USER MANUAL DNS-321

VERSION 1.0



D-Link®

STORAGE

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Product Overview Package Contents

- D-Link DNS-321 2-Bay Network Storage Enclosure
- CD-ROM with Manual and Software
- Quick Installation Guide
- Power Adapter
- CAT5 Ethernet Cable



Note: Using a power supply with a different voltage than the one included with the DNS-321 will cause damage and void the warranty for this product.

If any of the above items are missing, please contact your reseller.

System Requirements

For best results, the following system requirements are recommended:

- Computer with: 1GHz processor / 512 MB RAM / 200 MB available space / CD-ROM drive
- Internet Explorer version 6.0 or Mozilla Firefox 1.0 and above
- 3.5" SATA Hard Drive(s)
- Windows® XP (with Service Pack 2) or Vista™

Introduction

The D-Link DNS-321 2-Bay Network Storage Enclosure shares your documents, photos, music, and videos across the network and on the Internet (via FTP server) so family members, friends, or employees can access them. This enclosure, which can hold two 3.5" SATA hard drives of any capacity¹, creates a central network point for backing up valuable files. The built-in RAID 1² mirroring technology protects these files from drive failure. Other options such as Standard, JBOD, and RAID 0 are also available.

The DNS-321 shares files over the Internet via the built-in FTP server³. Users and groups can be created and assigned to folders with either read or read/write permissions. Quotas can be set per user or group to restrict space usage. In addition, the DNS-321 can be used to stream photos, music, and videos to UPnP AV compatible network media players⁴.

The included CD contains D-Link's Easy Search Utility. This utility allows you to locate the DNS-321 on the network and map drives to your computer. Backup software is also included on the CD. This software allows you to backup your files from a computer to the DNS-321 manually, by a schedule, or in real-time. Real-time backups are a great way to safeguard against unfortunate accidents that may result in the loss of important files.

Combining ease of use with practical and high performance features, the DNS-321 is an organized solution for any network. Free up drive space on computers and centralize data on your network with the DNS-321 2-Bay Network Storage Enclosure!

- 1 Hard Drive(s) not included.
- 2 RAID 1 mirroring requires the use of 2 internal SATA drives.
- 3 Note that use of an FTP Server to access files over the Internet does not provide for secure or encrypted transmissions.
- 4 D-Link cannot guarantee full compatibility or proper playback with all codecs. Playback capability depends on the codec support of the UPnP™ AV media player.

Features

The DNS-321 is designed for easy installation and allows remote access to important data via LAN or WAN:

- Two Hard Drive Bays for 3.5" SATA Hard Drives of Any Capacity¹
- Simplified Hard Drive Installation Process No Tools Required
- Four Hard Drive Configurations: Standard, JBOD (Linear), RAID 0, and RAID 1²
- High Performance Gigabit Ethernet Connectivity
- Built-in FTP Server for File Access Over the Internet³
- Scheduled Downloads from Web or FTP Sites
- Full or Incremental Backups
- Real Time Backups With the Included Backup Software
- Users and Groups Can Be Assigned to Folders with Read or Read/Write Permissions
- Quotas For Users and Groups
- Automatic E-Mail Notifications
- Power Management for Conserving Energy and Extending Hard Drive Life
- UPnP AV Server for Streaming Music, Photos, and Video to Compatible Media Players⁴
- iTunes® Software will be able to automatically find and play music directly from the DNS-321
- D-Link Easy Search Utility
- Configurable by Web Browser

1 Hard Drive(s) not included

² RAID 1 mirroring requires the use of 2 internal SATA drives.

³ Note that use of an FTP Server to access files over the Internet does not provide for secure or encrypted transmissions.

⁴ D-Link cannot guarantee full compatibility or proper playback with all codecs. Playback capability depends on the codec support of the UPnP™ AV media player.

Hardware Overview Front View



Power Button:

Press once to power on the DNS-321. Press and hold the button until it begins to blink to power down the DNS-321.

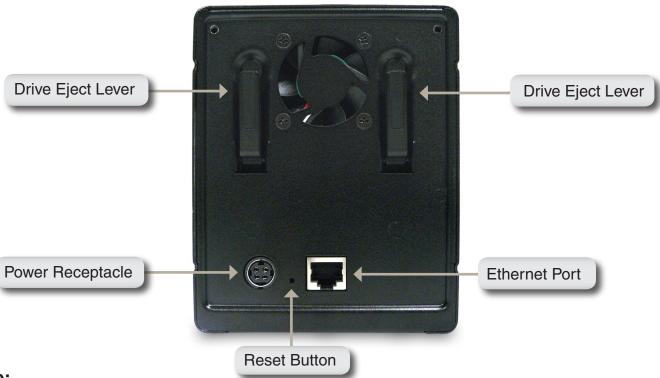
Drive Light:

These lights will be solid BLUE when drives are connected but inactive. The lights will blink when the drives are being accessed, formatted or synchronized. They will illuminate AMBER if a drive has failed.

Network Activity Light:

The light will be solid BLUE when there is an Ethernet connection. It will blink to indicate LAN traffic.

Rear Panel (Connections)



Power Receptacle:

The supplied power adapter connects here.

Ethernet Port:

A Gigabit Ethernet port that connects the DNS-321 to a network.

Drive Eject Lever:

Use the provided levers to eject the hard drives. The front panel must be removed before ejecting the drives.

Reset Button:

A pinhole button located beside the Ethernet socket is used to reset the system or restore the factory default settings. **Note:** After resetting the unit you will still be able to access the data on your hard drives.

Installation Hardware Setup

This section provides installation information for the DNS-321. To install the DNS-321 on your local network, refer to the steps below:

1. Slide the faceplate up until it unlatches from the device.



2. Once the faceplate is unlatched, pull it off the device, exposing the drive bays.



3. Insert a 3.5" SATA hard drive into an available drive bay. Make sure to align the drive connector to the SATA connector on the bottom edge inside the drive bay of the DNS-321. Gently push the drive in until it connects. When a drive is inserted properly, you will feel it "seat" into the connector. Some hard drives that are thin or oddly shaped may need to be guided carefully into position. If a drive is not properly seated, the light will not illuminate after powering on the device.



4. Attach the faceplate to the front of the device.



5. Connect an Ethernet cable to the available Ethernet port. This cable should connect the DNS-321 to your local network via a router or switch, or directly to a computer for configuration.



6. Connect the power adapter to the power receptacle.



Configuration Easy Search Utility

When first powered on, during the initial boot sequence, the DNS-321 will wait to be assigned an IP address via DHCP. If it does not receive a DHCP assigned IP address, by default it will have a self-assigned IP address of 192.168.0.32. It is recommended to use the included D-Link Easy Search Utility when accessing and configuring the DNS-321 for the first time. If you want to change the IP address before logging in or if you are unable to connect to the DNS-321 IP address, you can use the Easy Search Utility provided on the product CD to locate the device on your network and make any needed changes.

Network Storage Device The Easy Search Utility displays the available DNS-321 devices on

the network.

Refresh

Refreshes the device list.

Configuration

Click **Configuration** to access the Web-based configuration utility of

the DNS-321.

LAN

Configure the LAN Settings for the

DNS-321 here.

Apply

Click **Apply** to save changes to the

LAN Settings.

Drive Mapping

Volumes available for mapping are

displayed here.

