USER MANUAL

DNS-323

VERSION 1.3

D-Link®

STORAGE

Table of Contents

Product Overview 4
Package Contents 4
System Requirements 4
Introduction 5
Features 6
Hardware Overview 7
Front View 7
Rear Panel (Connections) 8

Installation 9
Hardware Setup 9

Configuration 12
Easy Search Utility 12
Getting Started 13
Web UI 18
Setup 19
Wizard 19
LAN 23
Device Settings 24
Advanced 25
Users and Groups 25
Quotas 26
Network Access 29
FTP Server 31
UPnP AV Server 34
iTunes Server 35
DHCP Server 37
LLTD 38
Tools 39
Admin 39
Time 40
System 41
Firmware 42
E-Mail Alerts 43
Power Management 46
RAID 47
DDNS 49
Status 50
Device Information 50
Support 51
Mapping a Drive 52
Download Scheduling 55
Schedule Downloads 57
Scheduling Settings 58
BitTorrent 59
Installing BitTorrent 59
BitTorrent Configuration 61
Adding a Torrent From URL 62
Adding a Torrent From File 63
Torrent Settings 64
Downloads Support 65
USB Print Server 66

Storing non-English Character Files 74

Replacing or Adding a New Hard Drive 76

Contacting Technical Support 79

Warranty 80

Registration 85

Product Overview

Package Contents

- D-Link DNS-323 2-Bay Network Storage Enclosure
- CD-ROM with Manual and Software
- Quick Installation Guide
- Power Adapter
- Power Cable Clip
- CAT5 Ethernet Cable

Note: Using a power supply with a different voltage than the one included with the DNS-323 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-323 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 capacity[1], creates a central network point for backing up valuable files. The built-in RAID 1[2] mirroring technology protects these files from drive failure. Other options such as Standard, JBOD, and RAID 0 are also available.

The DNS-323 shares files over the Internet via the built-in FTP server[3]. 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-323 can be used to stream photos, music, and videos to UPnP AV compatible network media players[4].

The included CD contains D-Link’s Easy Search Utility. This utility allows you to locate the DNS-323 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-323 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-323 is an organized solution for any network. Free up drive space on computers and centralize data on your network with the DNS-323 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

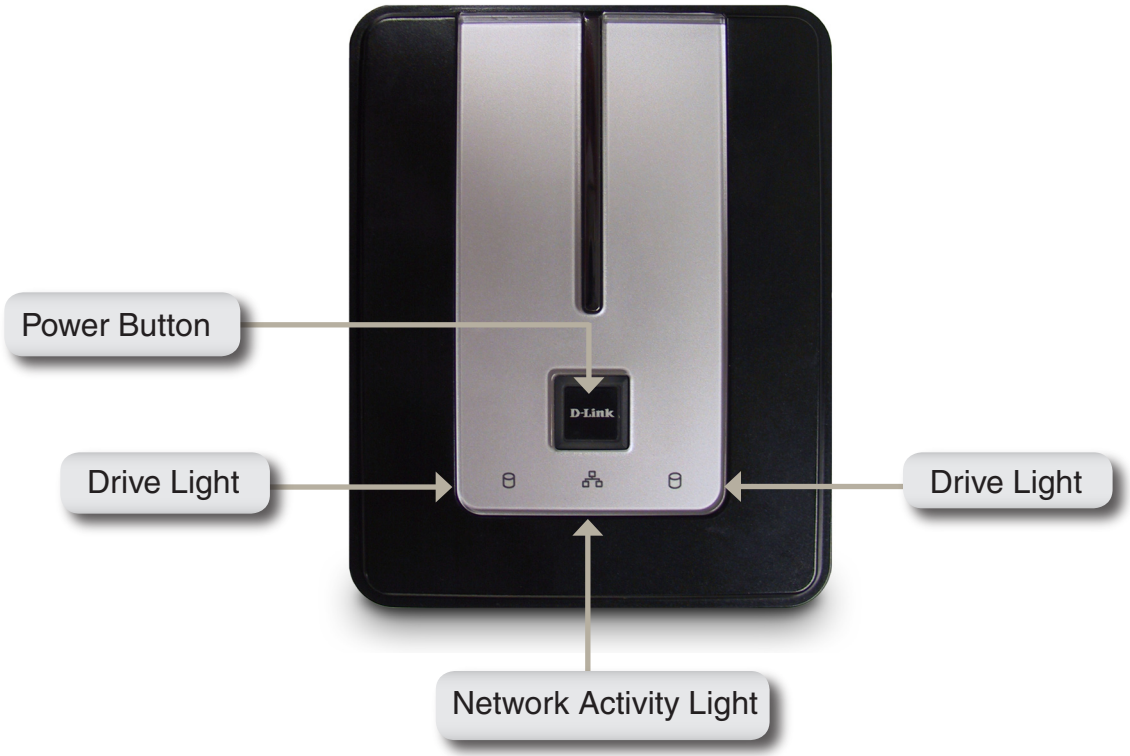
The DNS-323 is designed for easy installation and allows remote access to important data via your local network or the Internet.

- Two Hard Drive Bays for 3.5” SATA Hard Drives of Any Capacity[1]
- Simplified Hard Drive Installation Process – No Tools Required
- Four Hard Drive Configurations: Standard, JBOD (Linear), RAID 0, and RAID 1[2]
- High Performance Gigabit Ethernet Connectivity (Up to 23/15MBps or 184/120Mbps Read/Write)[3]
- Built-in FTP Server for File Access from the Internet[4]
- 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 Players[5]
- iTunes® Software will be able to automatically find and play music directly from the DNS-323
- Built-in USB Print Server for printing from any PC on the Network
- D-Link Easy Search Utility
- Configurable by Web Browser
- Supports Jumbo Frames
- Enables you to change from Non-RAID to RAID 1 configuration without losing data on the hard drives.
- Supports Bit Torrent

1 Hard Drive(s) not included.
2 RAID 1 mirroring requires the use of 2 internal SATA drives.
3 Speed results will vary depending on the benchmark utility, hard drive configuration, and the network environment used for testing.
4 Note that use of an FTP Server to access files over the Internet does not provide for secure or encrypted transmissions.
5 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

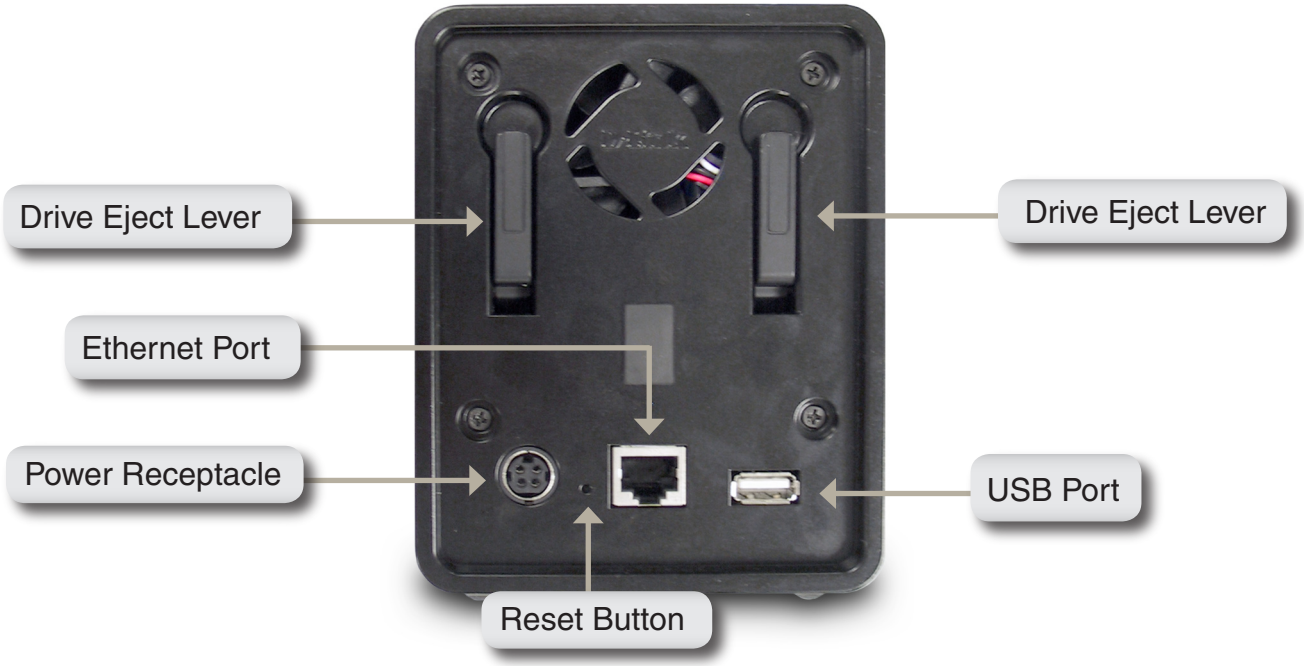


Power Button:
Press once to power on the DNS-323. Press and hold the button until it begins to blink to power down the DNS-323.

Drive Lights:
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 Activity Light will be solid BLUE when there is an Ethernet connection. It will blink to indicate LAN traffic.

Rear Panel (Connections)



Power Receptacle:
The 12V 3A / 5V 3A power supply connects here.

Ethernet Port:
A Gigabit Ethernet port that connects the DNS-323 to a network.

USB Port:
USB Print Server port for connecting a USB printer.

Drive Eject Lever:
Use the levers to eject the hard drives. The front panel must be removed before ejecting the drives.

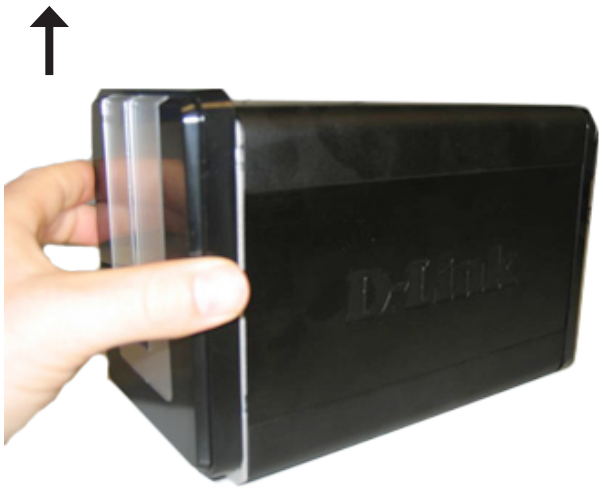
Reset Button:
A pinhole button located beside the Ethernet socket is used to reset the DNS-323 to the factory default settings.

Note: *After resetting the unit's configuration you will still have access to the data on your hard drive(s).*

Installation
Hardware Setup

This section provides unpacking and installation information for the DNS-323. Open the shipping carton for the DNS-323 and carefully unpack its contents. To install the DNS-323 on your local network, refer to the steps below:

1. Access the drive bays by sliding 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 each available drive bay. Make sure to align the drive connectors to the SATA connectors on the bottom edge inside the drive bay of the DNS-323. 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.

