:

If you wish to reserve the uplink port on the switch or hub for another device, connect to any on the other MDI-X ports (1x, 2x, etc.) with a cross-wired cable or use crossover adapter.

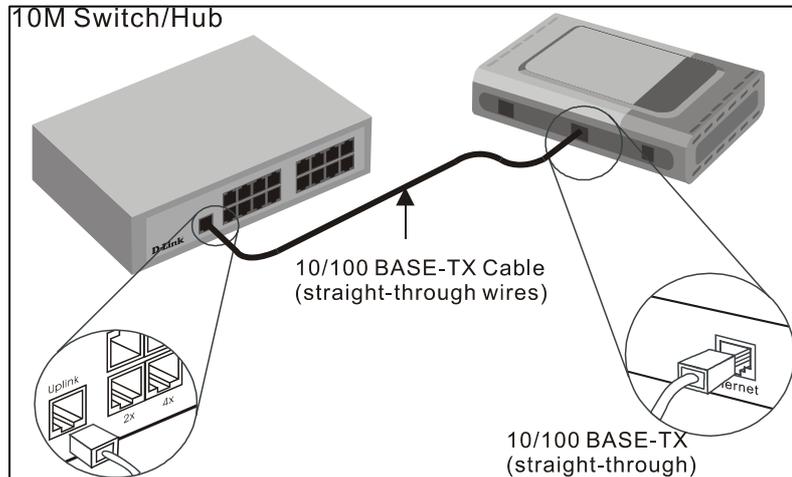


Figure 2. Switch to Modem Connection

Power On Modem

To power on the device:

1. Insert the AC Power Adapter cord into the power receptacle located on the back of the Modem and plug the adapter into a nearby power source.
2. You should see the Power LED indicator light up and remain lit.

Configuring the Modem for the First Time

The first time you setup the Modem it is recommended that you configure the WAN connection using a single computer making sure that both the computer and the Modem are not connected to the LAN. Once the WAN connection is functioning properly you may continue change settings to suit your network. This chapter is only concerned with settings up the WAN connection. The following chapter, Web-based Management Guide, describes the various menus used to configure and monitor the Modem including how to change IP settings and DHCP server setup.

Wan Configuration Summary

1. **Connect to the Modem** To configure the WAN connection used by the Modem it is first necessary to communicate with the Modem through its management interface, which is HTML-based and can be accessed using a web browser. To access the management software your computer must be able to “see” the Modem. Your computer can see the Modem if it is in the same “neighborhood” or subnet as the Modem. This is accomplished by making sure your computer has IP settings that place it in the same subnet as the Modem. The easiest way to make sure your computer has the correct IP settings is to configure it to use the DHCP server in the Modem. The next section describes how to change the IP configuration for a computer running a Windows operating system to be a DHCP client.
2. **Configure the WAN Connection** Once your are able to access the configuration software you can proceed to change the settings required to establish the ADSL connection and connect to the service provider’s network. There are different methods used to establish the connection to the service provider’s network and ultimately to the Internet. You should know what Encapsulation and connection type you are required to use for your ADSL service. It is also possible that you must change the PVC settings used for the ADSL connection. Your service provider should provide all the information you need to configure the WAN connection.

Configuring IP Settings on Your Computer

In order to configure your system to receive IP settings from the Modem it must first have the TCP/IP protocol installed. If you have an Ethernet port on your computer, it probably already has TCP/IP protocol installed. If you are using Windows XP the TCP/IP is enabled by default for standard installations. Below is an illustrated example of how to configure a Windows XP system to automatically obtain IP settings from the Modem. Following this example is a step-by-step description of the procedures used on the other Windows operating systems to first check if the TCP/IP protocol has been installed, if it is not instruction are provided for installing it. Once the protocol has been installed you can configure the system to receive IP settings from the Modem.

For computers running non-Windows operating systems, follow the instructions for your OS that configure the system to receive an IP address from the Modem, that is, configure the system to be a DHCP client.



If you are using this Modem to provide Internet access for more than one computer, you can use these instructions later to change the IP settings for the other computers. However you cannot use the same IP address since every computer must have its own IP address that is unique on the local network.

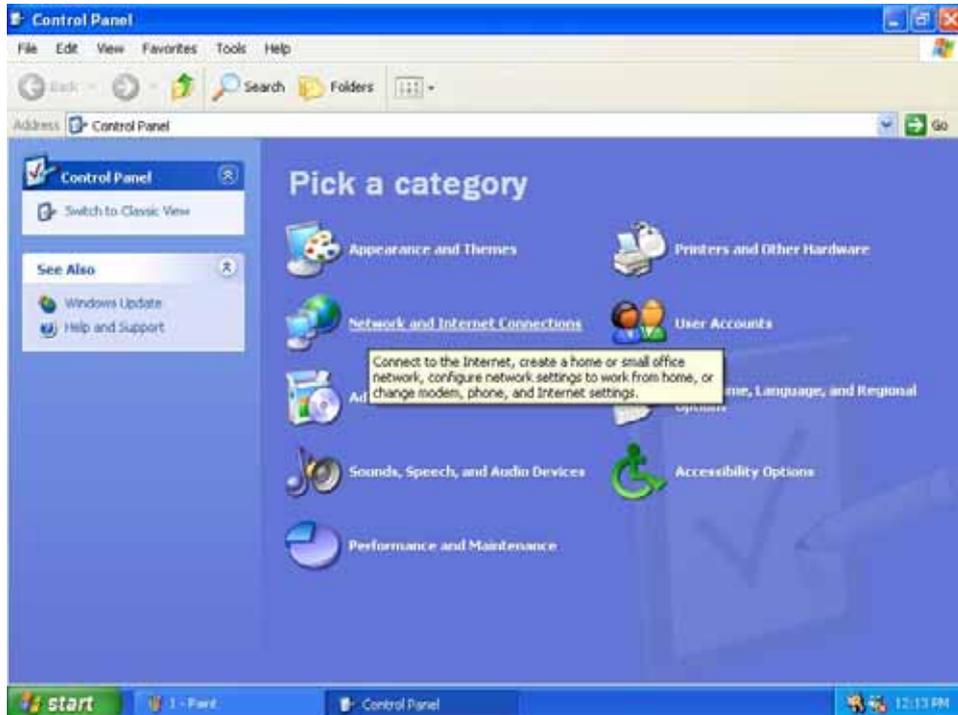
Configure Windows XP for DHCP

Use the following steps to configure a computer running Windows XP to be a DHCP client.

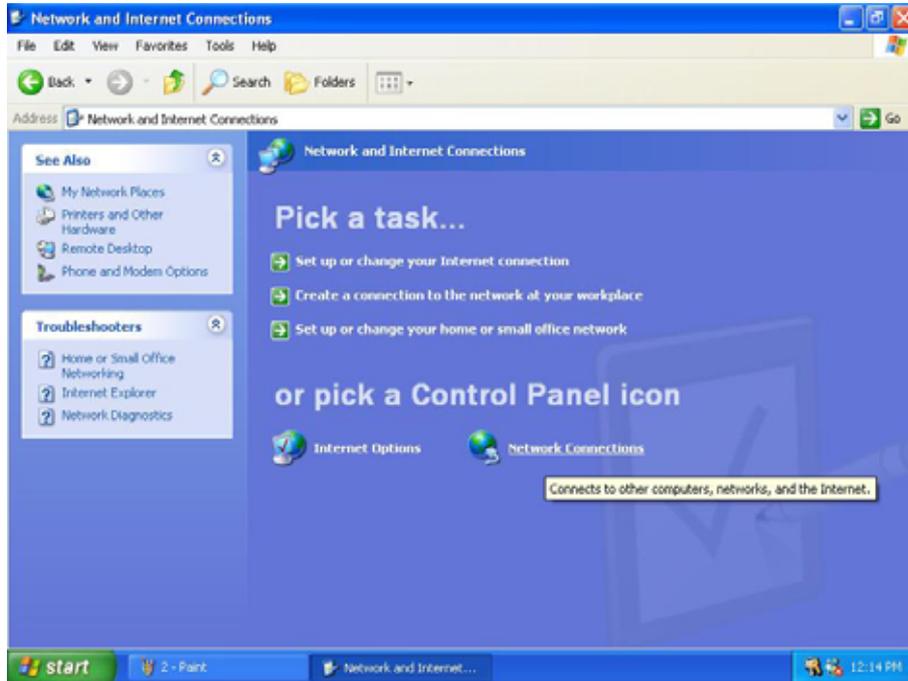
1. From the **Start** menu on your desktop, go to click on **Control Panel**.



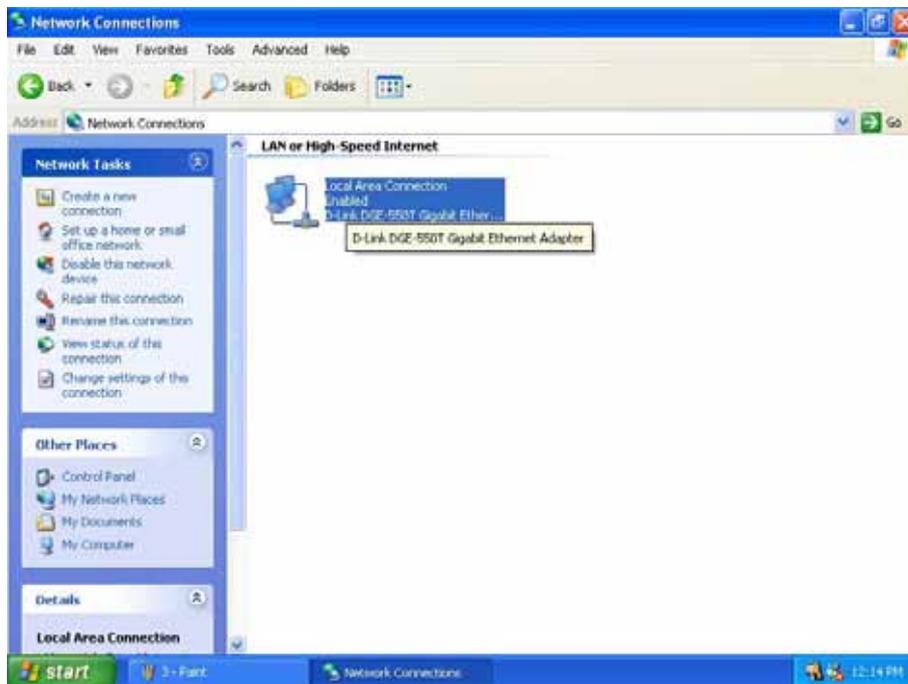
2. In the Control Panel folder, click on **Network and Internet Connections**.