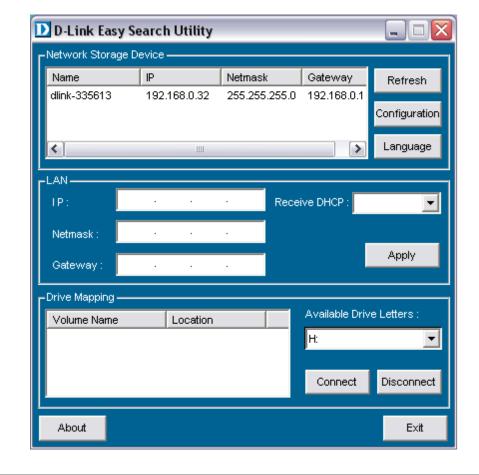
Available Drive Letters

Choose an available drive letter. Click **Connect** to map the selected

volume. Click **Disconnect** to disconnect the selected mapped

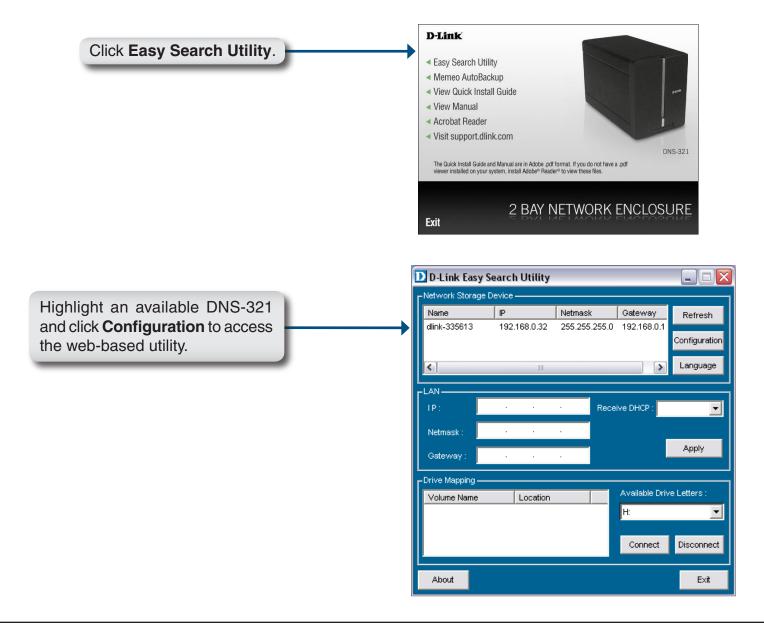
volume.

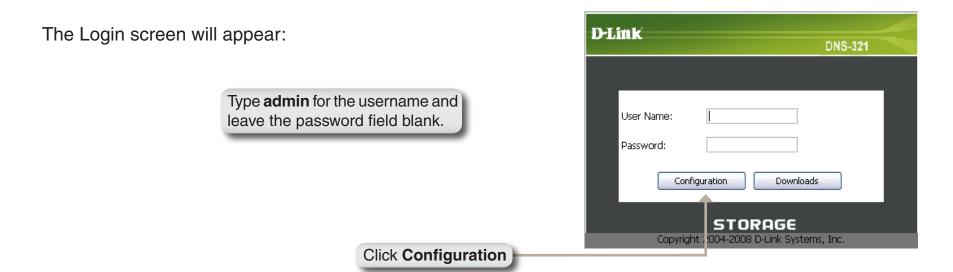
Exit Click Exit to close the utility.



Getting Started

To run the Easy Search Utility, insert the DNS-321 CD into your CD-ROM drive:

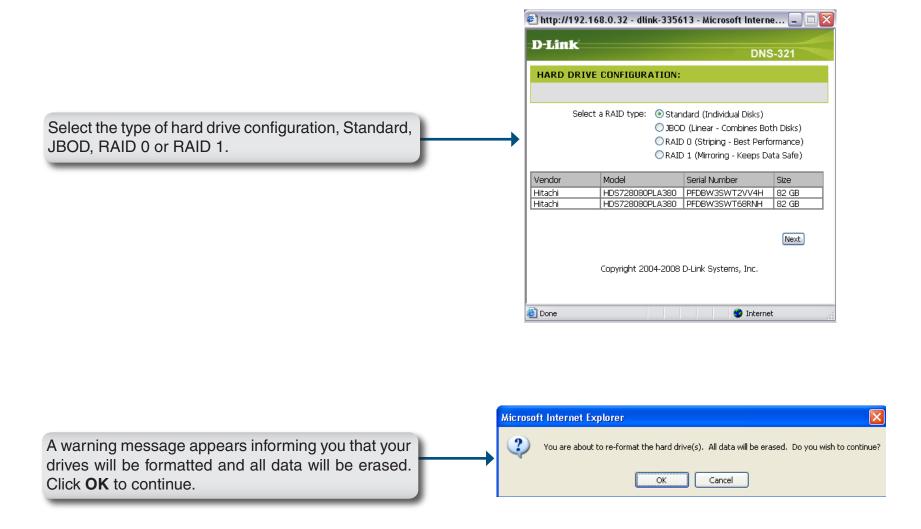




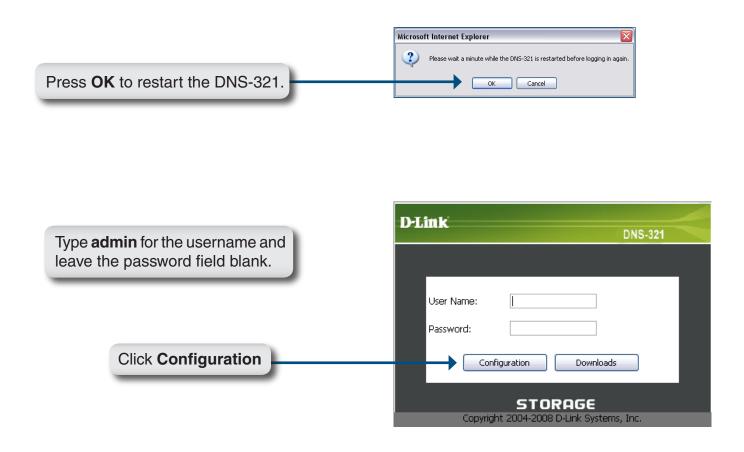
When logging into the DNS-321 for the first time, you will be asked to choose a drive configuration type and format the drives. There are four options: **Standard**, **JBOD**, **RAID 0** and **RAID 1**. Standard configures each disk as a separate volume, while JBOD combines both disks into a single volume. See page 47 for more details on using the RAID configurations.

Note: All data will be erased during the format process.

When prompted to configure the Hard Drive Settings:

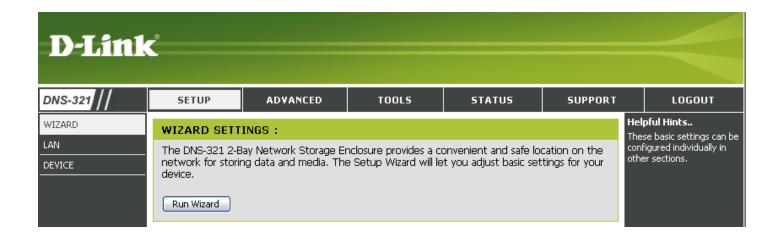


When formatting of the drive completes, the DNS-321 will prompt the user to restart. A restart countdown screen will appear, and when the restart is complete, the login screen will appear:



Note: After logging in to the DNS-321 for the first time it is recommended to add a password to the admin account. (See page 39 for details.)

After login, you will be redirected to the DNS-321 web UI:



Web UI

The DNS-321 web UI defaults to the *Setup* page. The main categories for configuration are located in the menu tabs at the top of the page. These categories include:

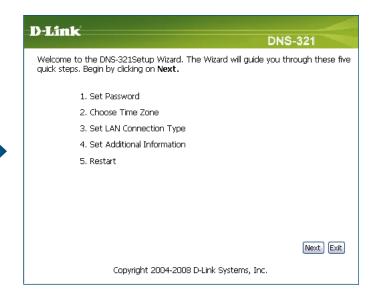
- **Setup** Contains the DNS-321 setup wizard, as well as the LAN configuration settings and device settings.
- Advanced Allows the DNS-321 administrator to configure users, groups of users and their storage quotas. The UPnP AV server, iTunes server, FTP server and DHCP server settings are all contained here as well.
- **Tools** Contains the configuration options for Admin account, time and system settings, and e-mail alerts. Power management options and RAID configuration options are also available.
- Status Contains a summary of DNS-321.
- Support Contains the DNS-321 help files.
- **Logout** Clicking this button will log the admin out and end the DNS-321 configuration session.

These pages and their configuration options will be discussed in detail in the following pages of this manual.

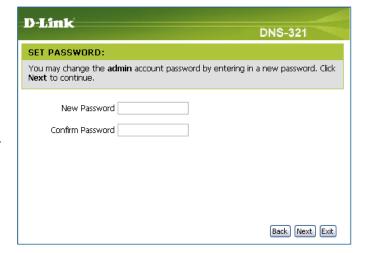
Setup Wizard

The DNS-321 has a setup Wizard that allows you to quickly configure some of the basic device settings.