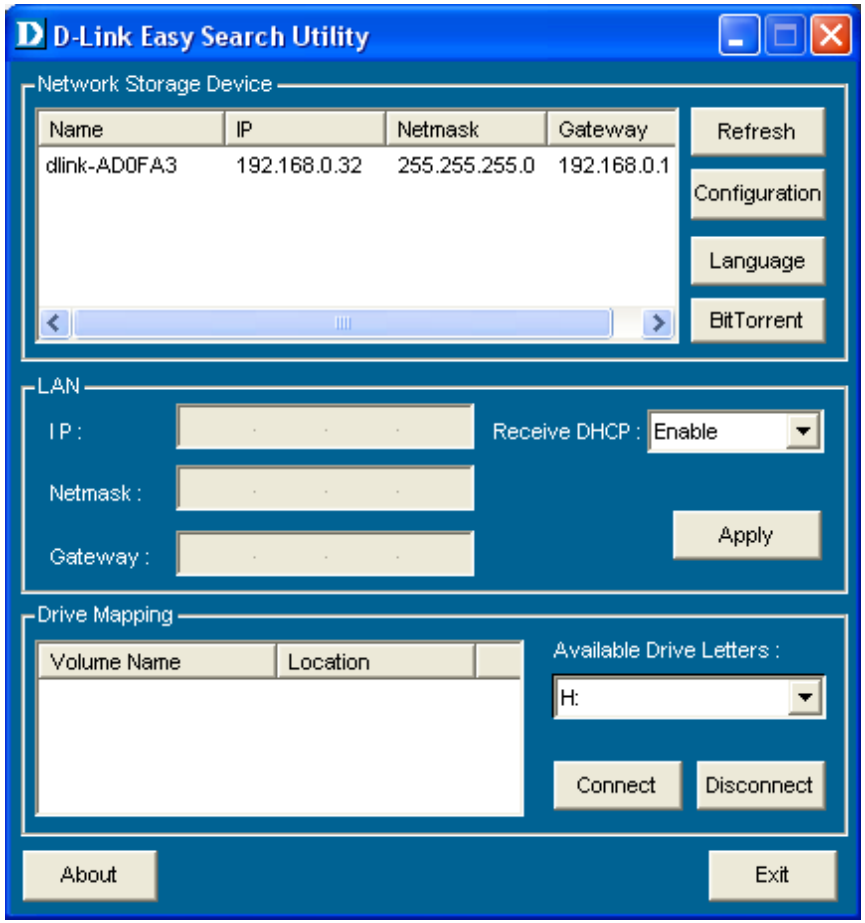
5. Connect an Ethernet cable to the available Ethernet port. This cable should connect the DNS-323 to your local network via a router or switch, or directly to a computer for configuration.

6. Connect the power adapter to the power receptacle.

7. Connect a USB printer. (Optional)

Configuration
Easy Search Utility

When first powered on, during the initial boot sequence, the DNS-323 will wait to be assigned an IP address via DHCP. If it does not receive an 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-323 for the first time. If you want to change the IP address before logging in or are unable to connect to the DNS-323 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 all available DNS-323 devices on the network here.

Refresh Refresh the device list.

Configuration Click **Configuration** to access the Web-based utility of the DNS-323.

Language Click **Language** if you wish to store non-English character files. Refer to page 74.

BitTorrent Click **BitTorrent** to use the built-in BitTorrent manager to upload and download Torrents. Refer to page 59.

LAN Configure the LAN Settings for the DNS-323 here.

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

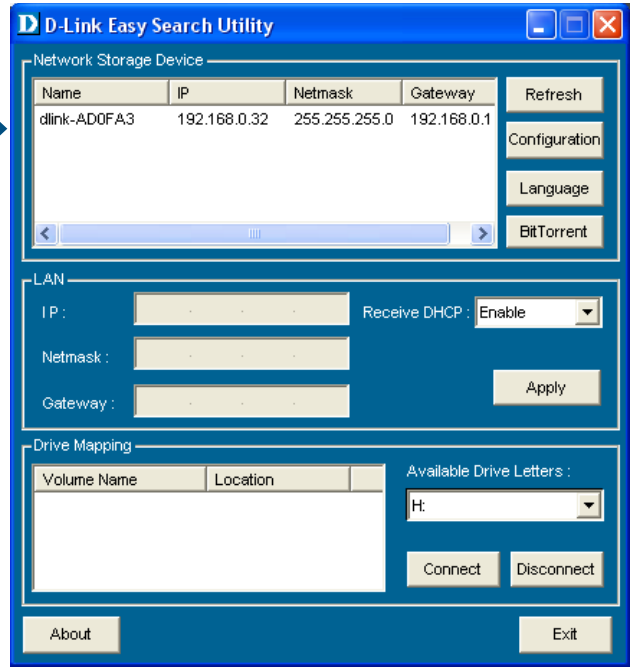
Exit Click **Exit** to close the utility.

Getting Started

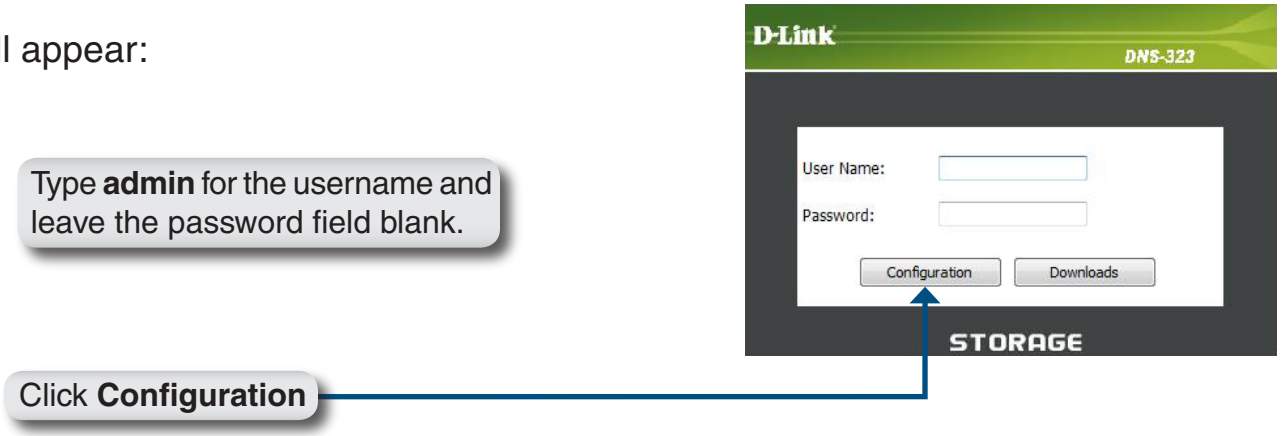
To run the Easy Search Utility, insert the DNS-323 CD into your CD-ROM drive:

Click **Easy Search Utility**.

Highlight an available DNS-323 and click **Configuration** to access the web-based utility.



The Login screen will appear:

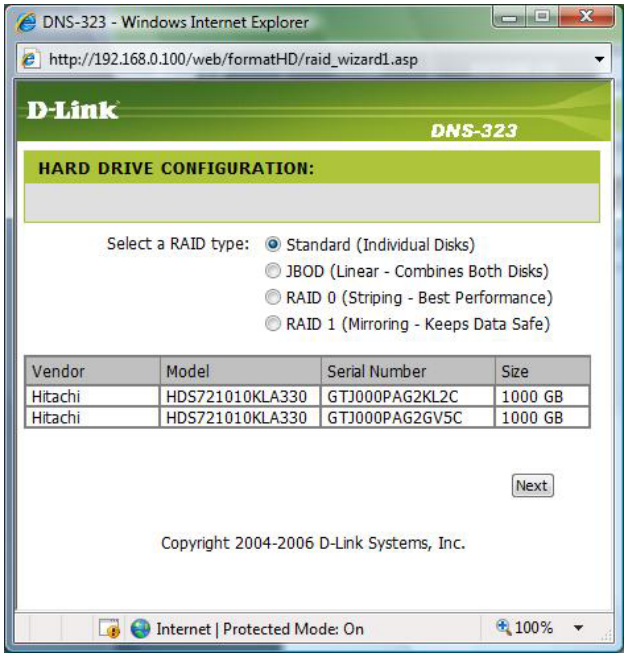


When logging into the DNS-323 for the first time, you will be asked to choose a drive configuration type and format the drives.There are four configuration options: **Standard**, **JBOD**, **RAID 0** and **RAID 1**. Standard configures each disk as a separate volume, while JBOD combines both disks into a single volume, as well as RAID 0 and RAID 1. See page 47 for more details on using the RAID configurations.

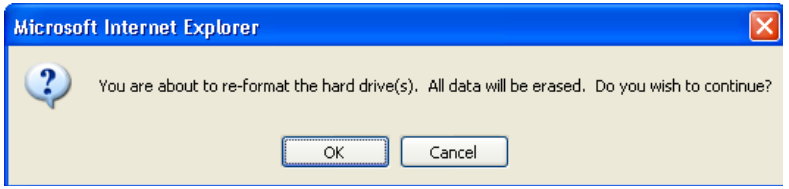
Note: All data will be erased during the format process.

When prompted to configure the Hard Drive Settings:

Select the configuration type of your hard drive, **Standard**, **JBOD**, **RAID 0** or **RAID 1**.

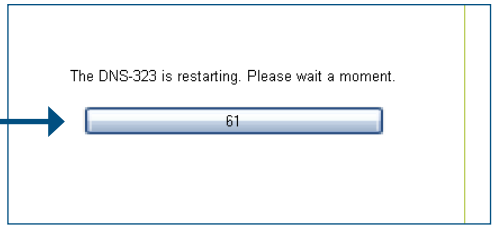


A warning message informing you that your drives will be formatted and all data will be erased. Click **OK** to continue.



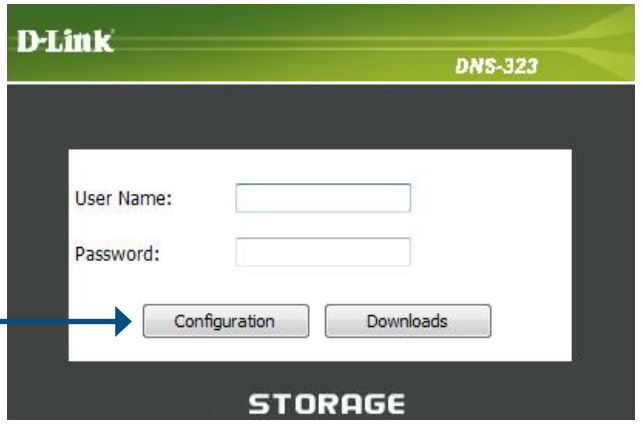
When formatting of the drive completes, the DNS-323 will prompt the user to restart. A restart countdown screen will appear. When restart is complete, a login screen will appear:

Press **OK** to restart the DNS-323.



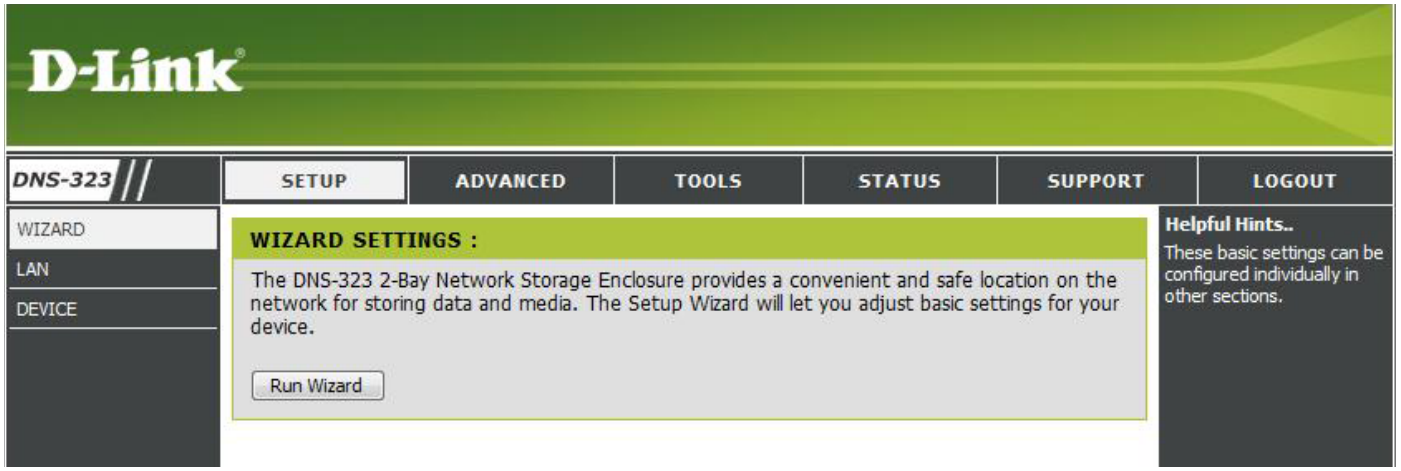
Type **admin** for the username and leave the password field blank.