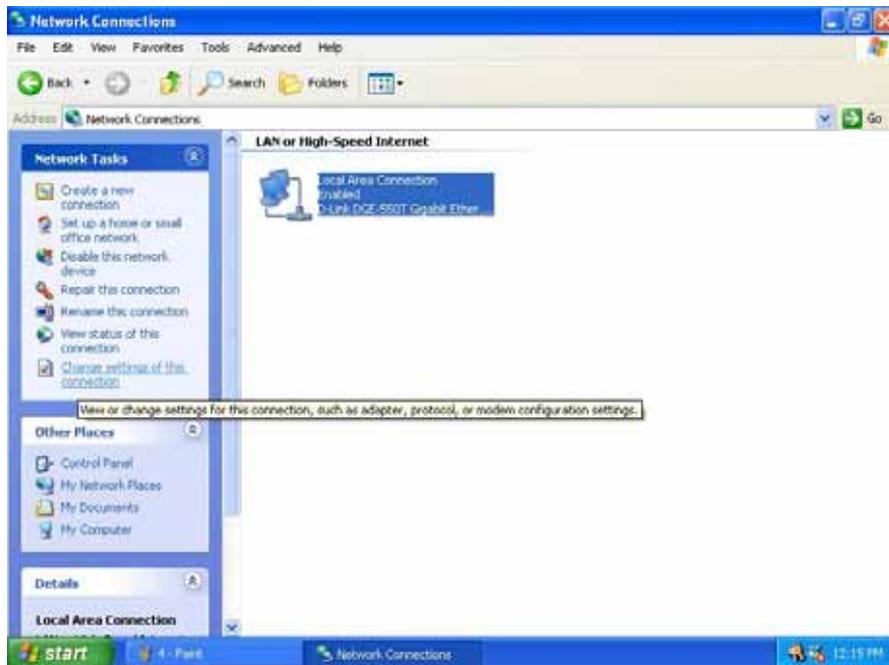
3. In the Network and Internet Connections folder, click on **Network Connections**.



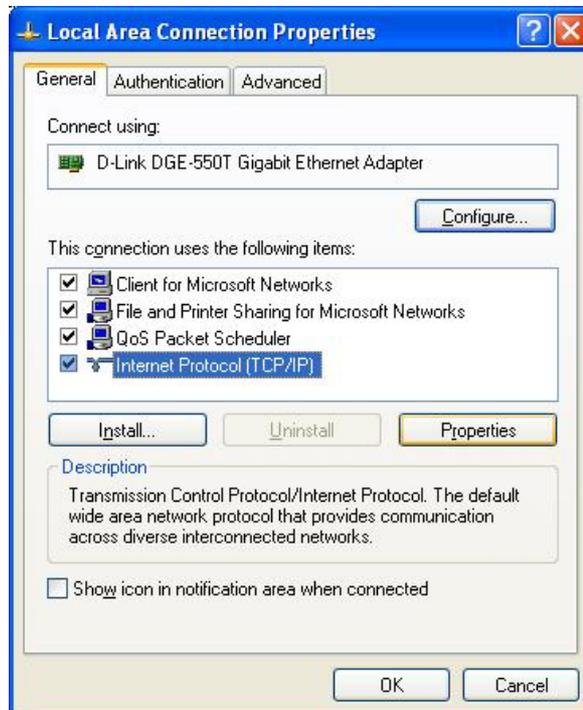
4. In the Network Connections folder, highlight the **Local Area Connection** icon by clicking on it once. A new option is revealed under Network Tabs in the left side panel.



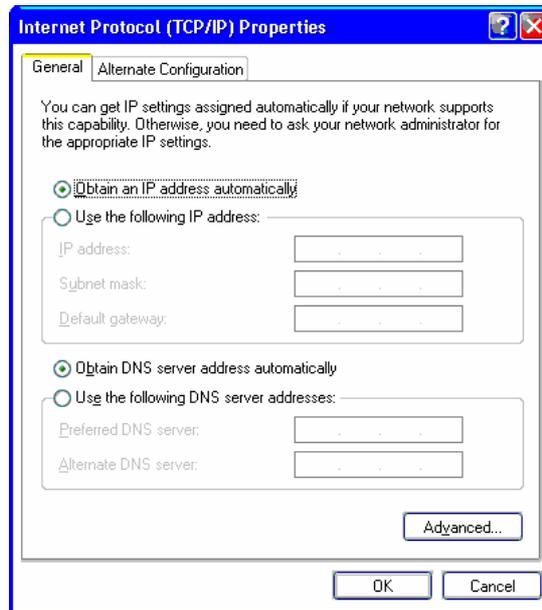
5. Click on **Change settings of the connection** under Network Tabs.



6. In the **General** Tab of the **Local Area Connection Properties** menu, highlight **Internet Protocol (TCP/IP)** under "This connection uses the following items:" by clicking on it once. Click on the **Properties** button.



7. Select "Obtain an IP address automatically" by clicking once in the circle. Click the **OK** button.



Your computer is now ready to use the Modem's DHCP server.

Windows 2000

First, check for the IP protocol and, if necessary, install it:

1. In the Windows task bar, click the Start button, point to **Settings**, and then click **Control Panel**.
2. Double-click the Network and Dial-up Connections icon.
3. In the Network and Dial-up Connections window, right-click the Local Area Connection icon, and then select **Properties**.
4. The Local Area Connection Properties dialog box displays with a list of currently installed network components. If the list includes Internet Protocol (TCP/IP), then the protocol has already been enabled, skip ahead to *Configure Windows 2000 for DHCP*.
5. If Internet Protocol (TCP/IP) does not display as an installed component, click **Install**.
6. In the Select Network Component Type dialog box, select **Protocol**, and then click **Add**.
7. Select **Internet Protocol (TCP/IP)** in the Network Protocols list, and then click **OK**.
8. You may be prompted to install files from your Windows 2000 installation CD or other media. Follow the instructions to install the files.
9. If prompted, click **OK** to restart your computer with the new settings.

Configure Windows 2000 for DHCP

1. In the Control Panel, double-click the Network and Dial-up Connections icon.
2. In Network and Dial-up Connections window, right-click the Local Area Connection icon, and then select **Properties**.
3. In the Local Area Connection Properties dialog box, select **Internet Protocol (TCP/IP)**, and then click **Properties**.
4. In the Internet Protocol (TCP/IP) Properties dialog box, click the button labeled **Obtain an IP address automatically**.
5. Double-click **OK** to confirm and save your changes, and then close the Control Panel.

Your computer is now ready to use the Modem's DHCP server.

Windows ME

First, check for the IP protocol and, if necessary, install it:

1. In the Windows task bar, click the Start button, point to **Settings**, and then click **Control Panel**.
2. Double-click the Network and Dial-up Connections icon.
3. In the Network and Dial-up Connections window, right-click the Network icon, and then select **Properties**.
4. The Network Properties dialog box displays with a list of currently installed network components. If the list includes Internet Protocol (TCP/IP), then the protocol has already been enabled. Skip ahead to *Configure Windows ME for DHCP*.
5. If Internet Protocol (TCP/IP) does not display as an installed component, click **Add**.
6. In the Select Network Component Type dialog box, select **Protocol**, and then click **Add**.
7. Select **Microsoft** in the Manufacturers box.
8. Select **Internet Protocol (TCP/IP)** in the Network Protocols list, and then click **OK**.
9. You may be prompted to install files from your Windows Me installation CD or other media. Follow the instructions to install the files.
10. If prompted, click **OK** to restart your computer with the new settings.

Configure Windows ME for DHCP

1. In the Control Panel, double-click the Network and Dial-up Connections icon.
2. In Network and Dial-up Connections window, right-click the Network icon, and then select **Properties**.
3. In the Network Properties dialog box, select **TCP/IP**, and then click **Properties**.
4. In the TCP/IP Settings dialog box, click the **Obtain an IP address automatically** option.
5. Double-click **OK** twice to confirm and save your changes, and then close the Control Panel.

Your computer is now ready to use the Modem's DHCP server.

Windows 95, 98

First, check for the IP protocol and, if necessary, install it:

1. In the Windows task bar, click the Start button, point to **Settings**, and then click **Control Panel**. Double-click the Network icon.
2. The Network dialog box displays with a list of currently installed network components. If the list includes TCP/IP, and then the protocol has already been enabled, skip to *Configure IP Information Windows 95, 98*.
3. If TCP/IP does not display as an installed component, click **Add**. The Select Network Component Type dialog box displays.
4. Select **Protocol**, and then click **Add**. The Select Network Protocol dialog box displays.
5. Click on **Microsoft** in the Manufacturers list box, and then click **TCP/IP** in the Network Protocols list box.
6. Click **OK** to return to the Network dialog box, and then click **OK** again. You may be prompted to install files from your Windows 95/98 installation CD. Follow the instructions to install the files.
7. Click **OK** to restart the PC and complete the TCP/IP installation.