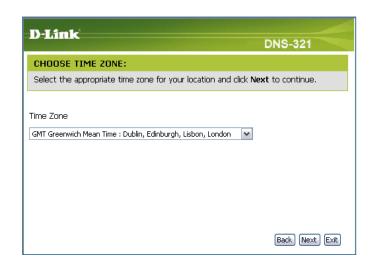
When running the DNS-321 setup wizard, the welcome screen details the five steps of the wizard. Click **Next** to continue.



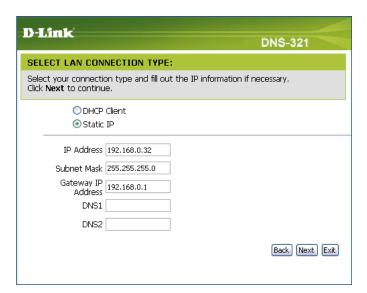
It is recommended you set an admin password here. Enter the new password and re-enter it for confirmation. Click **Next** to continue.



Set the appropriate Time Zone and click **Next** to continue.



Edit or change the DNS-321 LAN information, or keep the current settings, click **Next** to continue.



Enter a workgroup, name, and description for the DNS-321, or leave the default values and click **Next** to continue.



When the wizard completes, click **Back** to go back and make changes or click **Restart** to restart the DNS-321 and save the configuration.

While the DNS-321 is restarting, a countdown screen will appear.



When the login prompt appears, login using the new administrator password.

User Name:
Password:

Configuration
Downloads

STORAGE

LAN

The Local Area Network settings for the DNS-321 can be configured on the LAN page.

Link Speed The LAN Link Speed is set to Auto by default, but can be manually set

to 100Mbps or 1000Mbps.

DHCP Client Selecting DHCP Client will cause

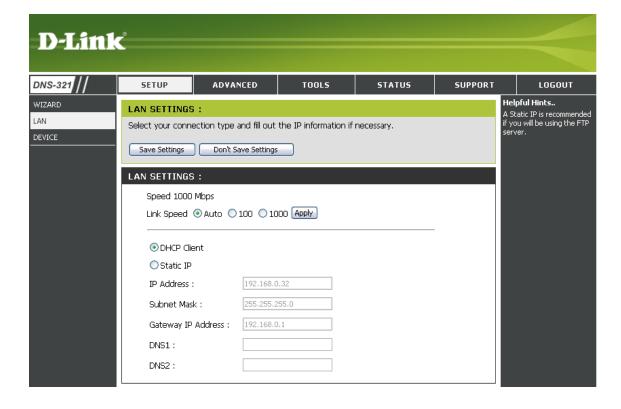
the DNS-321 to obtain an IP address from the local DHCP server, such

as your router.

Static IP Selecting Static IP requires you to

assign the IP information for the

DNS-321 manually.



Device Settings

The device settings page allows you to assign a workgroup, name and description to the DNS-321.

Workgroup

Assign a workgroup name to the DNS-321.

Name

Assign a unique name to the DNS-321. The name can be used to access the device from a web browser instead of using the IP address.

For example, http://dlink-xxxxxx.

This is useful if there is more than one DNS-321 on the network. By default, the device name is dlink-xxxxxx, where xxxxxx is the last six digits of the MAC address.

Description

Assign a device description to the DNS-321.



Advanced Users/Groups

The Users/Groups menu is used to create and manage user and group accounts. Up to 64 users and 10 groups can be created. By default, all users have read and write access to all folders but access rules can be created in the Network Access menu.

To create user names and passwords in the *User and Group Creation* menu:

- Click the User radio button
- Type a unique User Name for each user added
- · Enter and confirm the user Password
- Click Add to create the new user

The user will be added to the *User List* and will be available for assignment to a user group.

To create a Group:

- Click the **Group** radio button
- Type a unique group name and click Add

The group will appear in the *Group List* and will be available for user assignment in the *Group Settings* menu.

To add a user to a user group, under *Group Settings*:

- Select an available group from the Select Group drop-down menu
- Highlight the user from List of all users
- Click the Add>> button



The user is now listed in the *Users in group* list.

To delete a user from a group, under *Group Setting*:

- Select the group
- Highlight the user to be removed
- Click the << Remove button

To remove a user or group from the User or Group lists, click the trash can icon of that group or user.

To change a user password, click the notepad icon of the user.

Quotas

The DNS-321 supports storage quotas for both groups and individual users. Assigning a quota to a group or user will limit the amount of storage they are allocated. By default, users and groups do not have a quota.

User Quota Settings

User quotas are displayed here. Quotas can be edited by clicking on the notepad icon.

Group Quota Settings

Group quotas are displayed here. Quotas can be edited by clicking on the notepad icon.

Quota Status

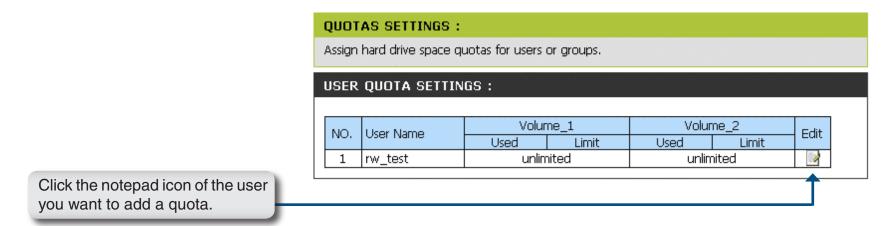
Displays the current status of the quota feature. The quota function can be started or stopped here.



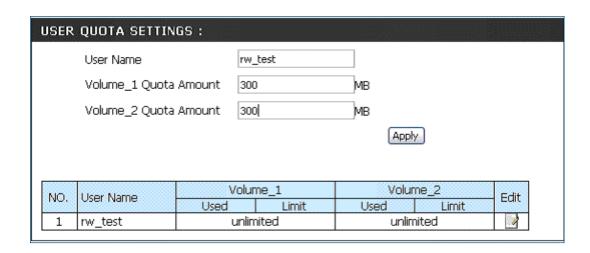
Configuring Quotas

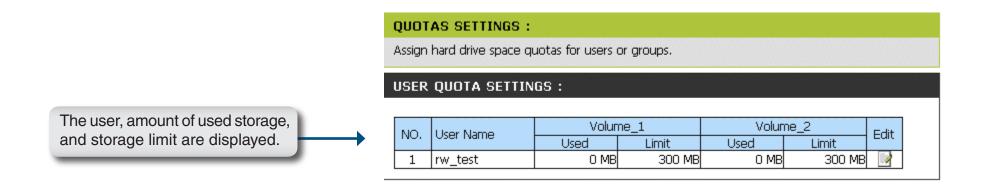
By default, all users and groups are displayed on the Quota Settings page and cannot be deleted. The default quota setting is "Unlimited".

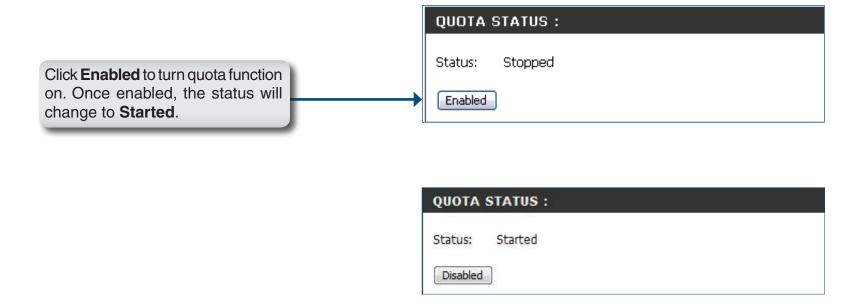
To add a quota:



Set a quota amount (MB) for the user and click **Apply**.







Network Access

The Network Access settings allow you to assign users and groups access rights to specific folders or volumes. By default, all volumes are open to anyone with read/write access on the local network. Before specific user or group rules can be created, the default rules must be deleted.

Network Access Assign permissions for users and groups on the **Settings** local network here.

Category Determines whether the access rule will apply to a group or an individual user.

User Select the user or group the access rule will apply to.

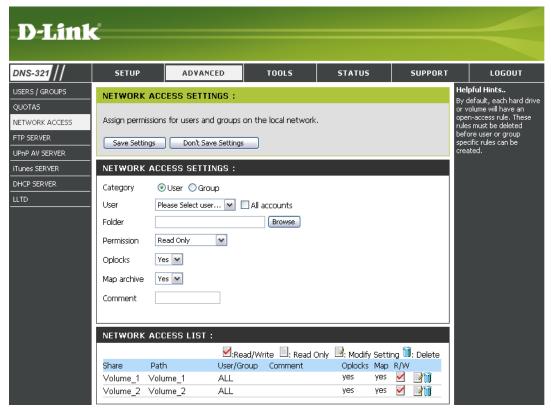
Folder Browse and select the folder or directory you are controlling access to.