Click **Configuration**



Note: After logging in to the DNS-323 for the first time it is recommended to add a password to the admin account. (See p. 39 for details.)

After logging in, you will be redirected to the DNS-323 web UI:



Web UI

The DNS-323 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:

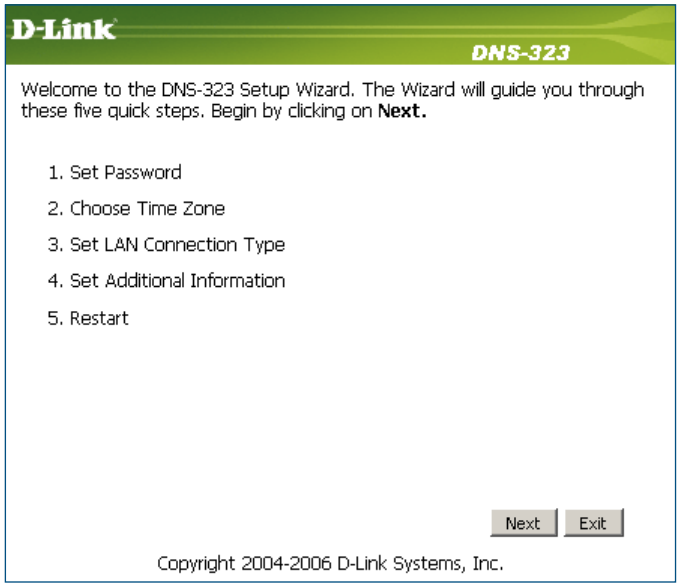
- **Setup** - Contains the DNS-323 setup wizard, as well as the LAN configuration settings and device settings.
- **Advanced** - Allows the DNS-323 administrator to configure users, groups of users and their storage quotas. The UPnP AV server, iTunes server, FTP server, LLTD, and DHCP server settings are all contained here as well.
- **Tools** - Contains configuration options for the Admin account, time and system settings, and e-mail alerts. Settings for Power management, RAID configuration, and DDNS are also available from the Tools page.
- **Status** - Contains a summary of DNS-323 information.
- **Support** - Contains the DNS-323 help files.
- **Logout** - Clicking this button will log the admin out and end the DNS-323 configuration session.

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

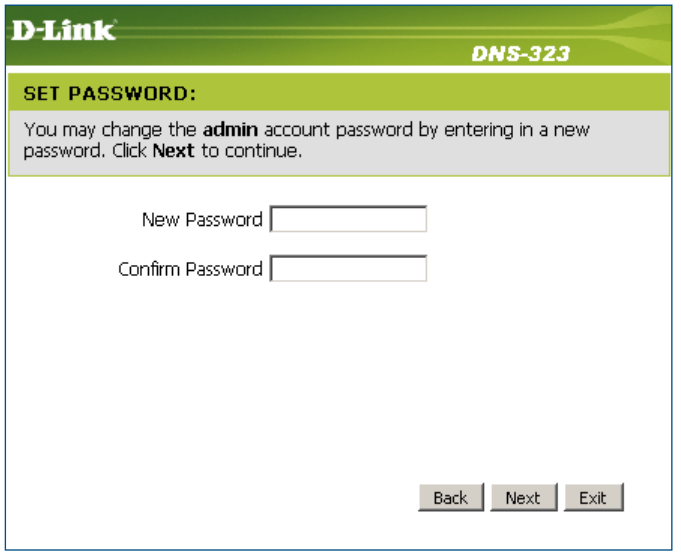
Setup
Wizard

The DNS-323 has a setup Wizard that allows you to quickly configure some of the basic device settings.

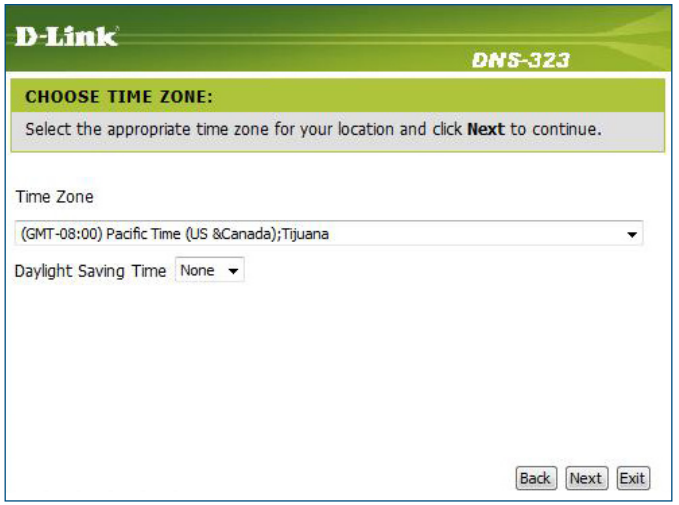
When running the DNS-323 setup wizard, the welcome screen details the five steps of the wizard. Click **Next** to continue.



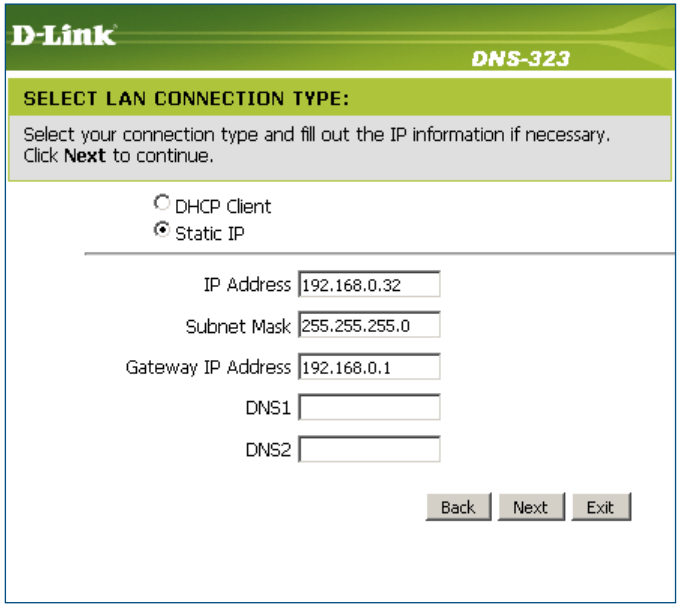
It is recommended you set an admin password here. Enter the new password and re-enter it for confirmation. Click **Next** to continue.



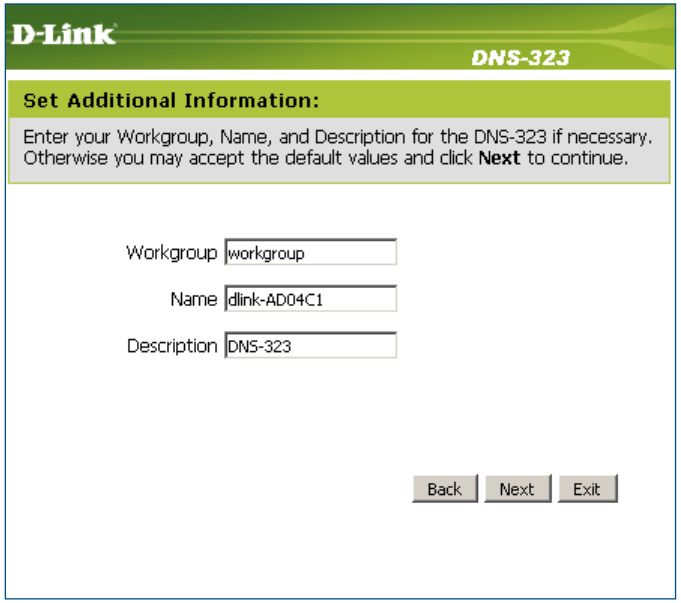
Set the appropriate **Time Zone** and **Daylight Savings Time**. Click **Next** to continue.



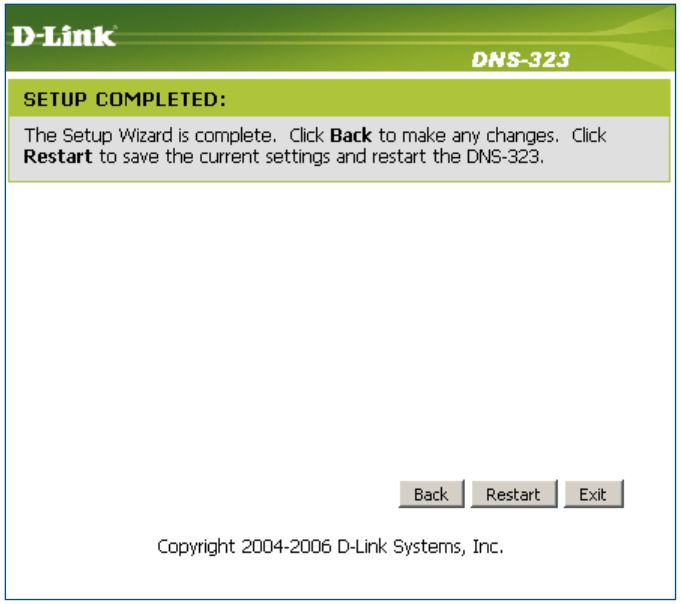
Edit or change the DNS-323 LAN information or keep the current settings. Click **Next** to continue.



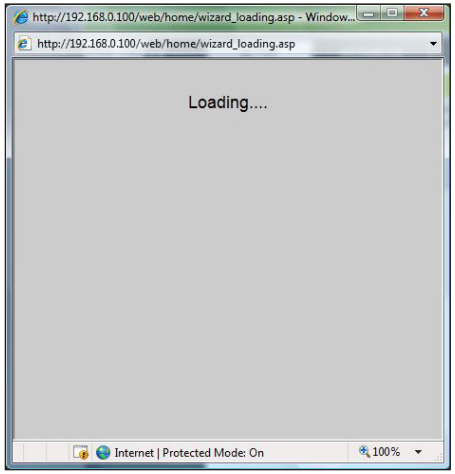
Enter your workgroup, name and description for the DNS-323, or leave the default values and click **Next** to continue.



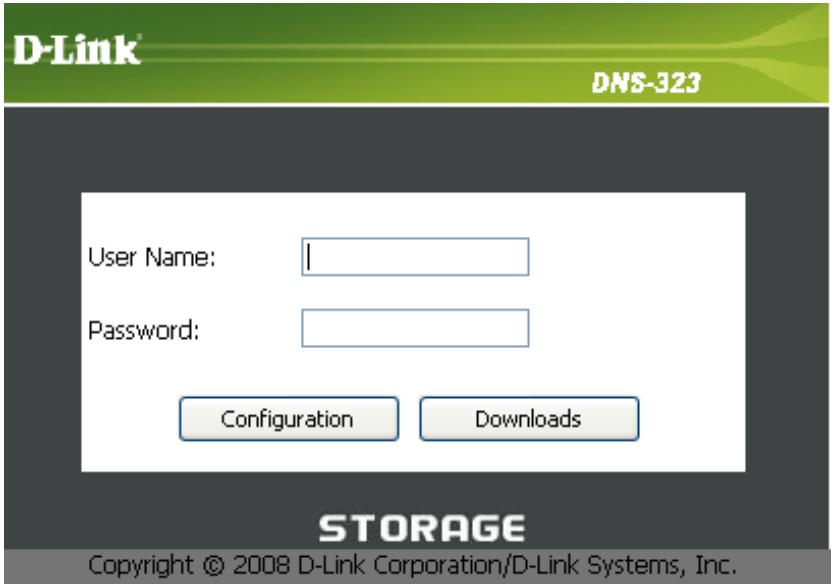
When the wizard completes, click **Back** to go back and make changes or click **Restart** to restart the DNS-323 and save the configuration.



The DNS-323 will restart.



When the login prompt appears, login using the new administrator password. Click **Configuration**.