Configure Windows 95, 98 for DHCP

1. Open the Control Panel window, and then click the Network icon.
2. Select the network component labeled TCP/IP, and then click **Properties**.
3. If you have multiple TCP/IP listings, select the listing associated with your network card or adapter.
4. In the TCP/IP Properties dialog box, click the IP Address tab.
5. Click the **Obtain an IP address automatically** option.
6. Double-click **OK** to confirm and save your changes. You will be prompted to restart Windows.
7. Click **Yes**.

When it has restarted your computer is ready to use the Modem's DHCP server.

Windows NT 4.0 workstations:

First, check for the IP protocol and, if necessary, install it:

1. In the Windows NT task bar, click the Start button, point to **Settings**, and then click **Control Panel**.
2. In the Control Panel window, double click the Network icon.
3. In the Network dialog box, click the Protocols tab.
4. The Protocols tab displays a list of currently installed network protocols. If the list includes TCP/IP, then the protocol has already been enabled. Skip to "Configure IP Information"
5. If TCP/IP does not display as an installed component, click **Add**.
6. In the Select Network Protocol dialog box, select **TCP/IP**, and then click **OK**. You may be prompted to install files from your Windows NT installation CD or other media. Follow the instructions to install the files.
7. After all files are installed, a window displays to inform you that a TCP/IP service called DHCP can be set up to dynamically assign IP information.
8. Click **Yes** to continue, and then click **OK** if prompted to restart your computer.

Configure Windows NT 4.0 for DHCP

1. Open the Control Panel window, and then double-click the Network icon.
2. In the Network dialog box, click the Protocols tab.
3. In the Protocols tab, select **TCP/IP**, and then click **Properties**.
4. In the Microsoft TCP/IP Properties dialog box, click the **Obtain an IP address automatically** option.
5. Click **OK** twice to confirm and save your changes, and then close the Control Panel.

Your computer is now ready to use the Modem's DHCP server.

Access the Web Configuration Manager

Once the computer has IP settings that allow it to access the web-based configuration software, you can change the settings to enable the Modem to connect to the Internet.

If the browser software on the computer you are using is configured to use a proxy server for Internet access, it is necessary to first disable the proxy connection.

Check for Proxy service in Windows Internet Explorer:

In Windows Internet Explorer, you can check if a proxy server is enabled using the following procedure:

1. In Windows, click on the START button, go to Settings and choose Control Panel.
2. In the Control Panel window, double-click on the Internet Options icon.
3. Click the Connections tab and click on the LAN Settings button.
4. Verify that the "Use proxy server" option is NOT checked. If it is checked, click in the checked box to deselect the option and click OK.

To use the web-based management software, launch your web browser software and use the LAN IP address of the Modem to access the management software. The default LAN IP address of the Modem is used in the Address bar of your web browser window. Type in **http://** followed by the default IP address, **10.1.1.1** in the address bar of the browser. The URL in the address bar should read: **http://10.1.1.1**

A new window appears prompting you for a user name and password needed to gain access the web

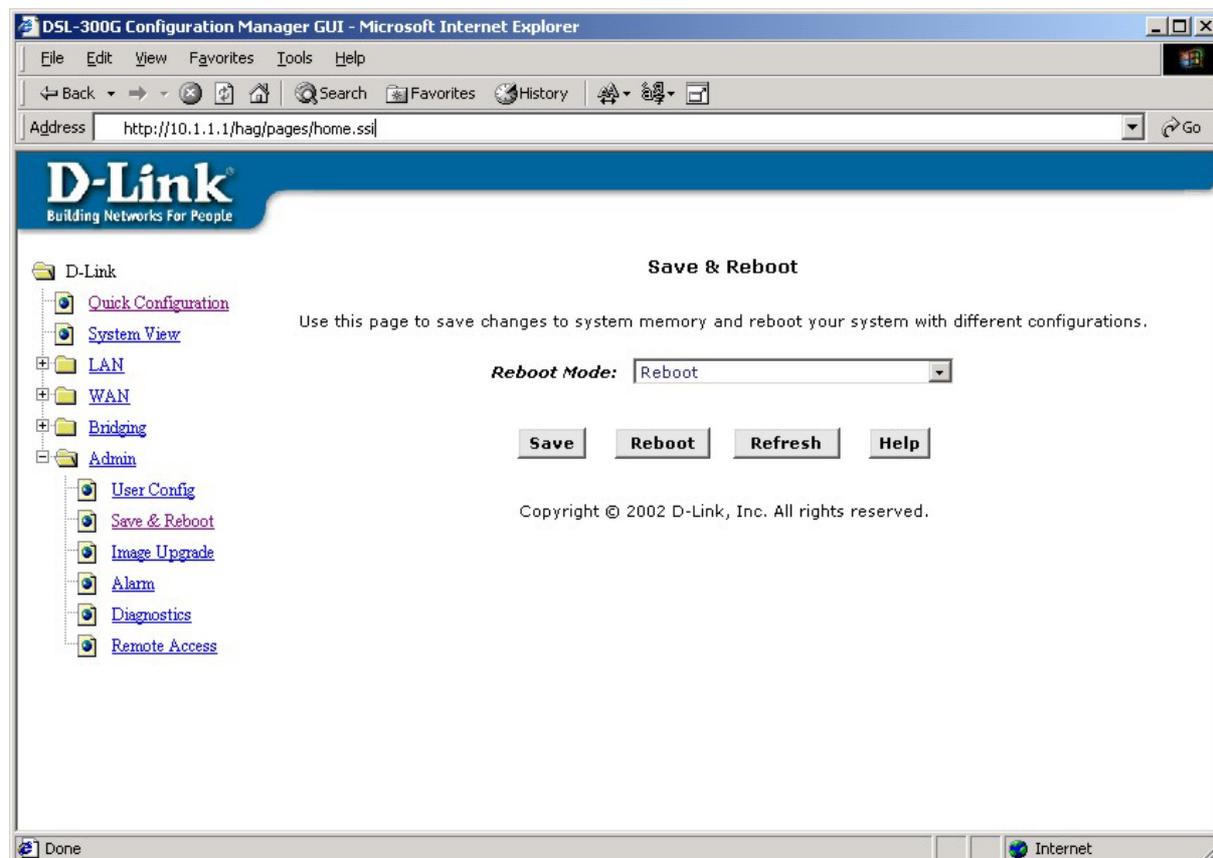
The first web page you will see when you successfully login is the Quick Configuration page. Use the Quick Configuration menu to setup the ADSL connection for a bridged type connection.

Web-based Manager Quick Configuration menu– First Time Log On

In the Quick Configuration window configure the settings listed below to the values given to you by your ISP. Change only the specific parameters that you have been instructed to change.

PVC	Select the PVC for configuration and click the Submit button to refresh the screen. Then you may proceed to change the other parameters. Up to 8 unique PVCs can be defined. Default = 0.
Operation Mode	Use this pull-down menu to enable a PVC connection profile. Choose “Enabled” to activate the selected PVC or “Disabled” to disable it.
Connection Type	Choose “Bridged IP LLC” or “Bridged IP VC-Mux” form the pull-down menu. Default Connection Type = <i>Bridged IP LLC</i> .
VPI	Type in the VPI value for the selected PVC. Use the value assigned by your service provider. If you are setting up multiple virtual connections, remember that each VPI/VCI combination must be unique to the device. Ask your service provider or ISP for more information. Default = 8.
VCI	Type in the VCI value for the selected PVC. Default = 35.

Save & Reboot



Save and Reboot Menu

To save current configuration settings as they have been submitted click the **Save** button. A message informs you when the settings have been successfully committed to memory. You must now reboot the device to put the settings into effect. Make sure *Reboot* is selected in the **Reboot Mode:** pull-down menu and click the **Reboot** button.

After the Modem has rebooted it will begin to negotiate the ADSL connection for your account. This will normally take a few seconds. When the ADSL connection has been successfully established, the ADSL Link LED indicator will light steady green. If the ADSL Link indicator does not light after a minute or so access the web configuration manager and double check the settings.



Note

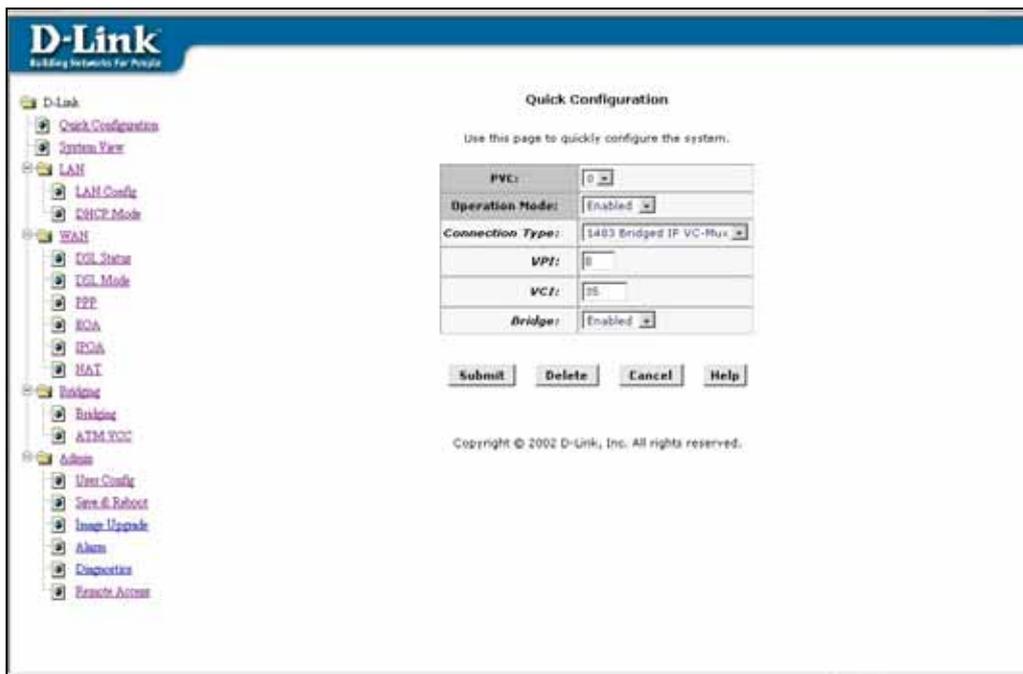
Some accounts use PPP connection software for their Internet service connection. If you have been given a CD with PPP connection software, install this now as instructed by your service provider. After the Modem has rebooted it will negotiate the ADSL connection. Use the connection software to log on to the ISP network and access the Internet.