Permission Set the user or group permission to Read Only or Read/Write.

Oplocks Opportunistic locks (oplocks) are a characteristic of the LAN Manager networking protocol implemented in the 32-Bit Windows family. Oplocks are guarantees made by a server for a shared logical volume to its clients. These guarantees inform the Client that a file's content will not be allowed to be changed by the server, or if some change is imminent, the client will be notified before the change is allowed to proceed.

Oplocks are designed to increase network performance when it comes to network file sharing. However it is recommended to set the share oplocks to **No (off)** when using file-based database applications

By default Windows Vista[™] has Oplocks enabled and cannot be disabled. If you are having network performance issues with applications sharing files from the DNS-321, you may try to improve performance by setting Oplocks to **No (off)**.



Map Archive When enabled, the file attribute "Archive" will be copied as the file is being stored on the DNS-321. Certain backup software attach this attribute

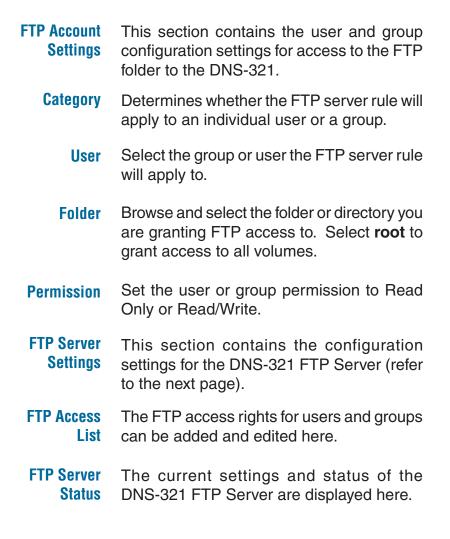
to files that are being stored as backups.

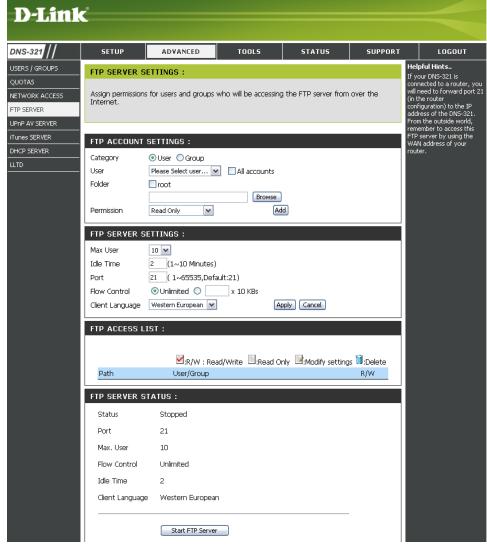
Comment Enter a comment for reference or description of the rule.

Network Access List Lists all defined access rules.

FTP Server

The DNS-321 is equipped with a built in FTP Server. The server is easy to configure and allows users access to important data whether they are on the local network or at a remote location. The FTP server can be configured to allow user access to specific directories, and will allow up to 10 users to access the DNS-321 simultaneously.





FTP Server Settings

Max User Set the maximum amount of users that

can connect to the FTP server.

Idle Time Set the amount of time a user can remain

idle before being disconnected.

Port Set the FTP port. Default is 21.

Flow Control Allow you to limit the amount of

bandwidth available for each user.

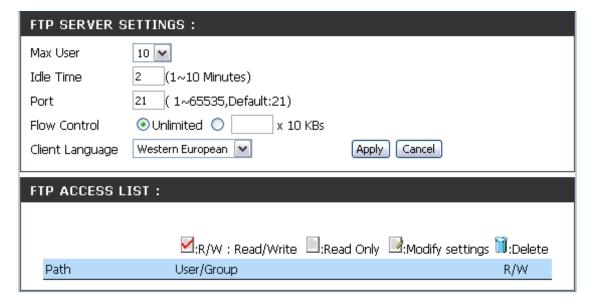
Client Language Most standard FTP clients like Windows

FTP, only support Western European codepage when transferring files. Northern European, Central European, Traditional and Simplified Chinese as well as Cyrillic codepage support has been added for non standard FTP clients that are capable of supporting

these character sets.

Apply Click Apply to save your rule.

FTP Access List List all defined FTP Rules.



If you are behind a router, you will need to forward the FTP port from the router to the DNS-321. Additional filtering and firewall settings may need to be modified on your router to allow FTP Access to the DNS-321 from the Internet. Once the port has been forwarded on the router, users from the internet will access the FTP server through the WAN IP address of the router.

If you are using a D-Link router, such as the WBR-2310 used in the example below, your port forwarding rule should be similar to the following:

Name Name the DNS-321 FTP server rule.

DNS-321.

Public Port Enter the public FTP port. By

default, the port is 21.

Private Port Enter the private FTP port. By

default, the port is 21.

Traffic Type Set the traffic type to TCP.



If you use an FTP port other than 21, then users accessing the FTP server using an FTP client will have to specify the non-standard port, and3 users who are using a browser will have to specify the port in the URL (e.g. ftp://ftp.dns321.com:3000, where the FTP port is 3000).

UPnP AV Server

The DNS-321 features a UPnP AV Server. This server provides the ability to stream photos, music and videos to UPnP AV compatible network media players. If the server is enabled, the DNS-321 will be automatically detected by UPnP AV compatible media players on your local network.

UPnP AV Server Select Enable or Disable to enable or disable the DNS-321 UPnP AV server.

Folder

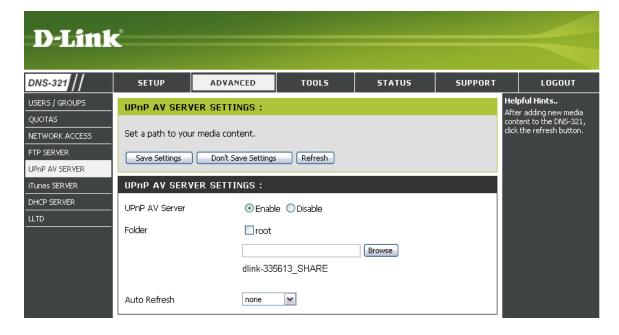
Specifies the folder or directory that will be shared by the UPnP AV server. Select **root** to share all files on all volumes, or click **Browse** to select a specific folder.

Auto Refresh

Set the device to auto refresh your media every 5 minutes up to every 24hrs.

Refresh

Click **Refresh** after adding new files to be used by UPnP AV compatible devices.



iTunes Server

The DNS-321 features an iTunes Server. This server provides the ability to share music and videos to computers on the local network running iTunes. If the server is enabled, the DNS-321 will be automatically detected by the iTunes program and the music and videos contained in the specified directory will be available to stream over the network.

iTunes Server

Select **Enable** or **Disable** to enable or disable the DNS-321 iTunes server.

Folder

Specifies the folder or directory that will be shared by the iTunes server. Select root to share all files on all volumes, or click **Browse** to select a specific folder.

Password

Sets password for the iTunes server. (Optional)

Auto Refresh

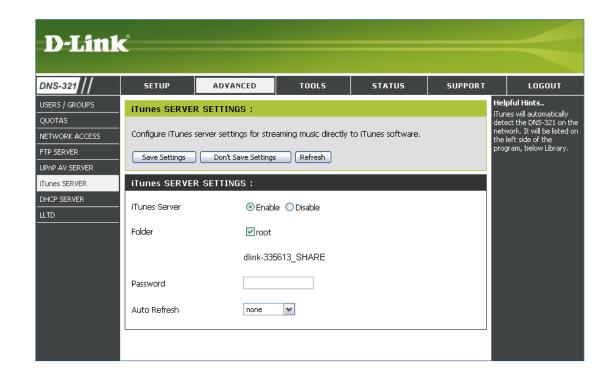
Set the device to auto refresh your media every 5 minutes up to every 24hrs.