LAN

The Local Area Network settings for the DNS-323 are configured on the LAN page.

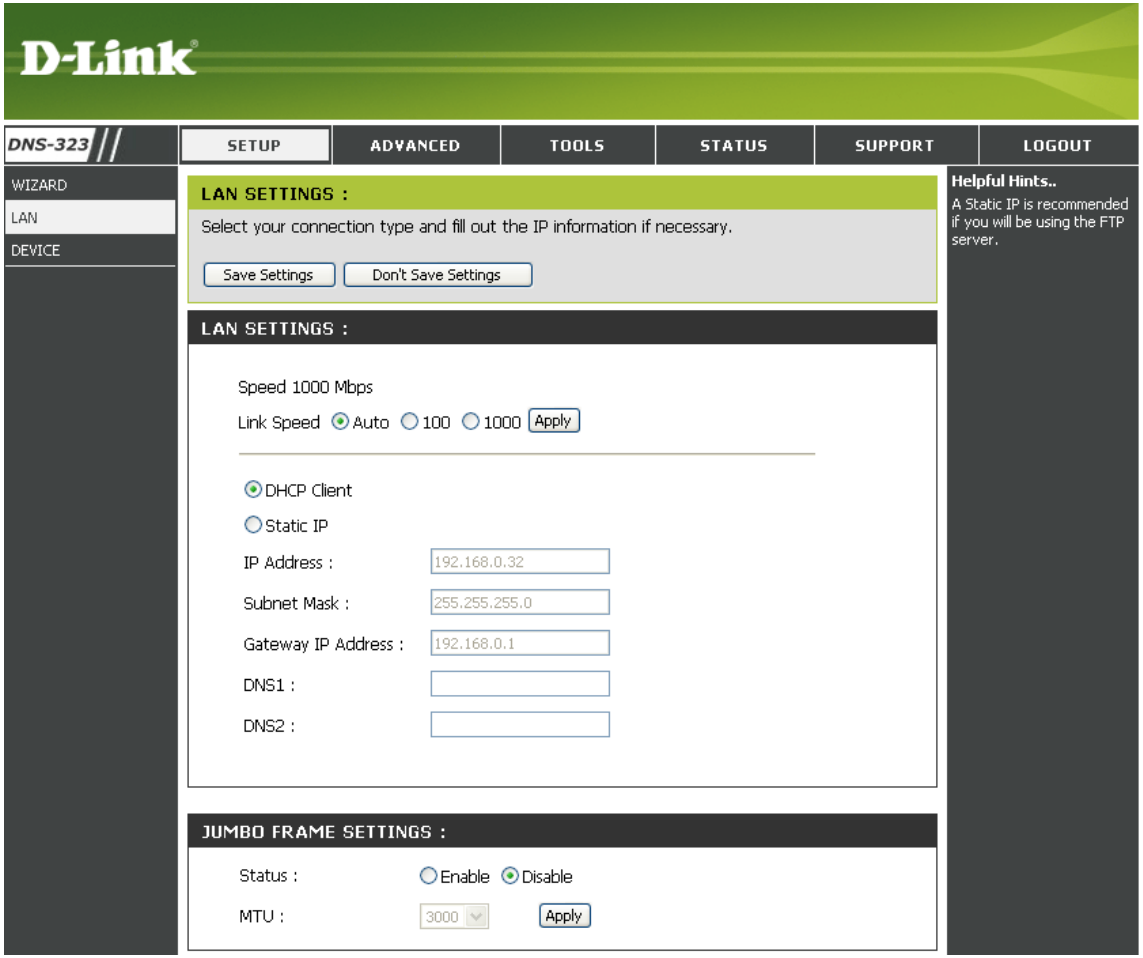
Link Speed The LAN Link Speed is set to Auto by default, but can be manually set to 100Mbps or 1000Mbps.

DHCP Client Selecting DHCP Client will cause the DNS-323 to obtain an IP address from the local DHCP server.

Static IP Selecting Static IP requires you to assign the IP information for the DNS-323 manually.

Jumbo Frame Settings Click the **Enable** radio button next to **Status** to enable jumbo frames.

MTU Select an MTU rate that your network can support and then click **Apply** to activate the new setting.



Device

The device settings page allows you to assign a workgroup, name and description to the DNS-323.

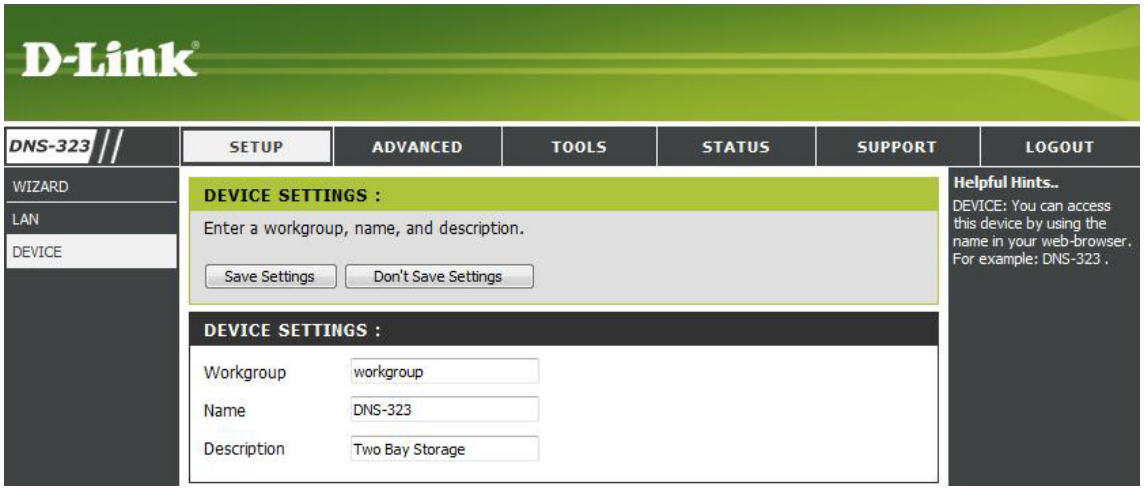
Workgroup Assigns a workgroup name to the DNS-323.

Name Assigns a unique name to the DNS-323. 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 are more than one DNS-323 on the network. By default the device name is dlink-xxxxxx, where xxxxxx is the last six digits of the MAC address.

Description Assigns a device description to the DNS-323.



Advanced

Users and Groups

The DNS-323 supports up to 64 unique users. The users can be added to a group, or individually. The users and groups are created to allow access to specific folders on the DNS-323, via FTP or your local network.

User and Group Creation This section contains required attributes for creating a new user or group.

Select **User** or **Group**. Enter a user or group name and password. Click **Add**.

Select a group from the drop-down menu.

Select Group Users that are assigned to the selected group will be listed here.

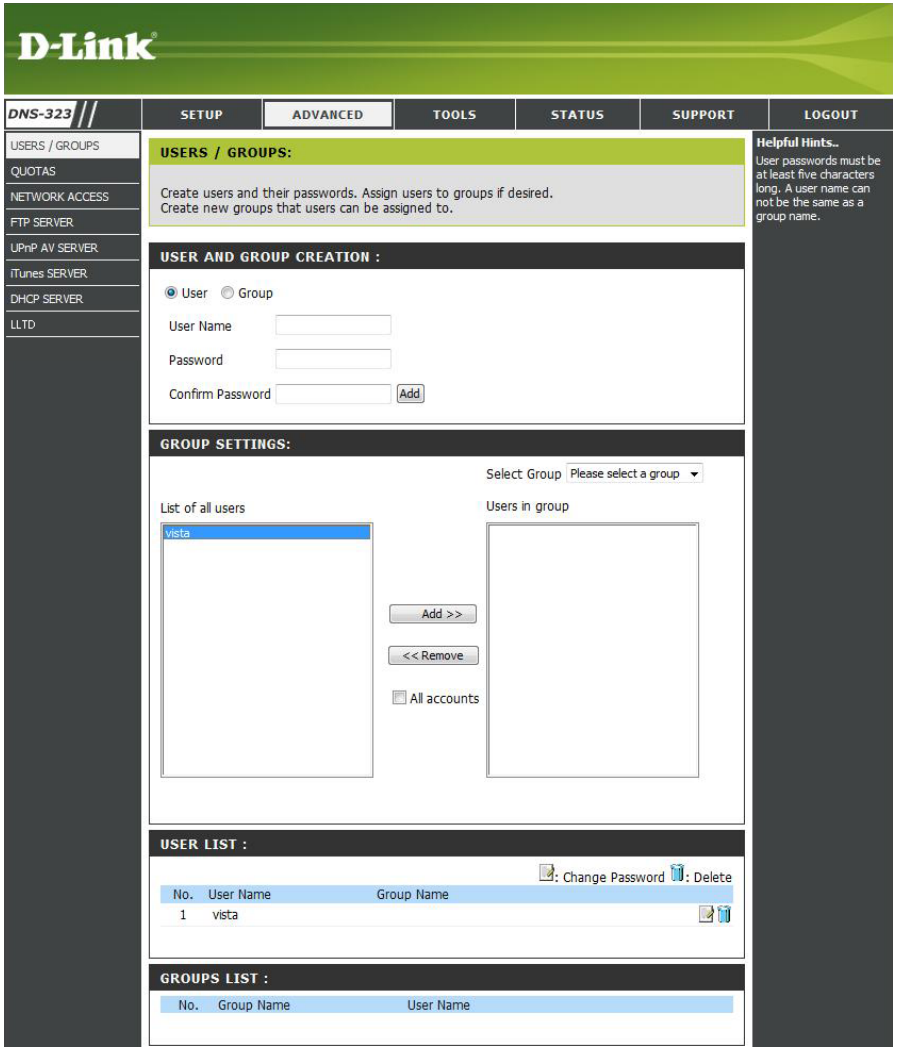
Users in Group Displays the list of users that you may assign to the selected group.

List of All Users To add a user to the selected group, click the user and then click **Add >>**.

To remove a user from the group, click the user and then click **<< Remove**.

User List Displays all created user accounts. You may modify the password or delete the user account by clicking on the right icon.

Group List Displays all created group accounts. You may modify the password or delete the account by clicking on the right icon.



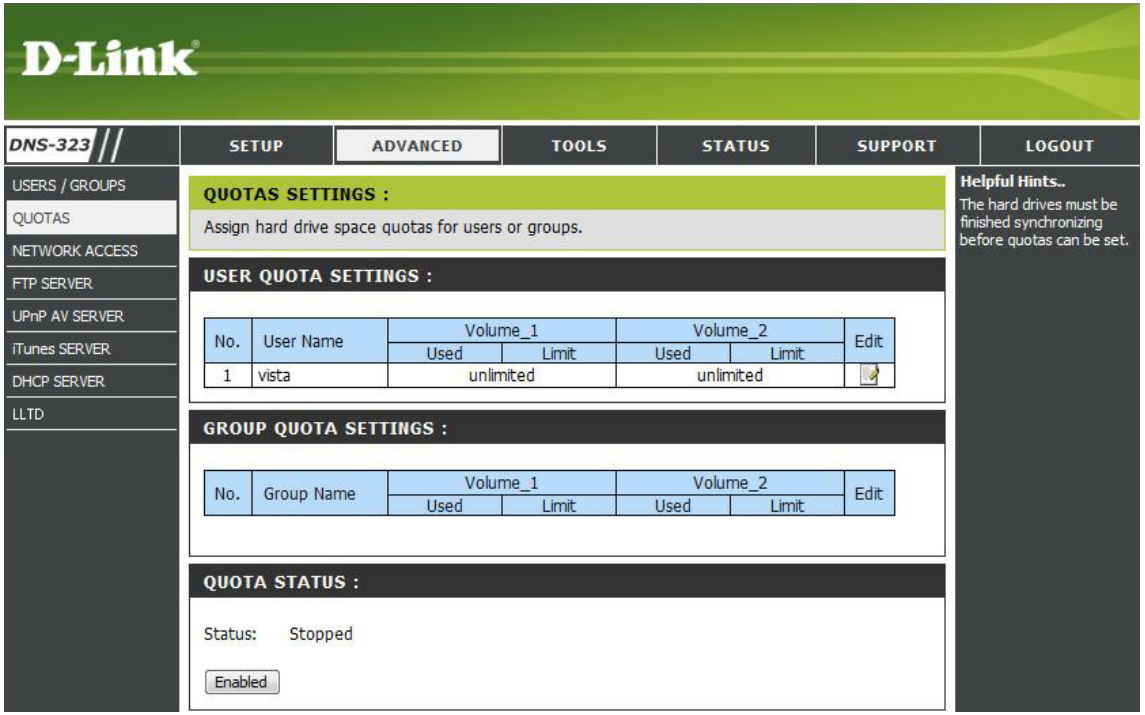
Quotas

The DNS-323 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.