Web Configuration Management Guide

This chapter describes how to use the embedded web-based management software to configure the Modem for additional PVC connection profiles, to change the LAN IP settings, to change the global WAN IP address and to perform other management functions.

Manager Interface Layout

The management software used for the Modem initially presents the Quick Configuration menu when you first log in. On the left side you see hyperlinks to the Quick Configuration and System View menus. Below these link are folders for LAN, WAN, Bridging and Administration menus. Open these folders to reveal hyperlinks to the various configuration and read-only menus. The LAN folder contains hyperlinked menus used for assigning LAN IP settings to the Modem and IP services performed by the Modem. The Bridging and WAN folders contain menus used to configure settings that allow the Modem to operate on the service provider's network. If you are using the Modem for multiple virtual connections, these menus are also used to configure these additional virtual connections (PVCs).



Modem Web-based Quick Configuration Manager GUI

Commonly Used Buttons

The following buttons are used throughout the web management application.

Submit	Stores in <i>temporary</i> system memory any changes you have made on the current page.
Refresh	Redisplays the current page with updated statistics or settings.
Clear	On pages that display accumulated statistics, this button resets the statistics to their initial values.
Help	Launches the online help for the current topic in a separate browser window. Help is available from the main topic pages.

Quick Configuration

The Quick Configuration displays the settings you are most likely to need to change when you first set up the Modem. These settings are explained briefly below:

PVC	Select the PVC for configuration and click the Submit button to refresh the screen. Then you may proceed to change the other parameters. Up to 8 PVCs can be defined. Default = 0.
Operation Mode	Use this pull-down menu to enable a PVC connection profile. Choose "Yes" to activate the selected PVC or "No" to disable it. Default Operation Mode = Yes for PVC 0. For PVC 1 to PVC 7, default is No.
Connection Type	Choose "Bridged IP LLC" or "Bridged IP VC-Mux" from the pull-down menu. Default Connection Type = <i>Bridged IP LLC</i> .
VPI	Type in the VPI value for the selected PVC. Default = 8.
VCI	Type in the VCI value for the selected PVC. Default = 35.

Click the **Submit** button to save the settings in temporary memory. When you are done making changes to the configuration settings, open the **Save & Reboot** menu and click the **Save** button to save your changes to permanent memory.

You can click the **Delete** button to remove all existing Quick Configuration settings and return to the default values.

System View

The System View read-only table on the Home Page displays a summary of various system settings and functions as described in the table below. Red colored text headings in this display are hyperlinked to a relevant menu.

System View					
Use this page to get the summary on the existing configuration of your device.					
Device		DSL			
Model:	DSL-300G	Operational Status:		 Startup Handshake	
S/W Version:	R2.01M.B2.AU(021206a/T93.3.44)	DSL Version:		T93.3.44	
Mode:	Bridging	Standard:		G.dmt	
Up Time:	2:16:59	Up		Down	
Time:	Thu Jan 08 15:45:44 2004	Speed	Latency	Speed	Latency
Time Zone:	EAST	0 Kbps	-	0 Kbps	-
Daylight Saving Time:	OFF				
Name:	-				
Domain Name:	-				
<input type="button" value="Modify"/> <input type="button" value="Refresh"/> <input type="button" value="Help"/>					

System View Display

Device	<p>Displays the basic information about the device hardware and software versions, the system uptime, and the operating mode. To change the time settings, click the Modify button. A menu will appear in a new window for configuring the system time for the Modem.</p> <p>A green Operational Status: icon indicates the DSL service is connected and functioning.</p>
DSL	<p>Displays the operational status and performance statistics for the DSL line as well as information on the version and standard used for your service.</p>

Change LAN IP Settings

The LAN IP address identifies the LAN port (eth-0) as a node on your network; that is, its LAN IP address must be in the same subnet as the computers on your LAN.

You can change the default LAN IP address and Net Mask to suit the IP address arrangement you want to set up for your LAN. Click the LAN hyperlink view the LAN Configuration menu. This menu can also be accessed from the Routing or Bridging folders.

LAN Configuration

Use this page to set the LAN configuration, which determines how your device is identified on the network.

LAN Configuration	
System Mode:	Routing And Bridging
Get LAN Address:	<input checked="" type="radio"/> Manual <input type="radio"/> External DHCP Server <input type="radio"/> Internal DHCP Server
LAN IP Address:	<input type="text" value="10"/> <input type="text" value="1"/> <input type="text" value="1"/> <input type="text" value="1"/>
LAN Network Mask:	<input type="text" value="255"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/>

LAN Configuration

To change the Modem Ethernet IP address, click the **Refresh** button and type in the new settings as described below.

System Mode	Read-only, lists the current mode of operation for the device.
Get LAN IP Address	<p>Choose the source the Modem uses to obtain its own IP settings for operation on the Ethernet LAN. By default the Modem's IP settings are set to Manual.</p> <p>You may select External DHCP to use a DHCP server from outside the LAN. An external DHCP server will send DHCP settings through the WAN port. The external DHCP server may be part of the ISP's network.</p> <p>The remaining alternative, Internal DHCP Server is used to obtain IP settings from a DHCP server within the Ethernet LAN. The IP settings will sent through the LAN port.</p>
LAN IP Address	<p>The IP address your computers use to identify the device's LAN port.</p> <p>Note that the public IP address assigned to you by your ISP is not your LAN IP address. The public IP address identifies the WAN (ADSL) port on your Modem to the Internet.</p> <p>Type in the IP address for the Ethernet LAN interface.</p> <p>Default = 10.1.1.1</p>
LAN Network Mask	<p>The LAN Network mask identifies which parts of the LAN IP Address refer to your network as a whole and which parts refer specifically to nodes on the network.</p> <p>Type in the Subnet Mask for the Ethernet LAN IP interface.</p> <p>Default = 255.0.0.0</p>

Click the **Submit** button to save the settings in temporary memory. If you are changing the IP address you will need to login again to access the web manager. If you are getting IP settings from DHCP, the new IP settings will be applied after you submit, save and reboot. You must Save & Reboot the device to save your changes to permanent memory.

DHCP Service Modes

DHCP services can be employed in one of three different ways; it can provide DHCP services, it can receive DHCP services or it can relay DHCP service. By default the device is configured to act as a DHCP server on the Ethernet LAN. In this case it will supply IP settings to hosts that are configured to receive IP settings from a DHCP server.

The device may also be configured to relay IP settings from your ISP's DHCP server. In this case, you will want to configure the client hosts on your LAN to automatically obtain IP settings.

Finally the Modem can perform no DHCP function at all. In this case, it will need to be either manually assigned IP settings or receive them from a DHCP server on your LAN or from the ISP (see previous section).

Dynamic Host Configuration Protocol (DHCP) Configuration

Use this page to set and configure the Dynamic Host Configuration Protocol mode for your device. With DHCP, IP addresses for your LAN are administered and distributed as needed by this device or an ISP device. See help for a detailed explanation of DHCP.

DHCP Mode:

DHCP Mode Configuration

Choose one the options below from the **DHCP Mode:** drop-down menu.

DHCP Server	This is the default mode for the Modem. In this mode it provides DHCP services to properly configured hosts on the Ethernet LAN.
DHCP Relay	In this mode the Modem is an intermediary device or relay agent between a DHCP server owned by the ISP and host systems on your LAN.
none	In this mode the device does deliver or relay any DHCP services. If you choose this option and are operating in Modem mode you will need to supply IP settings to the device manually (see previous section).

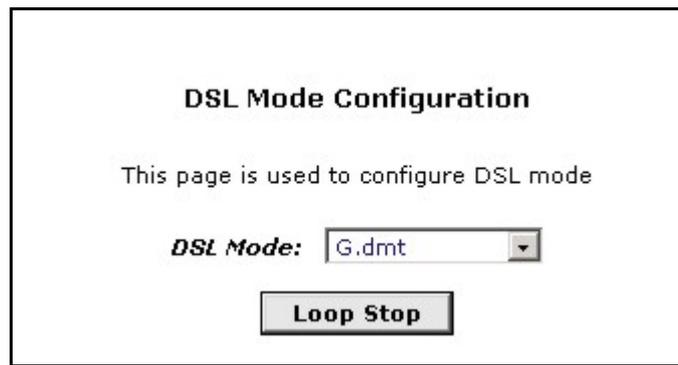
Click the **Submit** button to save the settings in temporary memory. When you are done making changes to the configuration settings, open the **Save& Reboot** menu and click the **Save** button to save your changes to permanent memory.

Change Modulation for Modem

The Modem Setup menu is used to change the Modulation Type used for the ADSL connection. This setting should only be changed if your service provider has given explicit instructions to change it.



Do not change the (ADSL) Modulation type used unless you have been instructed to do so. If this setting is not configured properly, the Modem will not work.



DSL Mode Configuration

This page is used to configure DSL mode

DSL Mode:

DSL Mode Configuration for change modulation method

If you are instructed by your ISP to change the Modulation type is used for your service, select the desired modulation type from the pull-down menu and click **Loop Start**. The modulation types available are **T1.413**, **G.lite**, **G.dmt**, **Multimode**, **Reserve mode**, **Legacy DMT**, **Legacy Lite**, and **Legacy 2**.