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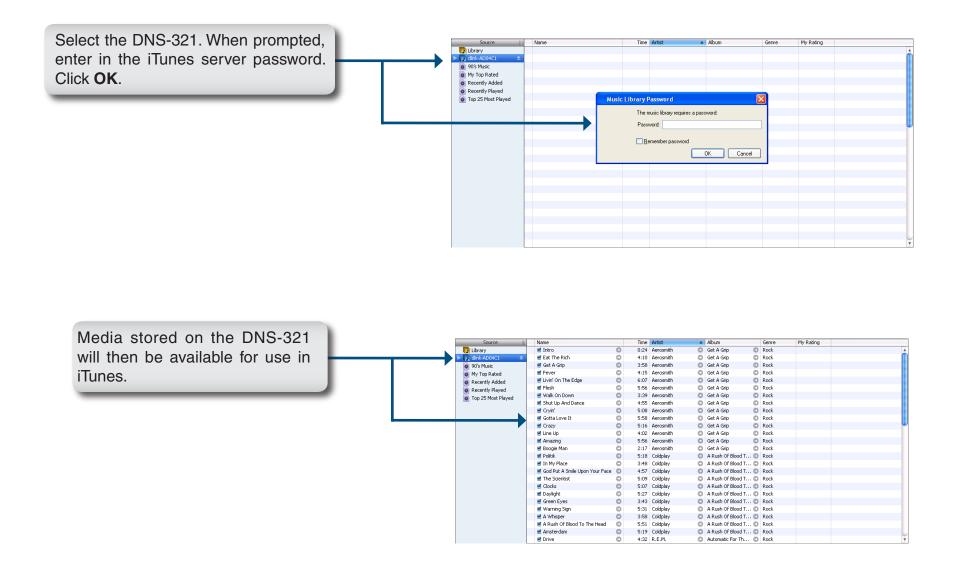
Refresh

Click **Refresh** after adding new files

to be used with iTunes.



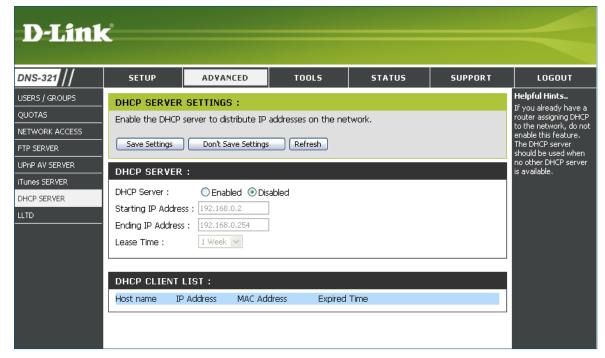
After enabling the iTunes server on the DNS-321, launch iTunes. In your iTunes utility, select the DNS-321 and enter the iTunes server password if required.



DHCP Server

The DNS-321 can be used as a DHCP Server. As a DHCP server, it can be used to serve IP addresses to devices on your local network. However, this feature should not be enabled if you already have a DHCP server, such as a router on your local network.

DHCP Server Enable or Disable the DNS-321 DHCP Server. **Starting IP** Enter the starting IP address for the Address range of addresses assigned by the DHCP server. **Ending IP** Enter the ending IP address for the Address range of addresses assigned by the DHCP server. **Lease Time** Set the duration of time that an IP address will remain assigned to a device. **DHCP Client** Displays the Hostname, IP address, MAC address, and Expired Time of the clients that have received a DHCP address.



LLTD

The DNS-321 supports LLTD (Link Layer Topology Discovery) and is used by the Network Map application that is included in Windows Vista™.

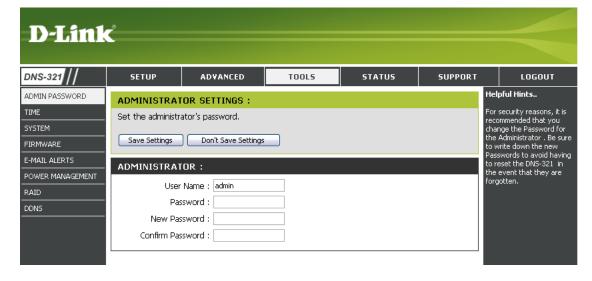
LLTD Select to enable or disable LLTD on your DNS-321.



Tools Admin

The Admin menu allows you to set a password for the admin account. It is recommended to set an admin account password when first configuring the DNS-321.

User Name The administrator user name is admin, and this cannot be changed. Enter the current password. (Leave **Password** this blank if you have not set a password yet.) **New Password** Enter a new password. Confirm Enter the new password again for **Password** confirmation. **Save Settings** Click **Save Settings** to save the new password.



Time

The DNS-321 Time page contains several different options for setting the device's internal clock. It is important that accurate time is set so that scheduled backups and downloads will be accurate.

Time Zone

Select your time zone from the drop-down menu.

Click **Set Time** after selecting your time zone.

NTP Server

Network Time Protocol (NTP) synchronizes the DNS-321 with an Internet time server.

D-Link provides two time servers for your convenience. Choose the one closest to your location.

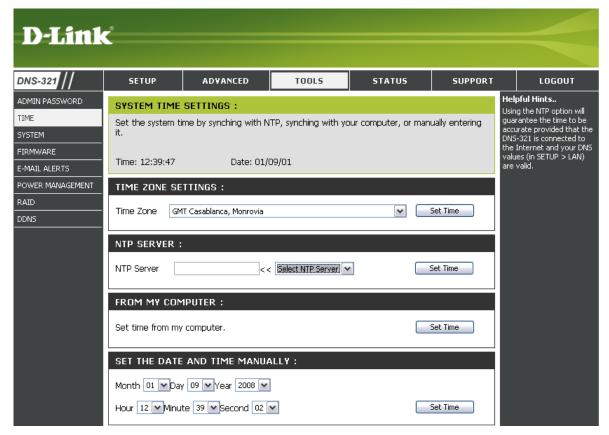
Click **Set Time** after selecting the location.

From My Computer This option will synchronize the DNS-321 clock with your computer.

Click **Set Time** to sync with the local computer.

Set Time Manually This option allows you to set the time and date manually.

Enter the appropriate time and date and click **Set Time**.



System

The DNS-321 System menu provides options for system restarts, saving and loading configuration settings, and idle times setting.

Restart

Click **Restart** to reboot the DNS-321.

Restore Defaults

Click **Restore** to reset the DNS-321 to its factory default settings. This will erase all previous configuration changes.

Shutdown

Click **Shutdown** to turn off the DNS-321.

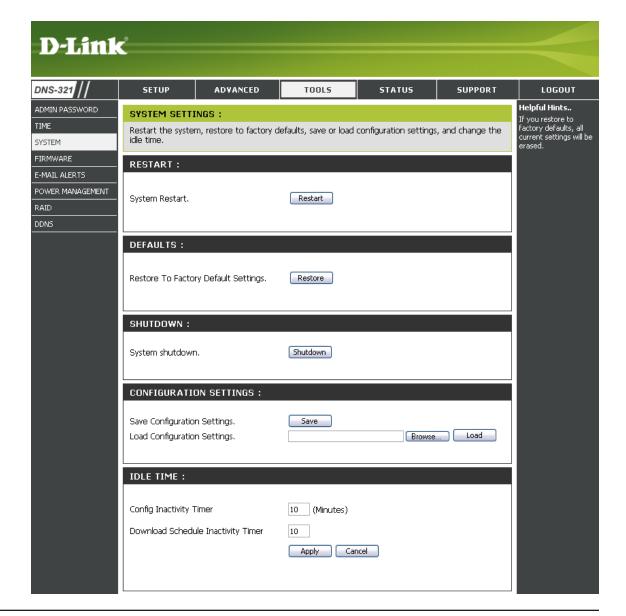
Configuration Settings

Click **Save** to save the current DNS-321 configuration settings to a file on the local computer. If at a later time you need to reload this configuration after a system reset, browse the file and click **Load**.

Idle Time

Enter the time (in minutes) that the administrator will be allowed to remain idle while accessing the DNS-321 configuration utility that users will be allowed to remain idle while accessing the download schedule settings.

Click **Apply** to activate and save the settings.



Firmware

The DNS-321 Firmware menu makes it simple to check for new firmware releases and upload them to the device.

Firmware Upgrade

This section provides a link to check for new firmware on the D-Link support website.