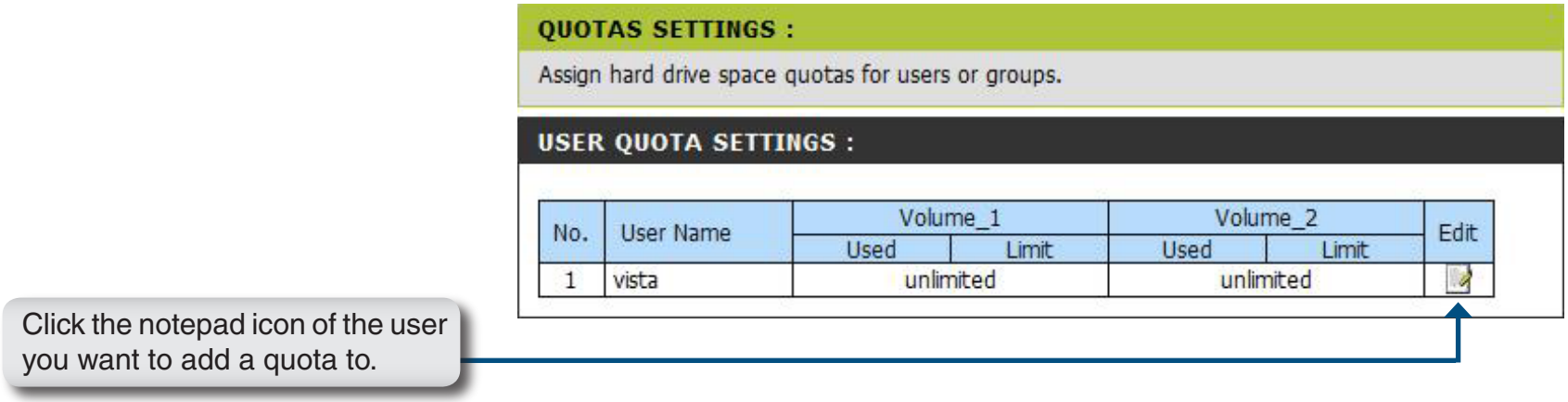
Quota Status Displays the current status of the quota feature. The quota function can be started or stopped here.

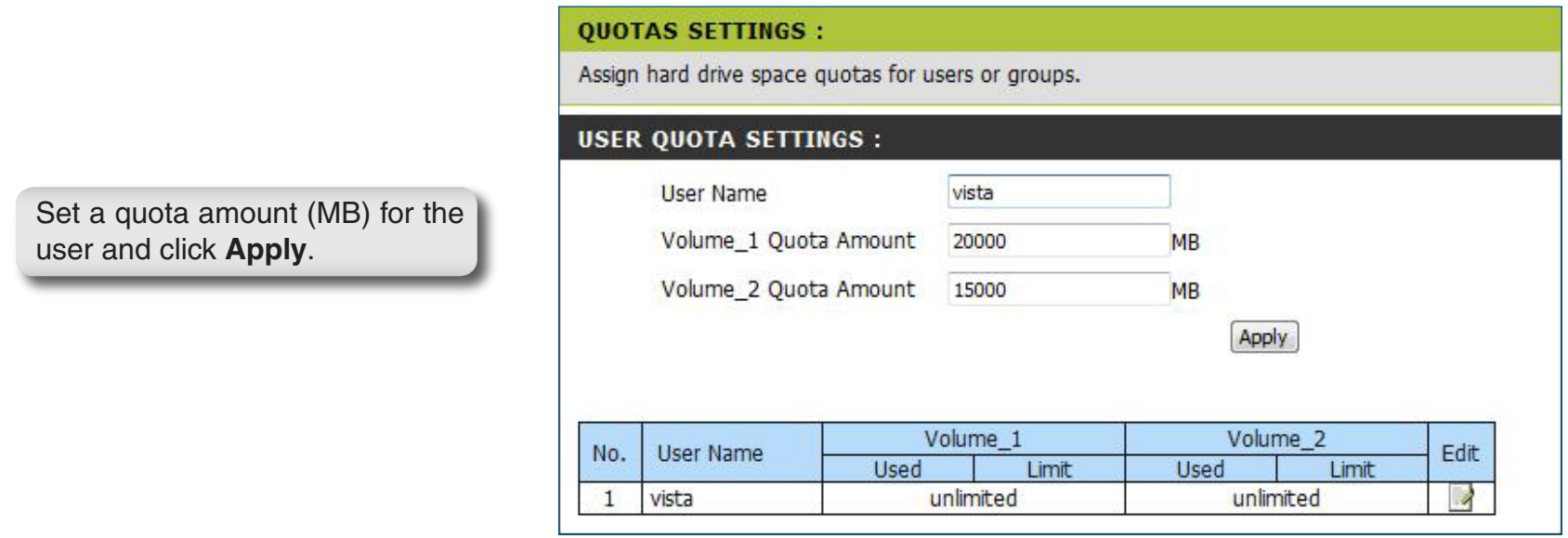


Configuring Quotas

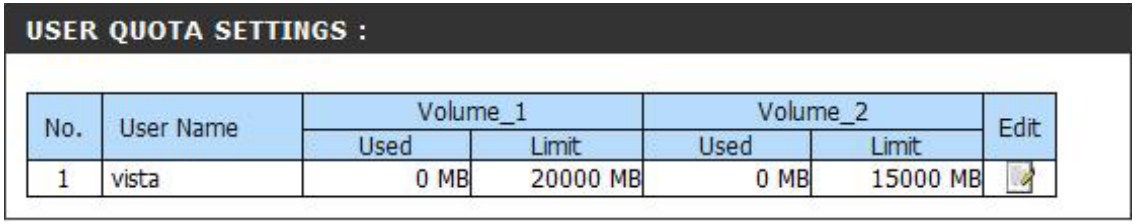
By default, all users and groups are displayed on the Quota Settings page. Users and groups are automatically listed on this page, and cannot be deleted. The default quota setting is “Unlimited”.

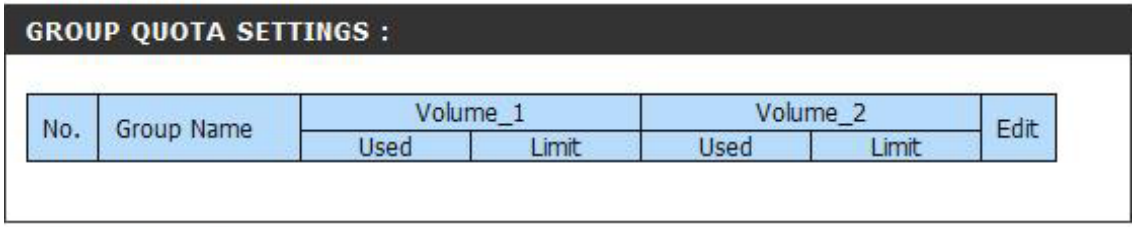
To add a quota:





The user, their amount of storage used, and their storage limit are displayed.





Click **Enabled** to turn quota monitoring on.

Once enabled, the status will change to Started.

Network Access

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

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

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

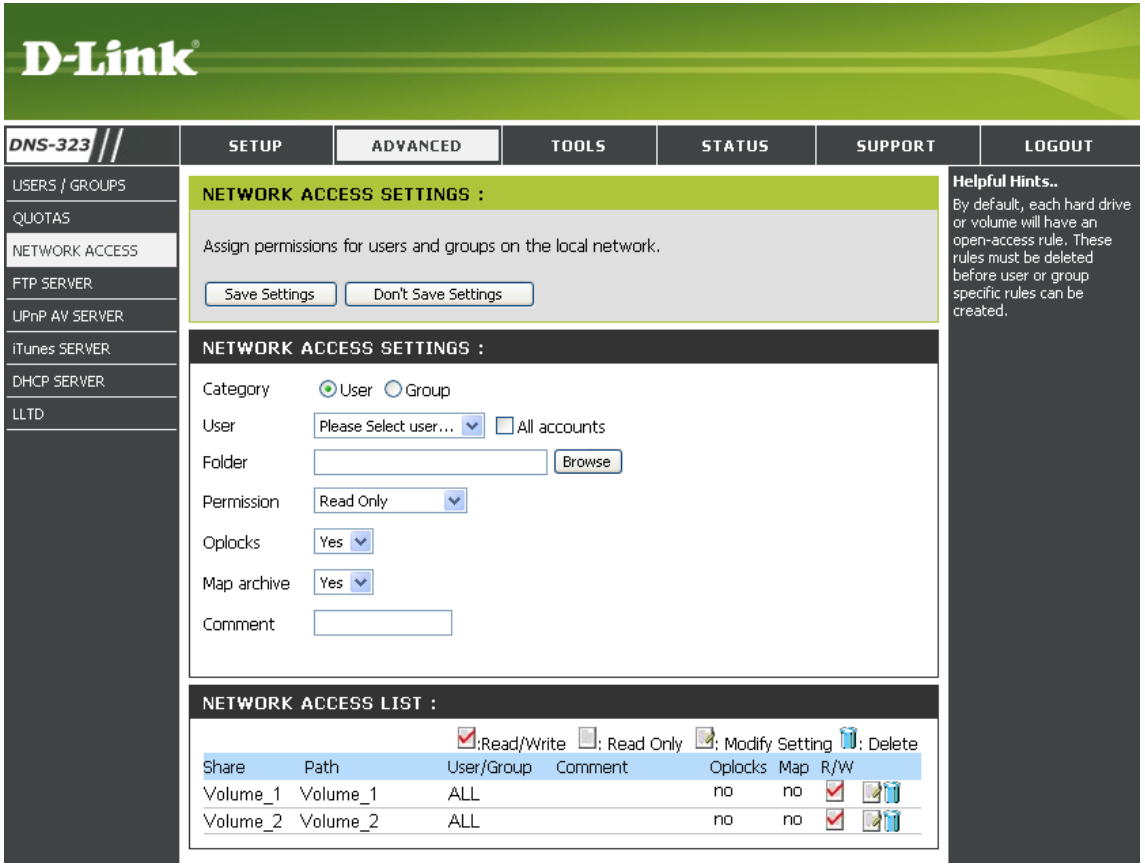
User / Group Select the user or group the access rule will apply to or you can select **All Accounts**.

Folder Browse to 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 when using file-based database applications it is recommended to set the share oplocks to **No (off)**.



By default, Windows Vista® has Oplocks enabled and can not be disabled. If you are having network performance issues with applications sharing files from the DNS-323 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-323. 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-323 is equipped with a built in FTP Server, which is easy to configure. It 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-323 at a time.

FTP Server Settings This section contains the configuration settings for the DNS-323 FTP Server.

FTP Access List The FTP access for users and groups can be added and edited here.