PPP Configuration

PPP is configured as a group of software settings associated with the ADSL port. Although the device has only one physical ADSL port, the Modem can be defined with more than one group of PPP settings. Each group of settings is called a PPP interface and is given a name, such as *ppp-0*, *ppp-1*, etc.

Point to Point Protocol (PPP) Configuration

This page is used to Configure and View PPP interfaces.

Inactivity TimeOut(mins):

Ignore WAN to LAN traffic while monitoring inactivity:

Interface	VC	Interface Sec Type	Protocol	WAN IP	Gateway IP	Default Route	Use DHCP	Use DNS	Oper. Status	Action
ppp-0	aal5-0	Public	PPPoE	0.0.0.0	0.0.0.0	Enable	Disable	Enable	Link Down	

PPP Configuration

You can configure the following settings on the PPP Configuration page:

Inactivity TimeOut(mins): - The time in minutes that must elapse before a PPP connection times-out due to inactivity.

Ignore WAN to LAN traffic while monitoring activity: - When enabled, data traffic traveling in the incoming direction -- from the WAN port to the LAN port -- will not count as activity on the WAN port; i.e., it will not prevent the connection from being terminated if it has been otherwise inactive for the specified time.

To configure a new PPP interface click the **Add** button. A new menu appears.

PPP Interface - Add

Basic Information

PPP Interface:

ATM VC:

Interface Sec Type:

Status:

Protocol: PPPoA PPPoE

Service Name:

Use DHCP: Enable Disable

Use DNS: Enable Disable

Default Route: Enable Disable

Security Information

Security Protocol: PAP CHAP

Login Name:

Password:

PPP Interface - Add

The PPP Configuration table displays the following fields:

PPP Interface	The PPP interface you are configuring.
ATM VC	The Virtual Circuit over which this PPP data is sent. The VC identifies the physical path the data takes to reach your ISP.
Interface Sec Type	<p>The type of Firewall protections that are in effect on the interface.</p> <p>A <i>public</i> interface connects to the Internet (PPP interfaces are typically public). Packets received on a public interface are subject to the most restrictive set of firewall protections defined in the software.</p> <p>A <i>private</i> interface connects to your LAN, such as the Ethernet interface. Packets received on a private interface are subject to a less restrictive set of protections, because they originate within the network.</p> <p>The term <i>DMZ</i> (de-militarized zone), in Internet networking terms, refers to computers that are available for both public and in-network accesses (such as a company's public Web server).</p>
Protocol	The type of PPP protocol used. Your ISP may use PPP-over-Ethernet (PPoE) or PPP-over-ATM (PPoA).
Service Name	This feature is available with PPoE interfaces but not with PPoA interfaces. The name of the ISP service you are using with this PPP connection. ISPs may offer different types of services (for example, for online gaming or business communications), each requiring a different login and other connection properties.
Use DHCP	When set to <i>Enable</i> , the device will acquire additional IP information from the ISP's DHCP server. The PPP connection itself acquires the device's IP address, mask, DNS address, and default gateway address.
Use DNS	When set to <i>Enable</i> , the DNS address learned through the PPP connection will be distributed to clients of the device's DHCP server. This option is useful only when the Modem is configured to act as a DHCP Server for your LAN. When set to <i>Disable</i> , LAN hosts will use the DNS address(es) pre-configured in the DHCP pool.
Default Route	This indicates whether the Modem should use the IP address assigned to this connection as its default route. It is Enabled by default and can be Disabled by selecting the appropriate option.
Security Protocol	Protocol used to confirm the identity of the subscriber.
Login Name	The name you use to log in to your ISP each time this PPP connection is established.
Login Password	The password you use to log in to your ISP each time this PPP connection is established.

IpoA Configuration

The IPoA table contains a row for each EOA interface currently defined on the device. The table may initially contain no entries.

IP over ATM (IPoA) Configuration

This Page is used to View, Add and Delete IPoA Interfaces.

Interface	Interface Sec Type	RFC 1577	Lower Interface	Peer IP Address	Config IP Address	Netmask	Gateway Address	Status	Action
No IPoA Interface!									

IPoA Configuration

The IPoA Configuration table displays the following fields:

IPoA Interface	The IPoA interface you are configuring.
Conf. IP Address	The IP address you want to assign to the interface.
Interface Sec Type	<p>The type of Firewall protections that are in effect on the interface.</p> <p>A <i>public</i> interface connects to the Internet (PPP interfaces are typically public). Packets received on a public interface are subject to the most restrictive set of firewall protections defined in the software.</p> <p>A <i>private</i> interface connects to your LAN, such as the Ethernet interface. Packets received on a private interface are subject to a less restrictive set of protections, because they originate within the network.</p> <p>The term <i>DMZ</i> (de-militarized zone), in Internet networking terms, refers to computers that are available for both public and in-network accesses (such as a company's public Web server).</p>
Netmask	The netmask you want to assign to the interface.
RFC 1577	Specifies whether the IPoA protocol to be used complies with the IEFT specification named "RFC 1577 - Classical IP and ARP over ATM" (contact your ISP if unsure).
Default Route	This indicates whether the Modem should use the IP address assigned to this connection as its default route. It is Enabled by default and can be Disabled by selecting the appropriate option.
Gateway IP Address	The external IP address that the Modem communicates with via the IPoA interface to gain access to the Internet. This is typically an ISP server.

To configure a new IPoA interface click the **Add** button. A new menu appears.

Enter information needed for the IPoA connection following the steps below.

IPoA Interface - Add

IPoA Information	
<i>IPoA Interface:</i>	ipoa-0
<i>Conf. IP Address:</i>	0 0 0 0
<i>Interface Sec Type:</i>	Public
<i>Netmask:</i>	0 0 0 0
<i>RFC 1577:</i>	<input type="radio"/> Yes <input checked="" type="radio"/> No
<i>Default Route:</i>	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
<i>Gateway IP Address:</i>	

Add IPoA Interface

Follow these instructions to add an IPoA interface:

1. Select the next available interface name from the IPoA Interface drop-down list.
2. In the Configured IP Address and Net Mask boxes, type the address and mask that you want to assign to the IPoA interface.
3. From the Interface Sec Type drop-down list, select the level of firewall security for the interface: Public, Private, or DMZ.
4. In the RFC 1577 Click the Yes radio button if the interface complies with the IETF specification RFC 1577 and click the Add button.
5. Click the **Submit** button. A confirmation page will display to confirm your changes.
6. Click the Close to return to the IPoA page and view the new interface in the table.
7. Display the **Admin** tab, and click **Save & Reboot** in the task bar.
8. Click the Save button to save your changes to permanent memory.

EOA Configuration

Ethernet-over-ATM (EOA) is a commonly used protocol for data transfer between Ethernet LANs and wide area networks that use the ATM protocol. Telecommunications industry networks often use the ATM in the within the their primary infrastructure or backbone. Network service providers that sell DSL services often use the EOA protocol for data transfer with their customers' DSL Modems.

EOA is implemented to create a bridged connection between a DSL Modem and the ISP. In a bridged connection, data is shared between the ISP's network and their customer's as if the networks were on the same physical LAN. Bridged connections do not use the IP protocol. EOA can also be configured to provide a routed connection with the ISP, which uses the IP protocol to exchange data.

This section describes how to configure an Ethernet-over-ATM interface on the Modem, if one is needed to communicate with your ISP.

Before creating an EOA interface or modifying the default settings, contact your ISP to determine which type of protocol they use.

 IMPORTANT	<p><i>Your ISP may use a protocol other than EOA for communication with the Modem, such as the point-to-point protocol (PPP). One type of PPP, named PPP over Ethernet (PPPoE), actually works "on top" of the EOA protocol. The other type, PPP over ATM (PPPoA), does not. However, if your ISP uses either type of PPP, you do not need to separately create an EOA interface. If your service provider has given you PPP software for installation on your computer, follow the instructions given to you by your ISP and do not change the EOA settings.</i></p>
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To view your current EOA configuration, log into the Configuration Manager, click the EoA button in the Bridging folder, the EOA Configuration page appears:

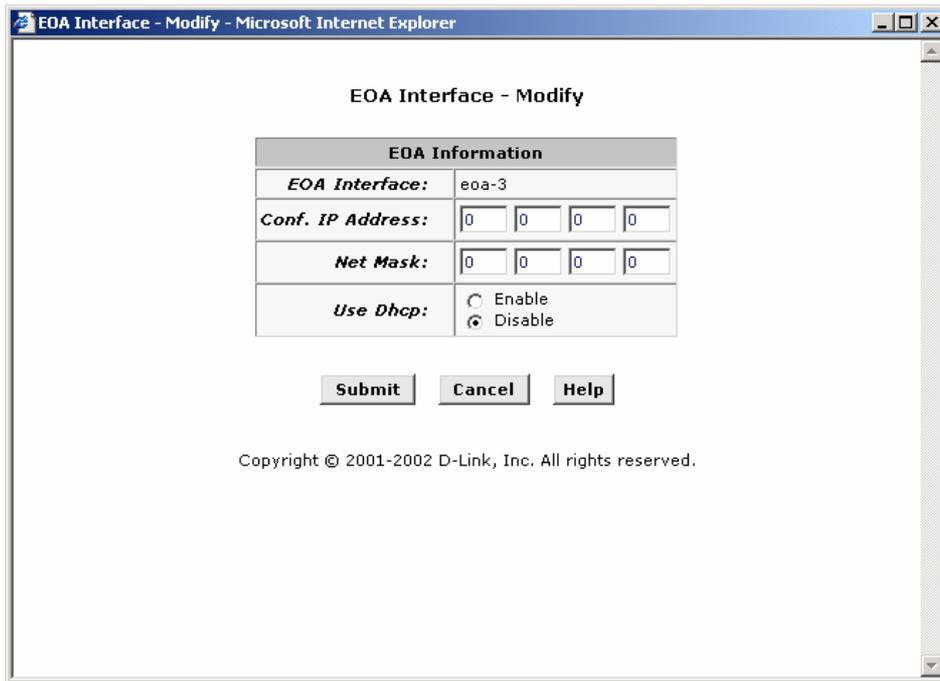
RFC1483/Ethernet over ATM(EoA) Config

This Page is used to View, Add, Modify and Delete EOA Interfaces.