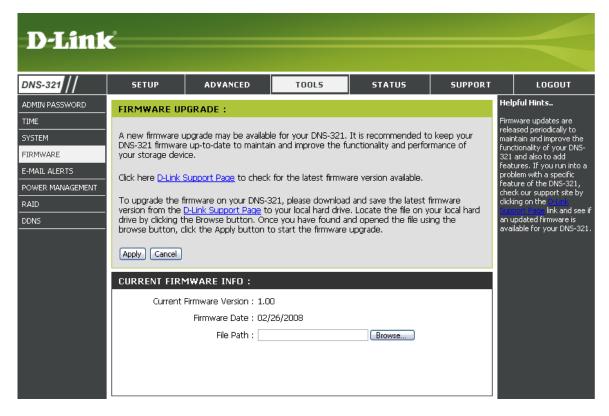
If a new firmware is available, download the file to your local computer.

Current Firmware Info

This section provides information about the current DNS-321 firmware.

When upgrading the firmware, click **Browse** to select the new firmware file on your local computer.

Click **Apply** to begin the firmware upgrade process.



E-Mail Alerts

With the DNS-321 E-Mail Alerts, you can configure e-mails to be sent alerting you to certain operational conditions and drive status conditions. These alerts can prove helpful with the management and safeguarding of important data.

Email Alert Settings

This section contains the configuration settings for the your e-mail account and alert preferences.

Once configured, use the **Test E-Mail** button to send a test e-mail and confirm your settings are correct.

Email Alert Types

This section contains the alert options and their configuration settings.



E-Mail Alert Settings

Login Method Select either **Account** or **Anonymous**.

Choosing Anonymous does not require

a User Name or Password.

User Name Enter the appropriate user name for your

e-mail account.

Password Enter the appropriate password for your

e-mail account.

SMTP Server Enter the IP address or domain name

of your outgoing mail server. If you are unsure of this value, contact your e-mail

provider.

Sender E-Mail Enter the "from" e-mail address (e.g.

alerts@dns321.com). This field does not require a valid e-mail address. However, if your e-mail client is filtering spam, make sure you allow this address to be

received.

Receiver Enter the e-mail address you want to **E-Mail** send the alerts to. This address must

correspond with the SMTP server

configured above.

Test E-Mail Click the Test E-Mail button to send a

test alert and confirm your settings are

correct.

E-MAIL ALERT SETTINGS:
Login Method : Account Anonymous
User Name :
Password :
SMTP Server :
Sender E-mail :
Receiver E-mail :
Test E-Mail

E-MAIL ALERT SETTINGS :
Login Method : O Account O Anonymous
SMTP Server :
Sender E-mail :
Receiver E-mail :
Test E-Mail

E-Mail Alert Types

Space Status

Select an interval in hours and minutes to have a status of space remaining on the drives e-mailed.

A Volume Is Full

An alert will be sent when the hard drive is full.

A Hard Drive Has Failed

An alert will be sent if a critical error occurs on one of the drives.

The Administrator An alert will be sent if the admin password is changed.

Firmware has An alert will be sent if the firmware been Upgraded is upgraded.

System Temperature Exceeded An alert will be sent if the DNS-321 device temperature exceeds the set threshold. After the alert has been sent, the DNS-321 will power off for safety.

ALERT TYPES:

Space Status Interval: 0 (Hours) 0 (Minutes)

A Volume Is Full

A Hard Drive Has Failed

The Administrator's Password Has Been Changed

Firmware Has Been Upgraded

System Temperature Has Exceeded Fahrenheit (140) °F

Enabling this feature will cause the DNS-321 to shut down after the selected temperature is exceeded and an e-mail is sent.

Power Management

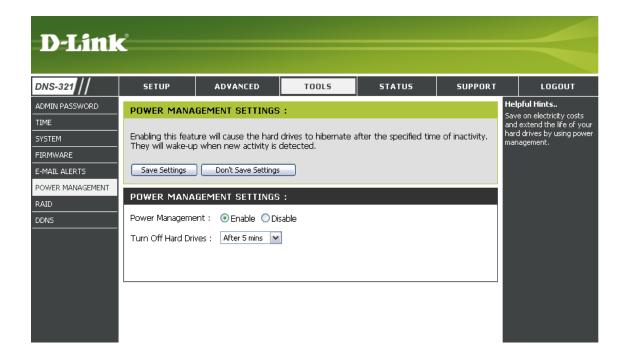
The DNS-321 Power Management feature allows you to configure the drives to shut down while power remains constant to the device. The drives will power up again when data is accessed.

Power Management

Enable or Disable Power Management on the DNS-321.

Turn off Hard Drives Set the amount of idle time before the drives will shut down.

Click **Save Settings** to activate and save your changes.



RAID

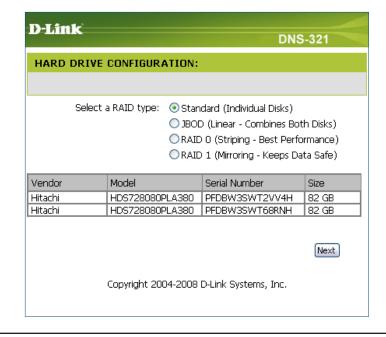
The DNS-321 supports four different disk configuration types: **Standard**, where each drive is a unique volume, **JBOD**, which combines both drives in a linear fashion to create one volume, as well as **RAID 0** and **RAID 1**.

RAID Settings Click Set RAID Type and Re-Format to change the current drive configuration.

All data will be lost on your hard drives when changing the drive configuration.



A pop-up window will appear with the drive configuration options:



What is RAID?

RAID, short for Redundant Array of Independent Disks, is a combination of two or more disks with the aim of providing fault tolerance and improving performance. There are several different levels of RAID, with each providing a different method of sharing or distributing data amongst the drives. The DNS-321 supports RAID levels 0 and 1.

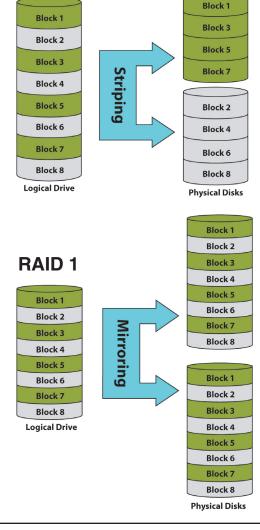
RAID 0

RAID 0 RAID 0 provides *data striping*, which spreads out blocks of data over both drives, but does not provide data redundancy.

Although performance is improved, the lack of fault tolerance means that if one drive fails, all data in the array will be lost.

RAID 1 provides *mirroring* over both disks, with the same read/write speed of a single disk. A RAID 1 array can only be as large as it's smallest member disk.

Because the data is stored on both disks, RAID 1 provides fault tolerance and protection, in addition to performance advantages.



DDNS

The DDNS feature allows you to host a server (Web, FTP, Game Server, etc...) using a domain name that you have purchased (www.whateveryournameis.com) with your dynamically assigned IP address. Most broadband Internet Service Providers assign dynamic (changing) IP addresses. Using a DDNS service provider, your friends can enter your domain name to connect to your server regardless your IP address.

Server Address Enter the DDNS server address or select from the drop-down menu.

Host Name Enter your DDNS host name.

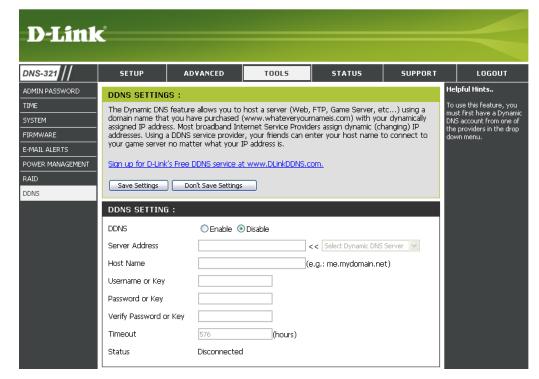
Username or Key Enter your DDNS username or key*.

Password or Key Enter your DDNS password or key*.

Verify Password or Key Re-enter your password or key*.

Timeout The time between periodic updates to the Dynamic DNS. The timeout period is measured in hours

Status Displays your DDNS status.



^{*} If a key is provided and utilized by your DDNS provider, enter the key in all three fields (username, password, and verify password).

Status Device Information

LAN Info Displays the local network settings

of the DNS-321.