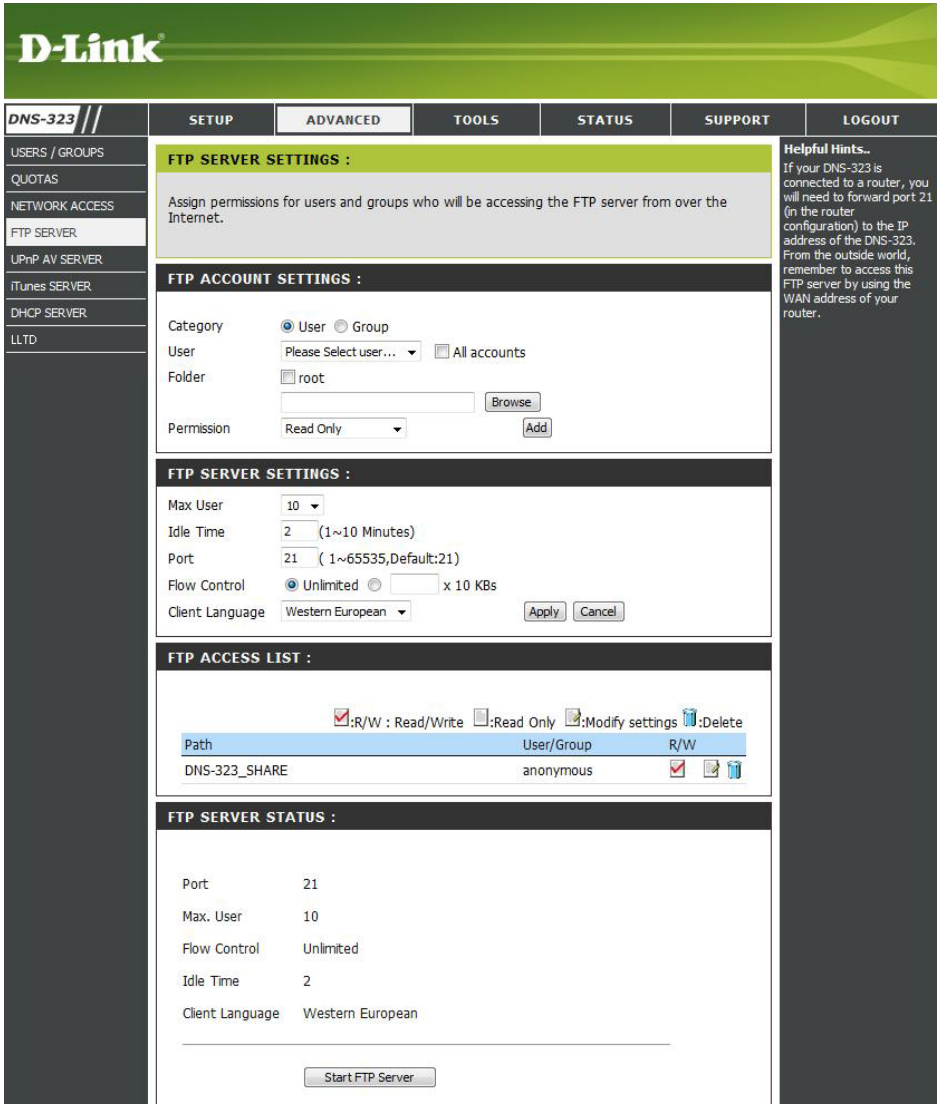
FTP Server Status The current settings and status of the DNS-323 FTP Server are displayed here.

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

User / Group Select the group or user the FTP server rule will apply to.

Folder Browse to and select the folder or directory you are granting FTP access to. Select **root** to grant access to all volumes.

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



FTP Server Settings

Max User Sets the maximum amount of users that can connect to the FTP server.

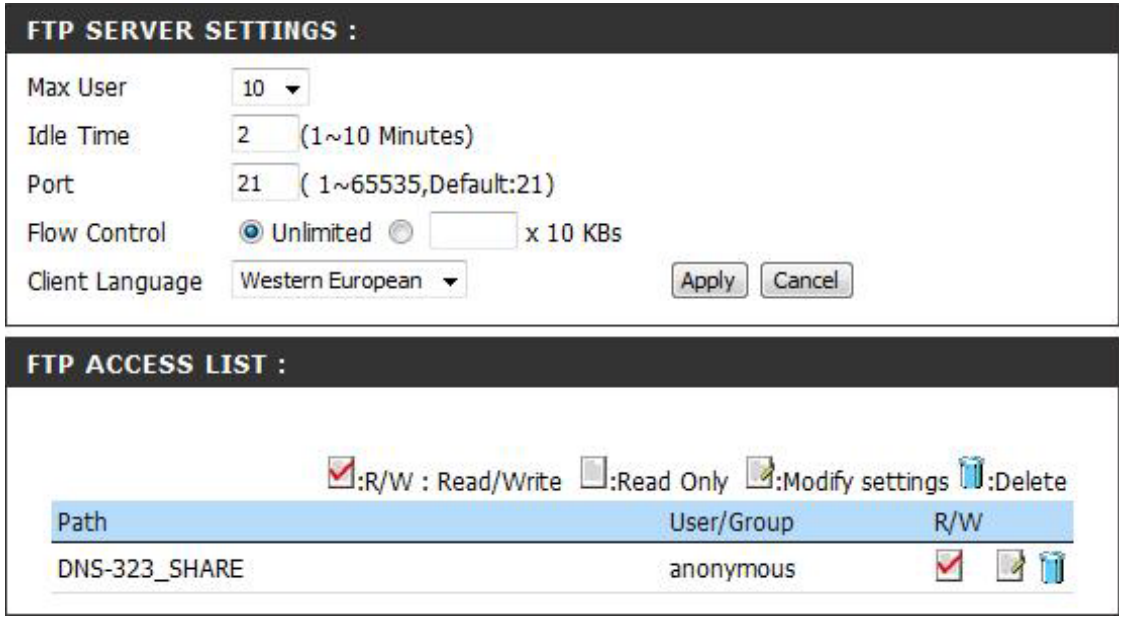
Idle Time Sets the amount of time a user can remain idle before being disconnected.

Port Sets the FTP port. Default is 21.

Flow Control Allows 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. Support has been added for non standard FTP clients that are capable of supporting these character sets.

FTP Access List Lists all defined FTP Rules.



If you are behind a router, you will need to forward the FTP port from the router to the DNS-323. Additional filtering and firewall settings may need to be modified on your router to allow FTP Access to the DNS-323 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:

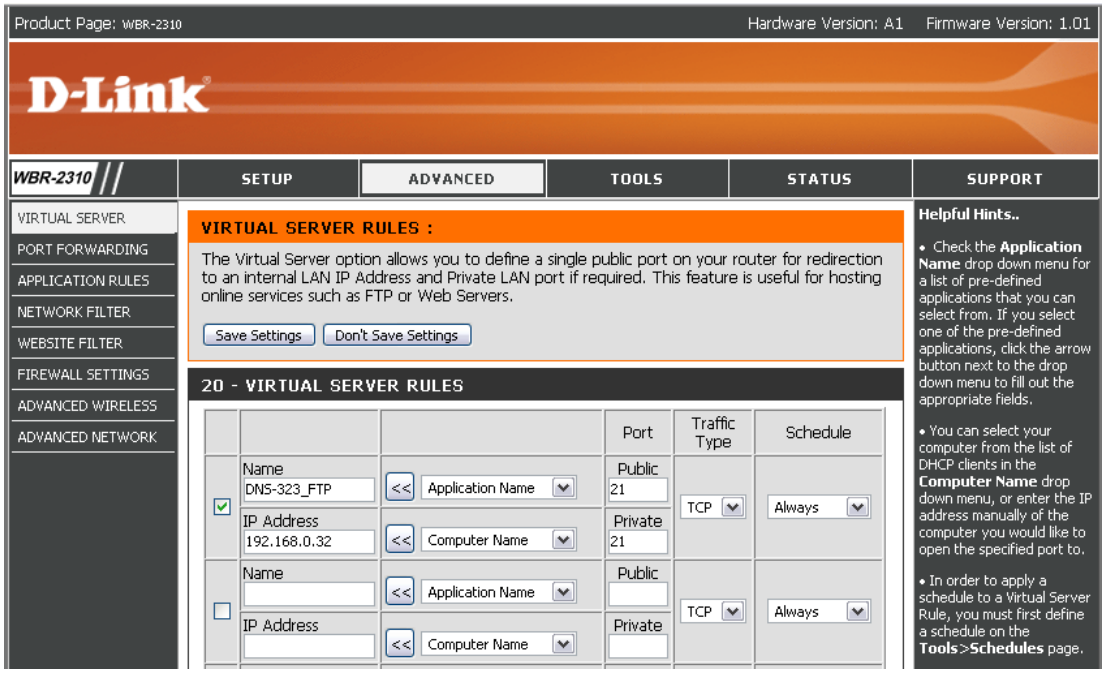
Name Name the DNS-323 FTP server rule.

IP Address Enter the IP address of the DNS-323.

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, and users who are using a browser will have to specify the port in the URL (e.g. ftp://ftp.dns323.com:3000, where the FTP port is 3000).

UPnP AV Server

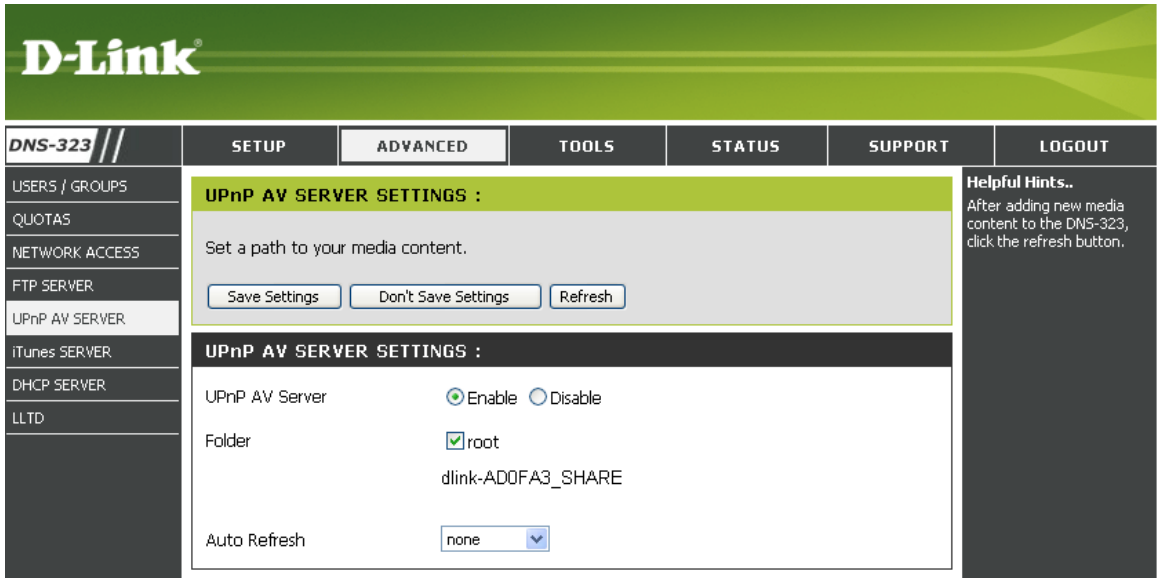
The DNS-323 features a UPnP AV Server. This server provides the ability to stream photos, music and videos to UPnP AV compatible network media players. If the server is enabled, the DNS-323 will be automatically detected by UPnP AV compatible media players on your local network.

UPnP AV Server Select **Enable** or **Disable** to enable or disable the DNS-323 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. Select **None** to disable this feature.

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



iTunes Server

The DNS-323 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-323 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.