Interface	Interface Sec Type	Lower Interface	Config IP Address	Netmask	Use DHCP	Default Route	Gateway Address	Status	Action
No Interface Found!									

EOA Configuration

To define EOA settings for a new virtual connection, click the Add button. To modify an existing EOA setting, click the pencil icon () for that set. When you choose to add a new set or modify an existing set, a new menu appears (see below). To delete an existing AAL5 setting, click the trashcan () for that set.



EOA Interface – Modify

To Add or Modify AAL5 Parameters define the following:

EOA Interface	This is used (by the Modem) to identify the EOA interface. If you are adding a new EOA interface, choose the EOA set you want to define from the pull-down menu (Add menu only).
Conf. IP Address:	The IP address assigned to the interface. If the interface will be used as a simple bridge to your ISP, then you do not need to specify IP information. If you enable DHCP for this interface, then the Configured IP address will serve only as a request to the DHCP server. The actual address that is assigned by the ISP may differ if this address is not available. Some ISPs use static IP settings that are manually assigned to each account. If your service provider instructs you to configure a Static IP Address, type in the global IP Address for this EOA interface.
Net Mask:	If you are assigned a Static IP Address and Net Mask, type in the Net Mask for this EOA interface.
Use DHCP:	When checked, this setting instructs the device to accept IP information assigned dynamically by your ISP's DHCP server. If the interface will be used for bridging with your ISP, leave this checkbox unselected. Select Enable or Disable for DHCP service.

Click the **Submit** button to save the settings in temporary memory. When you are done making changes to the configuration settings, open the **Save & Reboot** menu and click the **Save** button to save your changes to permanent memory.

NAT

Network Address Translation is a method for disguising the private IP addresses you use on your LAN as the public IP address you use on the Internet. You define NAT rules that specify exactly how and when to translate between public and private IP addresses.

NAT is enabled by default. You can enable or disable NAT by selecting the *Enable* or *Disable* option in the configuration menu and submitting the settings.

NAT Configuration

To view the NAT Rule setting menu or the NAT Translations entries, select the option from the **NAT Options:** drop-down menu. To configure NAT Rules, select the *NAT Rule Entry* option and click the Add button. A new window is displayed:

Add NAT Rule

From the **Rule Flavor** drop-down list, select *Basic*, *Filter*, *NAPT*, *BIMAP*, *RDR* or *PASS*. The page redisplay with only the fields that are appropriate for the chosen NAT flavor.

Enter information appropriate to the NAT flavor. The information in the various menus is summarized in the table below.

Rule ID	The Rule ID determines the order in which rules are invoked (the lowest numbered rule is invoked first, and so on). In some cases, two or more rules may be defined to act on the same set of IP addresses. Be sure to assign the Rule ID so that the higher priority rules are invoked before lower-priority rules. It is recommended that you select rule IDs as multiples of 5 or 10 so that, in the future, you can insert a rule between two existing rules. Once a data packet matches a rule, the data is acted upon according to that rule and is not subjected to higher-numbered rules.
IF Name	Typically, NAT rules are used for communication between your LAN and the Internet. Because the device uses the WAN interface (which may be named <i>ppp-0</i> , <i>eoan-0</i> , or <i>ipoa-0</i>) to connect your LAN to your ISP, it is the usual IF Name selection.
Protocol	This selection specifies which type of Internet communication will be subject to this translation rule. You can select ALL if the rule applies to all data. Or, select TCP, UDP, ICMP, or a number from 1-255 that represents the IANA-specified protocol number.
Local Address From	Type the starting IP of the range of private address you want to be translated. You can specify that data from all LAN addresses should be translated by typing 0 (zero) in each From field and 255 in each To field. Or, type the same address in both fields if the rule only applies to one LAN computer.
Local Address To	Type the ending IP of the range of private address you want to be translated.
Global Address From	Type the public IP address assigned to you by your ISP.
Global Address To	If you have multiple WAN interfaces, in both the Global Address From and Global Address To fields, type the IP address of the interface to which this rule applies. This rule will not be enforced for data that arrives on other PPP interfaces. If you have multiple WAN interfaces and want the rule to be enforced on a range of them, type the starting and ending IP addresses of the range. You can specify a single value by entering that value in both the From and To fields.
Destination Address (or addresses)*	Specify a range of destination addresses if you want this rule to apply only to outbound traffic to addresses in that range. If you enter only the network ID portion of the destination address, then the rule will apply to outbound traffic to all computers on network. You can specify a single value by entering that value in both the From and To fields.
Destination Port (or ports)*	Specify a range of destination ports if you want this rule to apply to any outbound traffic to the types of servers identified by that port number. For example, if you do not specify a destination address, but specify a Destination Port From/To of 21, then this translation will occur on all accesses by your LAN to all external FTP servers (that is, when one of your LAN computers communicates with an external FTP server, the source IP address in the packet headers is changed to the public address, replacing the initiator's private IP address). Common port numbers include: 21-FTP (file transfer protocol) server 25-SMTP (simple mail transfer protocol) server 80-HTTP (World Wide Web) server.

* Specify both a destination address (or range) and a destination port (or range) if you want this translation rule to apply to accesses to the specified server type at the specified IP address or network.

Bridge Configuration

The Modem can be configured to act as a bridging device between your LAN and your ISP. Bridges are devices that enable two or more networks to communicate as if they are two segments of the same physical LAN. This section describes how to configure the Modem to operate as a bridge.



IMPORTANT

Before changing the bridge configuration, check with your ISP to determine the type of connection used to exchange data with their client's DSL Modems (such as Ethernet bridging).

A bridge is a device used to connect two or more networks. A bridge device is able to learn the unique manufacturer-assigned hardware identifier (MAC Address) of each computer or device on either or both networks to which it is connected. It learns that some of the MAC addresses represent computers attached via one of the device's interfaces and other MACs represent computers connected via other interfaces. For example, the MAC addresses of your home computers are learned through (or associated with) the Ethernet port, and the MACs of your ISP's computers are attached via the WAN (DSL) port. It stores the MAC addresses and the interface associated with each MAC in its *bridge forwarding table*.

When the bridge receives a data packet, it compares its destination MAC to the entries in the bridge forwarding table. When the packet's destination MAC address matches one of the entries, it forwards the packet through the interface that connects to the corresponding network. The bridge does not send the data directly to the receiving computer, but broadcasts it to the receiving network, making it available to any node on that network. On the receiving network, the packet is delivered in a form recognized by the network protocol (Ethernet for the LAN side of the Modem) and delivered to its destination.

When the bridge does not recognize a packet's destination MAC address, it broadcasts the packet through all of its interfaces – to both networks.

You may need to use the device as a bridge if:

- Your ISP uses protocols that require bridging with your LAN. The device can be configured to appear as a bridge when communicating with your ISP, while continuing to provide Modem functionality for your LAN.
- Your LAN may include computers that communicate using "layer-3" protocols other than the Internet Protocol. These include IPX® and AppleTalk®. In this case, the device can be configured to act as a bridge for packets that use these protocols while continuing to serve as a Modem for IP data.

To add or change bridge configuration settings, log into the Configuration Manager and click on the Bridging button in the Bridging folder.

Bridge Configuration

Use this page to Add and Modify Bridging information

Bridging: **Enable** **Disable**

Interface Name	Action
eth-0	
eth-0 ▾	Add

Bridge Configuration Menu

To define Bridge settings for a new virtual connection, click the Add button. When you choose to add a new set or modify an existing set, a new menu appears (see below). To delete an existing setting, click the trashcan () for that set.

To enable bridging, you simply specify the device interfaces on which you want to bridge data, and then enable bridging mode by clicking the **Enable** option.

Click the Submit button to save the settings in temporary memory. When you are done making changes to the configuration settings, open the **Save & Reboot** menu and click the **Save** button to save your changes to permanent memory.

If you enable bridging on an interface that has already been assigned an IP address, then it is considered IP-enabled and will route (rather than bridge) IP packets received on the interface. The interface will bridge non-IP data it receives, however.



Note

*You can determine whether the Ethernet (eth-0 interface has been assigned an IP address by displaying the IP Address Table (display the **Routing** tab, then click **IP Addr**). These interfaces will display in the table only if they have been assigned IP addresses.*

*You can check whether the eoa-0 interface has been assigned an IP address by displaying the EOA configuration table (display the **WAN** tab, and then click **EOA**). If the Config IP Address field is empty and the Use DHCP field contains the word **Disable**, then no IP address has been assigned.*

ATM VC Configuration

When computers access the Internet using the Modem, data is exchanged with your network service provider or ISP through a complex network of telephone switches, Internet Modems, servers, and other specialized hardware. These various devices communicate using a common language, or protocol, called *Asynchronous Transfer Mode* (ATM). On the Wide Area Network (WAN) that connects you to your ISP, the ATM protocol performs functions like those that the Ethernet protocol performs on your LAN.

This section describes how to configure the ATM *virtual channel connection* (VCC). The VCC properties define the path the Modem uses to communicate with your ISP over the ATM network.