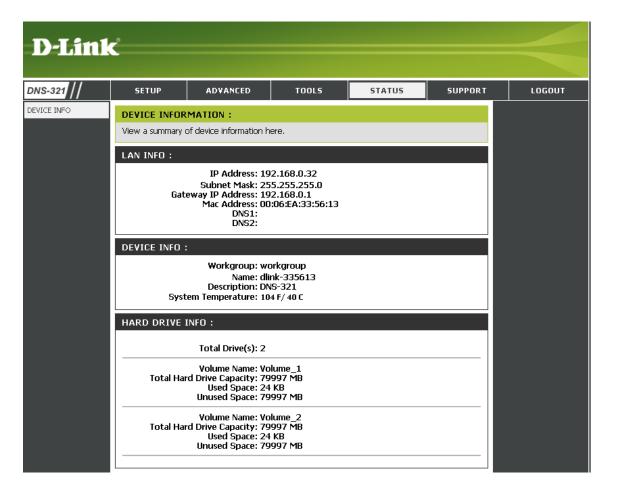
Device Info Displays the workgroup, name,

description and current temperature

of the DNS-321.

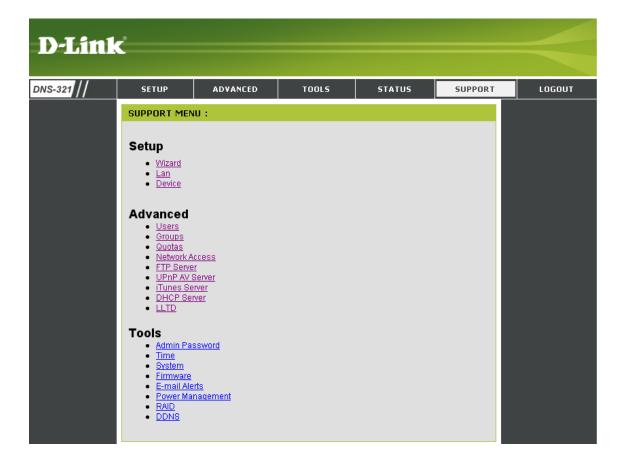
Hard Drive Info Displays the hard drive information, including the disk mode, total size,

used and remaining drive space.



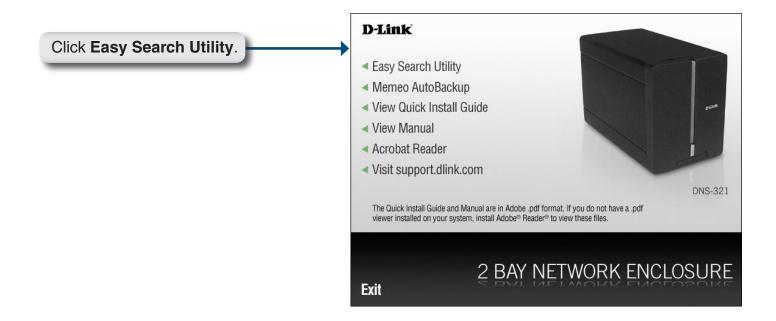
Support

The DNS-321 Support page provides a menu of Support topics explaining the features of the device.



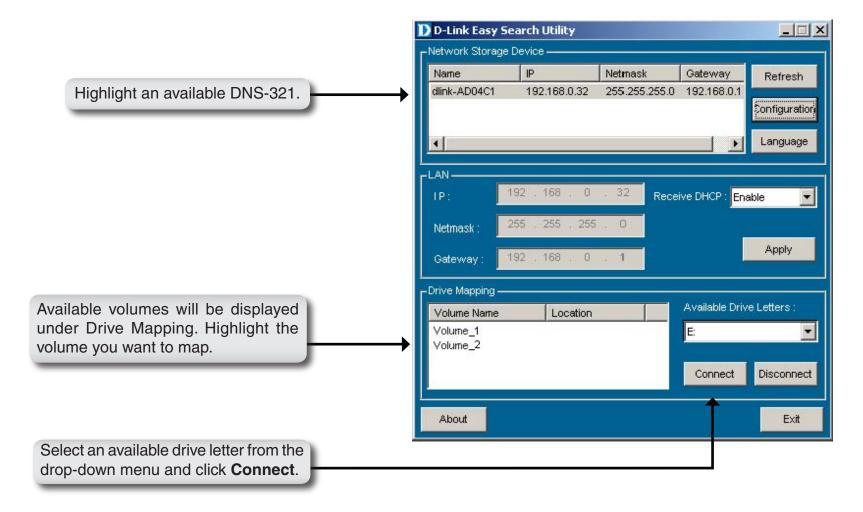
Mapping a Drive

You can use the D-Link Easy Search Utility to map drives to your computer. Insert the DNS-321 CD into your CD-ROM drive.

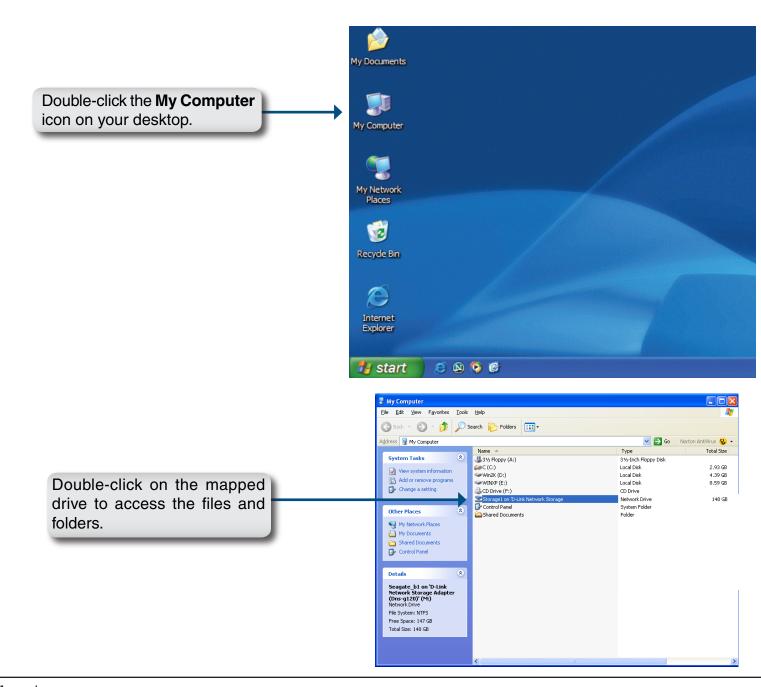


The Easy Search Utility will load and detect any DNS-321 devices that are on the local network. If the DNS-321 you are working with does not show up in the device list, click **Refresh**.

If the DNS-321 you are working with does not show up in the device list, click **Refresh**.



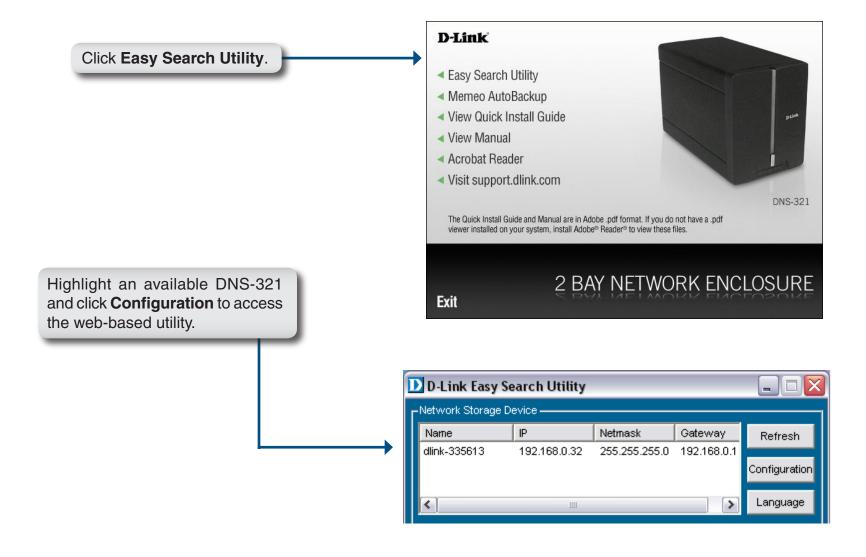
Once connected, your mapped drive(s) will appear in My Computer.