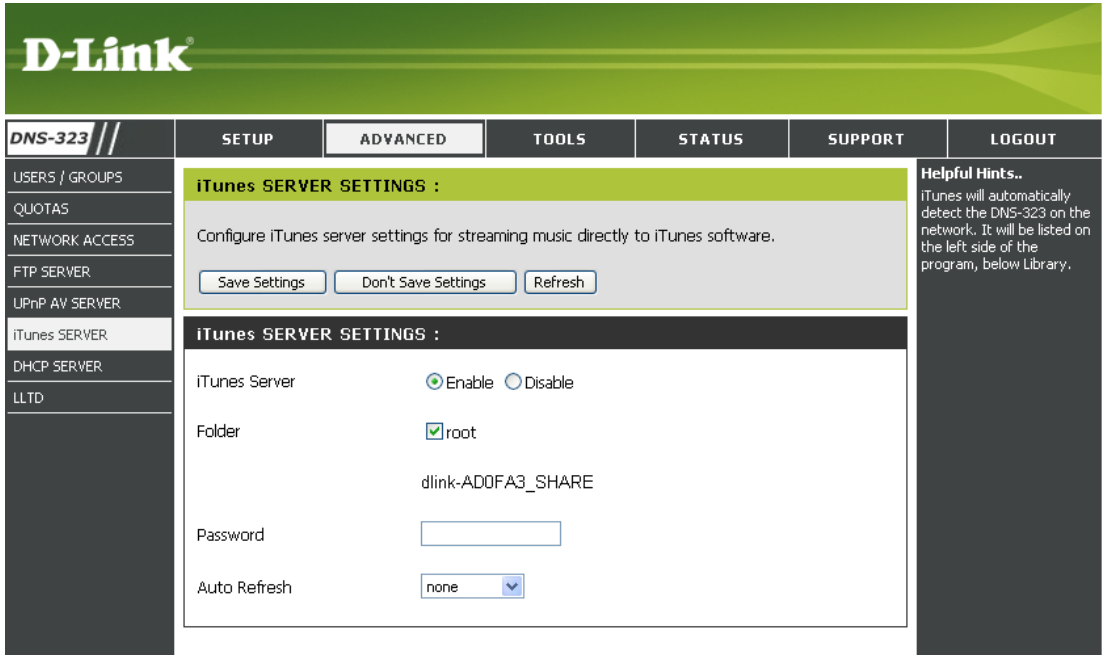
iTunes Server Select **Enable** or **Disable** to enable or disable the DNS-323 iTunes server.

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)

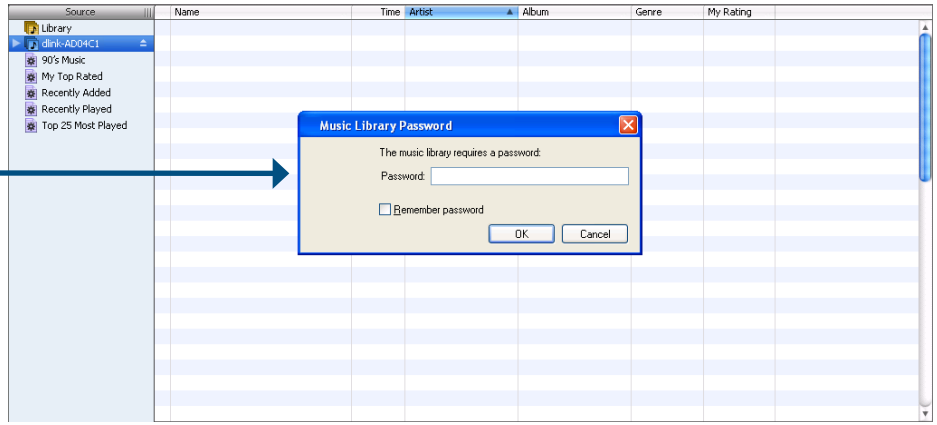
Auto Refresh Set the device to auto refresh your media every 5 minutes up to every 24hrs. Select **None** to disable this feature.

Refresh Click **Refresh** after adding new files to be used with iTunes.

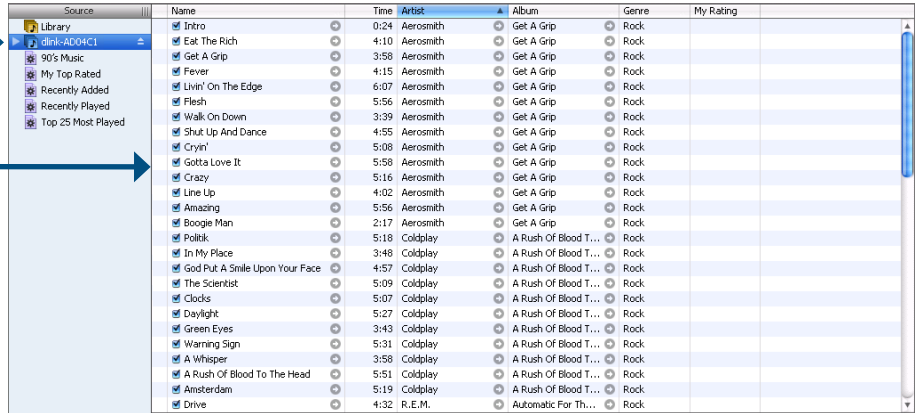


After enabling the iTunes server on the DNS-323, launch iTunes. When iTunes detects the DNS-323, select it and you will be prompted to enter the iTunes server password if required.

Select the DNS-323. When prompted, enter the iTunes server password. Click **OK**.



Media stored on the DNS-323 will be available for use in iTunes.



DHCP Server

The DNS-323 can be used as a DHCP Server. As a DHCP server, it can be used to serve IP addresses to other 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.

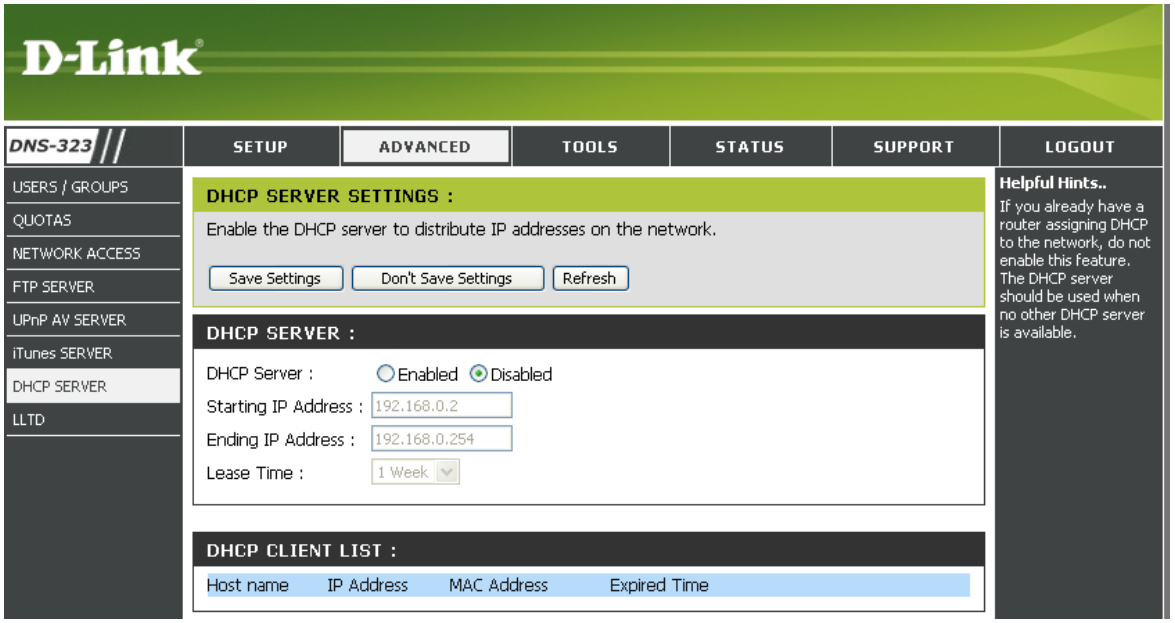
DHCP Server Click the **Enabled** or **Disabled** radio button to enable or disable the DNS-323 DHCP server.

Starting IP Address Enter the starting IP address for the range of addresses assigned by the DHCP server.

Ending IP Address Enter the ending IP address for the range of addresses assigned by the DHCP server.

Lease Time Sets the duration of time that an IP address will remain assigned to a device.

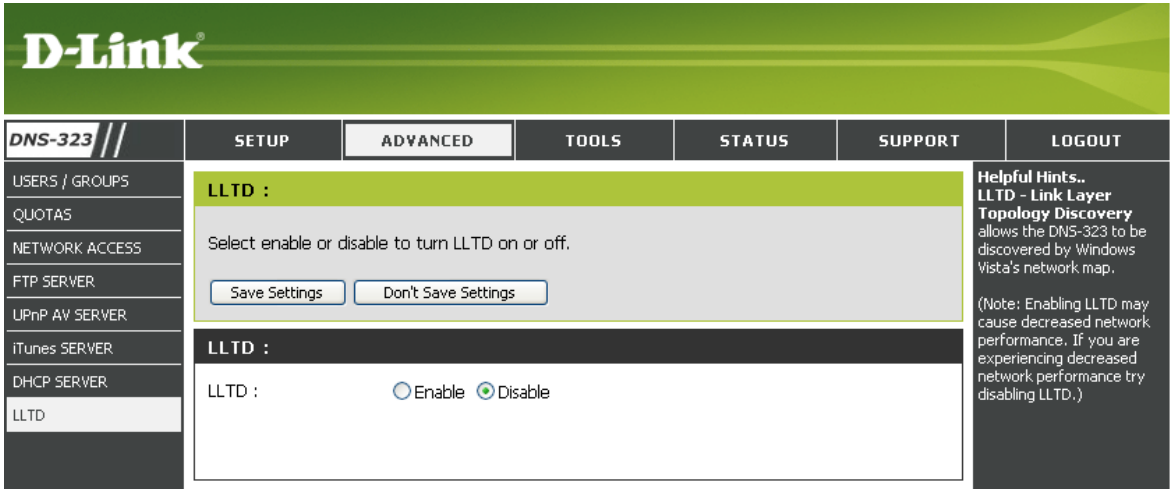
DHCP Client List Displays the Hostname, IP address, MAC address and Expired Time of the clients that have received a DHCP address from the DNS-323.



LLTD

The DNS-323 supports LLTD. LLTD stands for Link Layer Topology Discovery and is used by the Network Map application that is included in Windows Vista®.

LLTD Click the **Enable** or **Disable** radio button to enable or disable the DNS-323 LLTD service



Tools
Admin Password

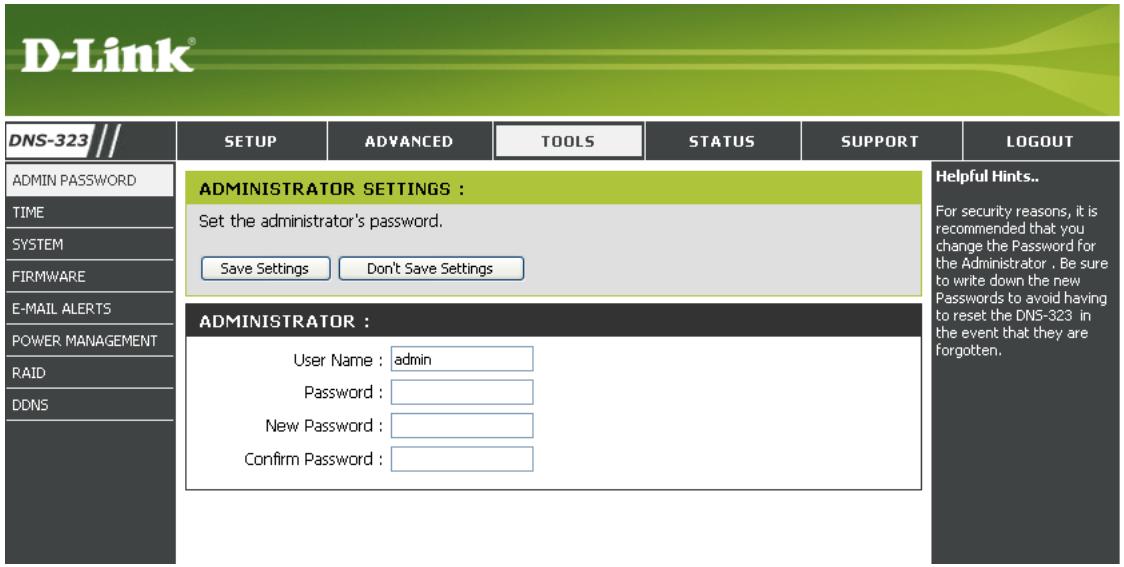
The Admin menu allows you to set a password for your admin account. It is recommended to set a password when first configuring the DNS-323.