To view your current configuration, log into the Configuration Manager, and then click the ATM VCC button in the Bridging folder. The ATM VCC Configuration page displays, as shown below:

ATM VC Configuration

This page is used to view and configure ATM VCs

Interface	VPI	VCI	Mux Type	Max Proto per AAL5	Action(s)
aal5-0	0	35	LLC	2	 

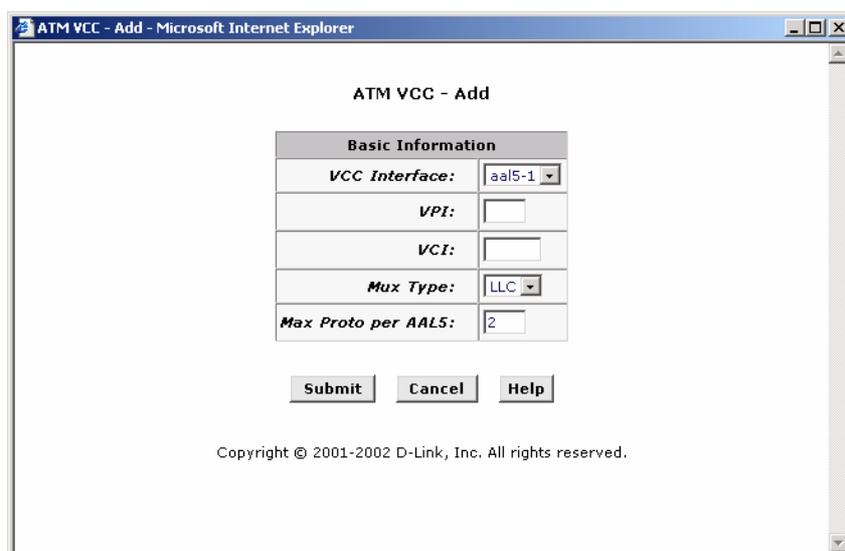
Add
Refresh
Help

ATM VCC Configuration Menu

Additional Virtual Connections

In order to use more than one PVC setting, it will be necessary to define one or two set of parameters for each virtual connection. First use the ATM VC Configuration menu to define new AAL5 settings. All additional PVCs must be added using the ATM VC menu. For connections that do not use PPPoE or PPPoA, it will also be necessary to use the EOA Configuration menu to establish Ethernet over ATM settings for the PVC adding in the ATM VC menu.

To define AAL5 settings for a new virtual connection, click the Add button. To modify an existing AAL5 setting, click the pencil icon () for that set. When you choose to add a new set or modify an existing set, a new menu appears (see below). To delete an existing AAL5 setting, click the trashcan () for that set.



ATM VCC – Add (or Modify) Parameters

To Add or Modify AAL5 Parameters define the following:

VCC Interface	<p>The name of the lower-level interface on which this VC operates. The low-level interface names are pre-configured in the software and identify the type of traffic that can be supported, such as data or voice. Internet data services typically use an AAL5-type interface.</p> <p>If you are adding a new VCC Interface, choose the AAL5 set you want to define from the pull-down menu (Add menu only).</p>
VPI	<p>This setting (together with the VCI and Mux Type) identifies a unique ATM data path for communication between the Modem and service provider.</p> <p>If you are adding a new VCC Interface or changing the existing VPI value, type in the new VPI value.</p>
VCI	<p>If you are adding a new VCC Interface or changing the existing VCI value, type in the new VCI value.</p>
Mux Type	<p>Select VC-Mux or LLC from pull-down menu.</p>
MAX Proto per AAL5	<p>This setting indicates the number of higher-level interfaces that the VC can support (the higher level interfaces can be PPP, EoA, or IPoA interfaces). The Modem supports up to eight however you must make arrangements your service provider for this additional service.</p>

Click the Submit button to save the settings in temporary memory. When you are done making changes to the configuration settings, open the **Save & Reboot** menu and click the **Save** button to save your changes to permanent memory.

Changing the Manager Password

The first time you log into the Web Configuration Manager, use the default user ID and password (*admin* and *admin*). The system allows only one user ID and password. Only the password can be changed. Access the User Configuration menu in the Admin folder.

User Configuration

This page displays user information. Use this page to add/delete users and change your password. Your new password can be up to 64 characters and is case-sensitive.

User ID	Privilege	Action(s)
admin	Root	

Change User Password

To change user name and password used for management privileges, log into the Configuration Manager, click on the Add button and change these settings in a new window:

User Config - Add

New User Information	
User ID:	<input style="width: 90%;" type="text"/>
Privilege:	<input type="radio"/> Root <input checked="" type="radio"/> User
Password:	<input style="width: 90%;" type="password"/>
Confirm Password:	<input style="width: 90%;" type="password"/>

User ID:	This lists the current User ID (user name).
New Password:	Type in the new password.
Confirm New:	Type in the new password a second time for confirmation.

Click the Submit button to save the settings in temporary memory. When you are done making changes to the configuration settings, open the **Save & Reboot** menu and click the **Save** button to save your changes to permanent memory.

Save & Reboot

Whenever you use the Web Configuration Manager to change system settings, the changes are initially placed in temporary storage (called random access memory or RAM). Your changes are made effective when you submit them, but will be lost if the device is reset or turned off.

The Save & Reboot function saves your changes from RAM to permanent storage (called flash memory).



When you Submit changes, they are activated immediately, but they are only saved until the device is reset or turned off. You must Save the changes permanently.

Use the Save & Reboot menu to commit changes to permanent memory.

After you have submitted all the configuration changes you want to make for this session, click on the **Save & Reboot** link in the **Admin** folder to view the Save & Reboot page.

Save & Reboot

Use this page to save changes to system memory and reboot your system with different configurations.

Reboot Mode:

Save and Reboot

To save current configuration settings as they have been submitted click the **Save** button. (Disregard the selection in the Reboot Mode drop-down list; it does not affect the save process.)

The changes are now saved to permanent storage (flash memory).

Reboot the Modem

To reboot the device using the Configuration Manger, display the Save & Reboot page, select the appropriate reboot mode from the drop-down menu, and then click the **Reboot** button.



IMPORTANT

Do not reboot the device using the Reset button on the back panel of the Modem to activate new changes. This button resets the device settings to the manufacturer's default values. Any custom settings will be lost.

Reboot Options

Select the reboot option from the pull-down menu. The options are a described here:

Reboot	A simple reboot. This will put into effect any configuration changes that have been successfully committed to flash memory.
Reboot From Last Configuration	This will reboot the device using the current settings in permanent memory, including any changes you just committed.
Reboot From Default Configuration	This reboots the device to default settings provided by your ISP or the manufacturer. Choosing this option erases any custom settings.

Image Upgrade

Use the Image Upgrade menu to update firmware from a file on your system.

Image Upgrade

This page is used to upload a new image to the system.

Current Firmware Version:	R2.00.B1(020618i1/T93.3.19)
Upgrade File:	<input style="width: 80%;" type="text"/> <input type="button" value="Browse..."/>

Image (Firmware) Upgrade

Upgrade File:	Type in the full path and file name of the firmware file to be uploaded. Alternatively you may click the Browse button to search for the file on your system.
----------------------	---

When the filenames have been entered, click the Upload button to commence loading the firmware file. If the upload is successful, a message informs you that it was successfully loaded and asks you to reboot the device. Go to the Reboot menu and perform a simple reboot. If the firmware does not load, an error message informs you to try the upload again. Check the filenames and attempt to upload again. If the file still will not load, reboot the device and try again.

Diagnostics

The diagnostics feature executes a series of test of your system software and hardware connections. Use this feature when working with your ISP to troubleshoot problems.

Diagnostics

This page is used for performing diagnostics on the system.

ATM VC:

Testing Connectivity to modem		
Testing Ethernet connection	UNKNOWN	Help
Testing ADSL line for sync	UNKNOWN	Help
Testing Ethernet connection to ATM	UNKNOWN	Help
Testing Telco Connectivity		
Testing ATM OAM segment ping	UNKNOWN	Help
Testing ATM OAM end to end ping	UNKNOWN	Help
Testing ISP Connectivity		
Testing PPPoE server connectivity	UNKNOWN	Help
Testing PPPoE server session	UNKNOWN	Help
Testing authentication with server	UNKNOWN	Help
Validating assigned IP address 0.0.0.0	UNKNOWN	Help
Testing Internet Connectivity		
Ping default gateway 0.0.0.0	UNKNOWN	Help
Ping Primary Domain Name Server	UNKNOWN	Help
Query DNS for www.dlink.com	UNKNOWN	Help
Ping www.dlink.com	UNKNOWN	Help

Diagnostics Window

Select the Virtual Circuit and click the Submit button. A message will appear informing you if the loop test succeeded or failed.

The diagnostics utility will run a series of test to check whether the device's connections are up and working. This takes only a few seconds. The program reports whether the test passed or failed. A test may be skipped if the program determines that no suitable interface is configured on which to run the test.

Alarms

The Configuration Manager can be used to view alarms that occur in the system. Alarms, also called traps, are caused by a variety of system events, including connection attempts, resets, and configuration changes.

Although you will not typically need to view this information, it may be helpful in working with your ISP to troubleshoot problems you encounter with the device. (Despite their name, not all alarms indicate problems in the functioning of the system.)

To display the Alarm page, log into the Configuration Manager, click the Alarm button in the Admin folder.