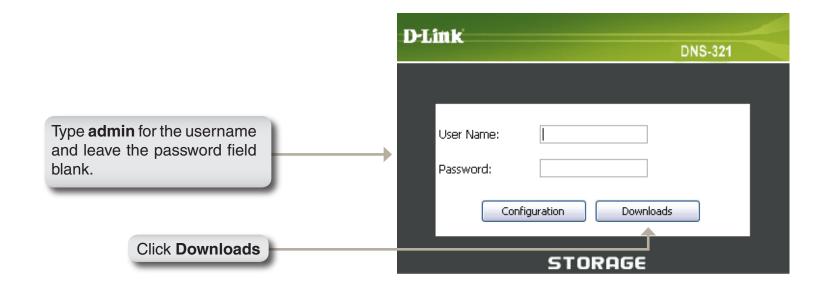
Download Scheduling

The DNS-321 Download Scheduling feature allows you to schedule folder or file downloads and backup sessions.

Begin by accessing the configuration page of the DNS-321:



The DNS-321 login screen will appear:



The DNS-321 Download Scheduling configuration page will appear.

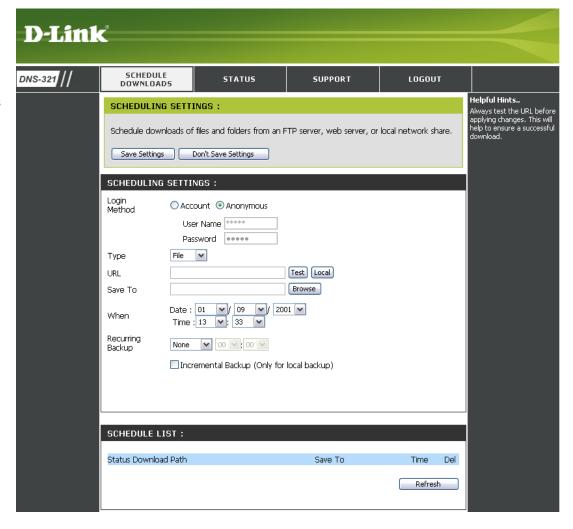
Schedule Downloads

Scheduling Settings

Configure download and backup schedules here.

Schedule List

The Schedule List will display all completed, active, and pending scheduled downloads and backups.

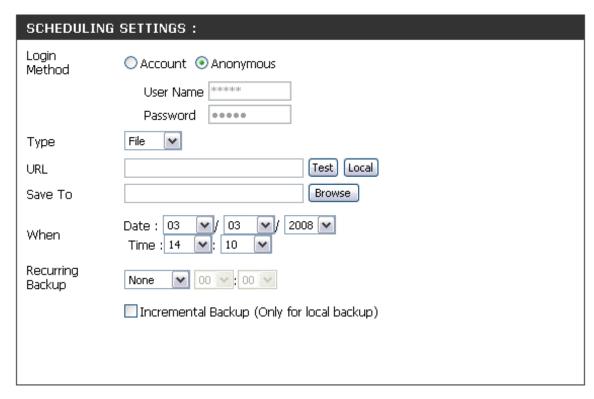


Scheduling Settings

Login Method

Select the appropriate login method to access the files for download. If the site requires login credentials, select Account and enter a valid username and password.

- Type Select File or Folder, depending on what you want to download or backup.
- **URL** Enter the URL of the site or server you are initiating a transfer from.
 - E.g. ftp://123.456.789/Test ftp://123.456.789/test.txt http://www.test.com/test.txt
- Test Click Test to test if the URL is valid, and the user name and password are correct.



- **Local** Click **Local** to set the source file or folder from one of the internal drive volumes. Browse the file or folder, and click **OK** to accept the network path.
- Save To Enter a valid destination drive on the DNS-321, or click **Browse** to select the destination.
 - When Enter the date and time you want the scheduled backup or download to initiate.

Recurring Backup

Designate the interval and time you want the backup or download to run unattended.

Incremental Backup

By default all local backups and file/folder downloads are in Overwrite mode, meaning that identical files in the destination folder will be overwritten by the source files. Checking **Incremental Backup** will have the DNS-321 compare identical file names at the source and destination. Files will only be overwritten if the source file is more recent.

Replacing or Adding a New Hard Drive

It is recommended that you backup your important files before replacing or adding a new hard drive to the DNS-321.

Replacing a Hard Drive:

Please make sure the power is off before replacing a hard drive. After you have installed the new drive, turn on the DNS-321 and then connect to the Web UI. The DNS-321 will prompt you to format the new drive (Standard, RAID 1 mode) or both drives (JBOD, RAID 0 mode).

Adding a New Hard Drive:

The DNS-321 is able to work with one single hard drive under Standard mode. Please make sure the power is off before installing a second hard drive.

After you have installed the new drive, turn on the DNS-321 and then connect to the Web UI. The DNS-321 will prompt you to format the new drive.

Note: Formatting a hard drive will erase the data stored on the hard drive. Please backup important data before formatting a hard drive.

Contacting Technical Support

U.S. and Canadian customers can contact D-Link technical support through our web site or by phone.

Before you contact technical support, please have the following ready:

- Model number of the product (e.g. DNS-321)
- Hardware Revision (located on the label on the bottom of the device (e.g. rev A1))
- Serial Number (s/n number located on the label on the bottom of the device).

You can find software updates and user documentation on the D-Link website as well as frequently asked questions and answers to technical issues.

For customers within the United States:

Phone Support:

(877) 453-5465

Internet Support:

http://support.dlink.com

For customers within Canada:

Phone Support:

(800) 361-5265

Internet Support:

http://support.dlink.com

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Version 2, June 1991

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END OF TERMS AND CONDITIONS

Warranty

Subject to the terms and conditions set forth herein, D-Link Systems, Inc. ("D-Link") provides this Limited Warranty:

- Only to the person or entity that originally purchased the product from D-Link or its authorized reseller or distributor, and
- Only for 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, or addresses with an APO or FPO.

Limited Warranty:

D-Link warrants that the hardware portion of the D-Link product described below ("Hardware") will be free from material defects in workmanship and materials under normal use from the date of original retail purchase of the product, for the period set forth below ("Warranty Period"), except as otherwise stated herein.

- Hardware (excluding power supplies): One (1) year
- Free Technical Support Basic Installation: Ninety (90) days

The customer's sole and exclusive remedy and the entire liability of D-Link and its suppliers under this Limited Warranty will be, at D-Link's option, to repair or replace the defective Hardware during the Warranty Period at no charge to the original owner or to refund the actual purchase price paid. Any 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, at its option, 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 or ninety (90) days, whichever is longer, and is subject to the same limitations and exclusions. If a material defect is incapable of correction, or if D-Link determines that it is not practical to repair or replace the defective Hardware, the actual 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 ("Software 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 Software Warranty Period, the magnetic media on which D-Link delivers the Software will be free of physical defects. The customer's sole and exclusive remedy and the entire liability of D-Link and its suppliers under this Limited Warranty will be, at D-Link's option, 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 the portion of the actual purchase price paid that is attributable to the Software. 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. Replacement Software will be warranted for the remainder of the original Warranty Period and is subject to the same limitations and exclusions. 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 portions 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, along with proof of purchase of the product (such as a copy of the dated purchase invoice for the product) if the product is not registered.
- The customer must obtain a Case ID Number from D-Link Technical Support at 1-877-453-5465, who will attempt to assist the customer in resolving any suspected defects with the product. If the product is considered defective, the customer must obtain a Return Material Authorization ("RMA") number by completing the RMA form and entering the assigned Case ID Number at https://rma.dlink.com/.

- 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 and shipped to D-Link Systems, Inc., 17595 Mt. Herrmann, Fountain Valley, CA 92708. 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. Return shipping charges shall be prepaid by D-Link if you use an address in the United States, otherwise we will ship the product to you freight collect. Expedited shipping is available upon request and provided shipping charges are prepaid by the customer. 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:

The Limited Warranty provided herein by D-Link does not cover:

Products that, 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; and 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.

While necessary maintenance or repairs on your Product can be performed by any company, we recommend that you use only an Authorized D-Link Service Office. Improper or incorrectly performed maintenance or repair voids this Limited 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 THE DURATION OF THE APPLICABLE WARRANTY PERIOD SET FORTH ABOVE. 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 NONCONFORMING 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 you may also have other rights which vary from state to state.

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CE Mark Warning:

This is a Class A 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 A 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.

For detailed warranty information applicable to products purchased outside the United States, please contact the corresponding local D-Link office.

Registration



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

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