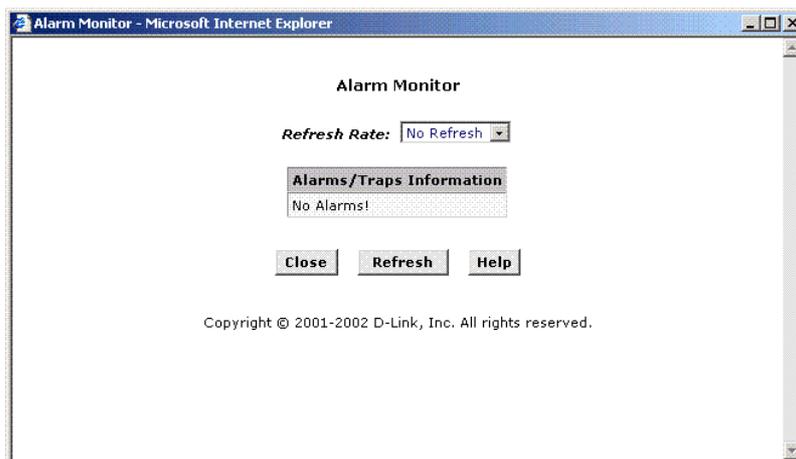


Alarm/Trap Information Page

Listed under Alarm/Trap Information are the time and date of each recorded alarm event, the type of alarm, and a brief statement indicating its cause.

To remove all entries from the list, click the Clear button. New entries will begin accumulating and will display when you click the Refresh button.

If you want to display an automatically updating Alarm table, you can click the Alarm Monitor button to display a separate Alarm Monitor window.



Alarm Monitor (Separate Window)



Technical Specifications

GENERAL		
STANDARDS:	ITU G.992.1 (G.dmt) ITU G.992.2 (G.lite)	ITU G.994.1 (G.hs) ANSI T1.413 Issue # 2
DATA TRANSFER RATE:	G.dmt full rate: Downstream up to 8 Mbps Upstream up to 640 Kbps G.lite: Downstream up to 1.5 Mbps Upstream up to 512 Kbps	
MEDIA INTERFACE EXCHANGE:	RJ-11 port ADSL telephone line connection RJ-45 port for 10/100 BASE-T Ethernet connection	

Physical and Environmental	
DC inputs:	120 VAC to 230 VAC 60Hz 24W
Power Adapter:	9 V AC 1A
Power Consumption:	9 Watts Max.
Operating Temperature:	5° to 40° C (41° to 104° F)
Humidity:	5 to 95% (non-condensing)
Dimensions:	142 mm x 117 mm x 31 mm
Weight:	360 gm
EMI:	FCC Class B
Safety:	CSA International Mark



Low Pass Filters

Most ADSL clients will be required to install a simple device that prevents the ADSL line from interfering with regular telephone services. These devices are low pass filters and are variously referred to as in-line filters, micro-filters, line splitters or split line filters. They are easy to install and use standard telephone connectors and cable.

For some ADSL clients, a telecommunications technician will be sent to the client's premises to modify the telephone line, usually at the point where the telephone line enters the building. If a technician has divided or split your telephone line into two separate lines - one for regular telephone service and the other for ADSL - then you do not need to use any type of filter device. Follow the instructions given to you by your ADSL service provider, ISP or telephone company about where and how you should connect the Modem to the ADSL line.

In-Line Filters

Two common styles of low pass filters are shown in this section, the first is an in-line filter and is illustrated in Figure 16 below. In-line filters are easy-to-install, in-line devices, which attach to the telephone cable between the telephone and wall jack.

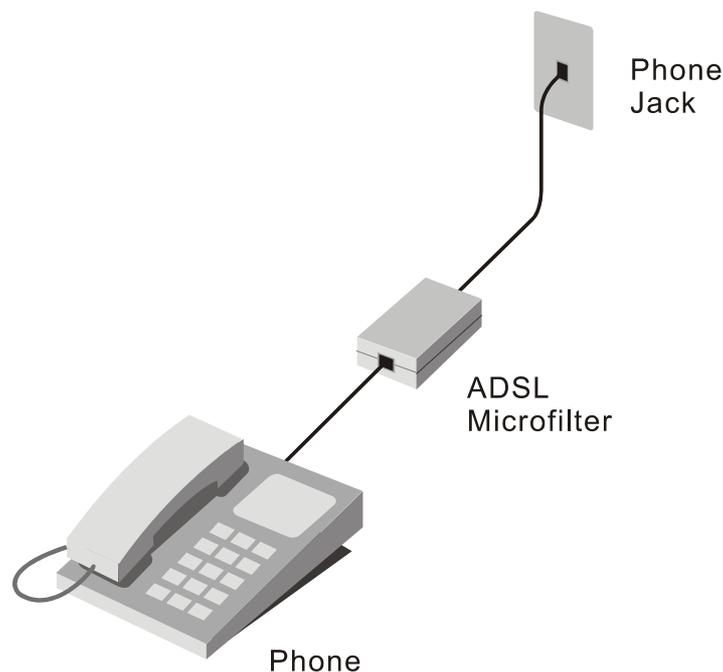


Figure 3. In-line Filter Installation

Note: Do not install an in-line filter between the Modem and the telephone jack. In-line filters are only intended for use with regular telephones, Fax machines and other regular telephone devices.

Split Line Filter

If you are instructed to use a split line style filter you must install the device between the Modem and the phone jack. Use standard telephone cable with standard RJ-11 connectors. The splitter has three RJ-11 ports used to connect to the wall jack, the Modem and if desired, a telephone or telephone device. The connection ports are typically labeled as follows:

Line - This port connects to the wall jack.

ADSL - This port connects to the Modem.

Phone - This port connects to a telephone or other telephone device.

The diagram below illustrates the proper use of the split line style filter.

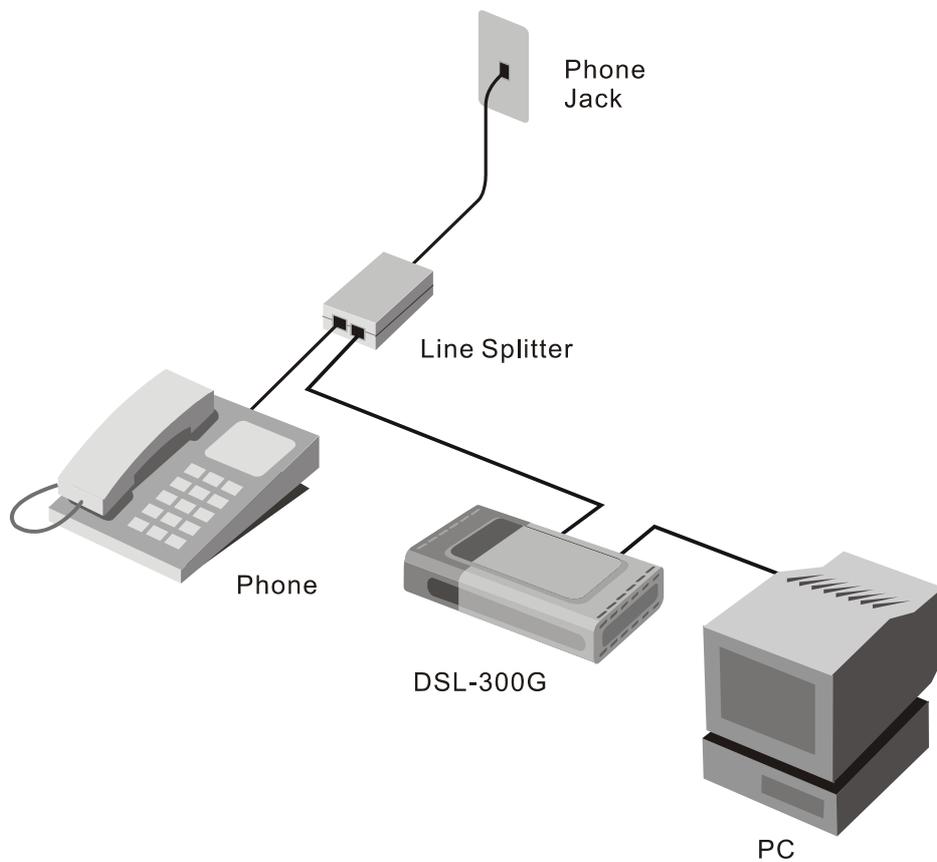


Figure 4. Split Line Filter Installation

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E-MAIL: tech@dlink.com & support@dlink.com

Registration Card

Print, type or use block letters.

Your name: Mr./Ms _____
 Organization: _____ Dept. _____
 Your title at organization: _____
 Telephone: _____ Fax: _____
 Organization's full address: _____

 Country: _____
 Date of purchase (Month/Day/Year): _____

Product Model	Product Serial No.	* Product installed in type of computer (e.g., Compaq 486)	* Product installed in computer serial No.

(* Applies to adapters only)

Product was purchased from:

Reseller's name: _____
 Telephone: _____ Fax: _____
 Reseller's full address: _____

Answers to the following questions help us to support your product:

1. Where and how will the product primarily be used?
Home Office Travel Company Business Home Business Personal Use
2. How many employees work at installation site?
1 employee 2-9 10-49 50-99 100-499 500-999 1000 or more
3. What network protocol(s) does your organization use ?
XNS/IPX TCP/IP DECnet Others _____
4. What network operating system(s) does your organization use ?
D-Link LANsmart Novell NetWare NetWare Lite SCO Unix/Xenix PC NFS 3Com 3+Open
Banyan Vines DECnet Pathwork Windows NT Windows NTAS Windows '95
Others _____
5. What network management program does your organization use ?
D-View HP OpenView/Windows HP OpenView/Unix SunNet Manager Novell NMS
NetView 6000 Others _____
6. What network medium/media does your organization use ?
Fiber-optics Thick coax Ethernet Thin coax Ethernet 10BASE-T UTP/STP
100BASE-TX 100BASE-T4 100VGAnyLAN Others _____
7. What applications are used on your network?
Desktop publishing Spreadsheet Word processing CAD/CAM
Database management Accounting Others _____
8. What category best describes your company?
Aerospace Engineering Education Finance Hospital Legal Insurance/Real Estate Manufacturing
Retail/Chainstore/Wholesale Government Transportation/Utilities/Communication VAR
System house/company Other _____
9. Would you recommend your D-Link product to a friend?
Yes No Don't know yet
10. Your comments on this product? _____

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