User Name The administrator user name is **admin**, and this cannot be changed.

Password Enter the current password. (Leave this blank if you have not set a password yet.)

New Password Enter a new password.

Confirm Password Enter the new password again for confirmation.



Click **Save Settings** to save the new password.

Time

The DNS-323 Time page contains several different options for setting the device's internal clock. It is important to set an accurate time so that backups and downloads can be accurately scheduled.

NTP Server Network Time Protocol (NTP) synchronizes the DNS-323 with an Internet time server.

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

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

From My Computer This option will synchronize the DNS-323 clock with your computer.

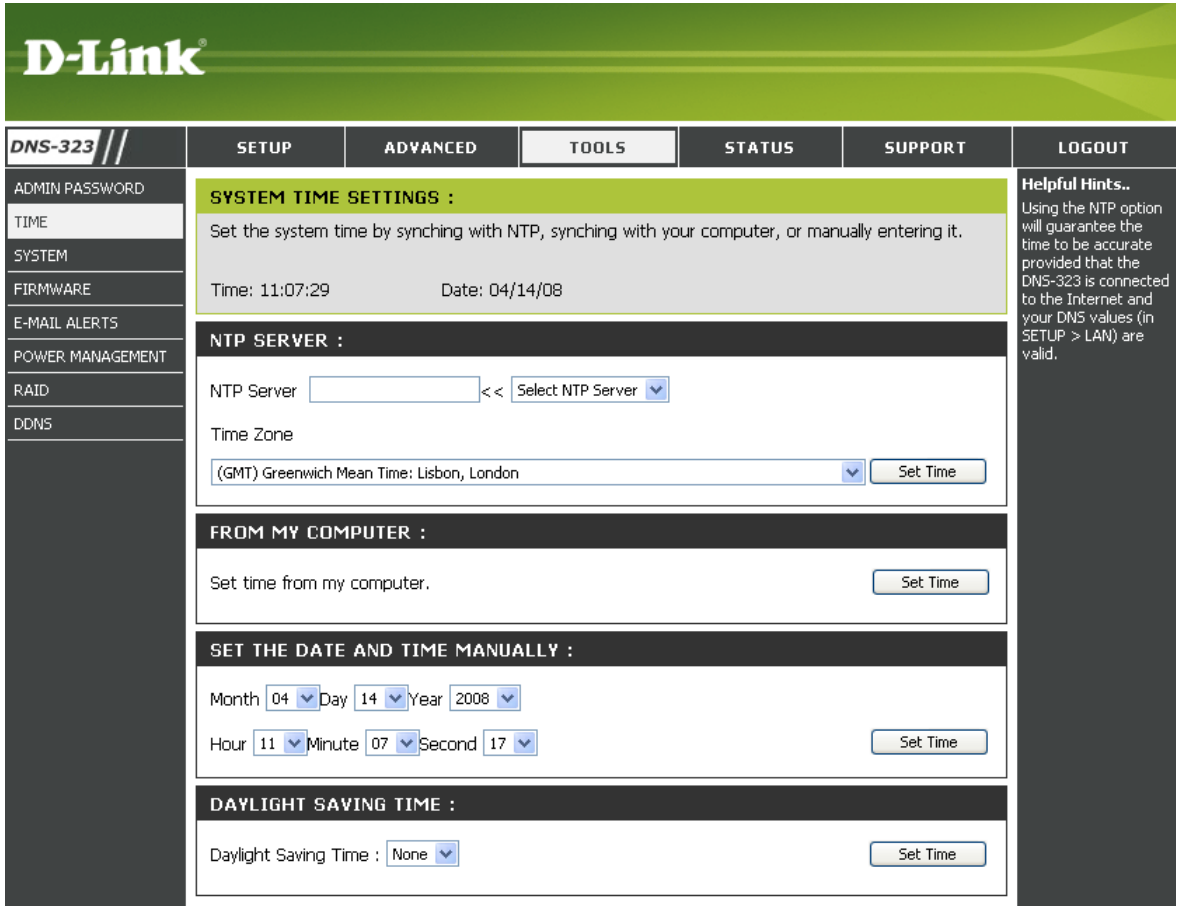
Click **Set Time** to sync with the local computer.

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

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

Daylight Saving Time Available Daylight Saving Time options are **None, USA, or EU** (Europe).

Select the appropriate option and click **Set Time**.



System

The DNS-323 System menu provides options for system restarts, saving and loading configuration settings, and setting idle times.

Restart Click **Restart** to reboot the DNS-323.

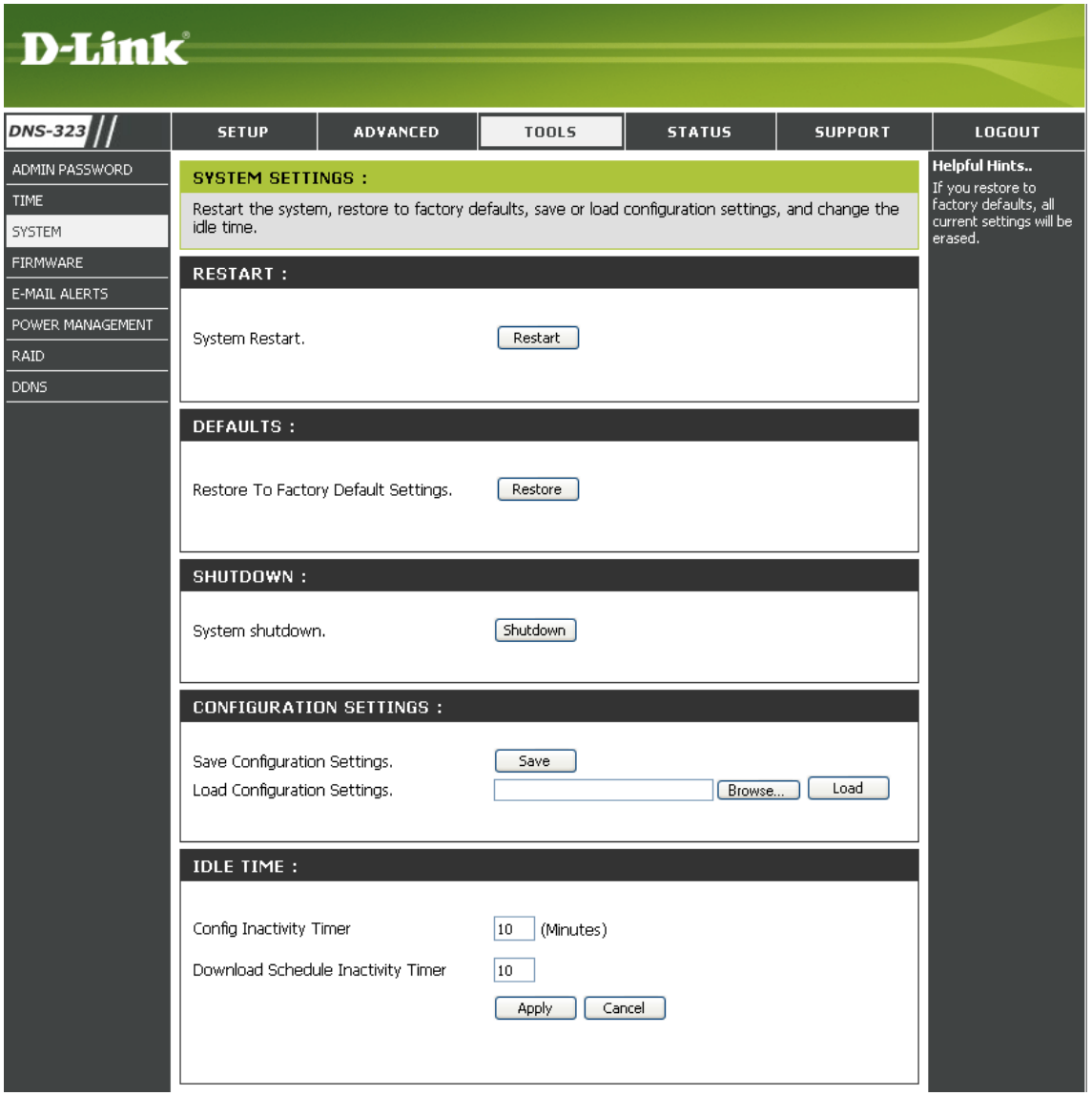
Restore Defaults Click **Restore** to reset the DNS-323 to its factory default settings. This will erase all previous configuration changes.

Shutdown Click **Shutdown** to turn off the DNS-323.

Configuration Settings Click **Save** to save the current DNS-323 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 to 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-323 configuration settings or that users will be allowed to remain idle while accessing the download schedule settings.

Click **Apply** to save the settings.



Firmware

The DNS-323 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.

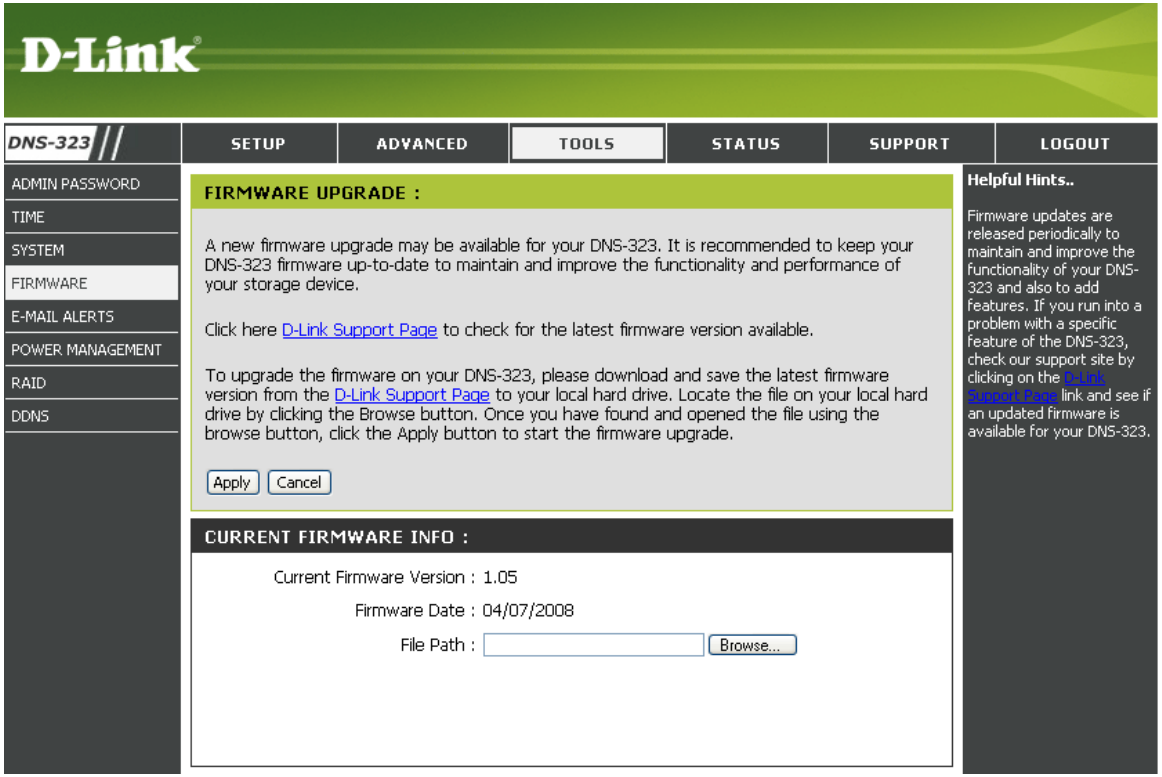
If a new firmware is available, download the file to your local computer.

Current Firmware Info

This section provides information about the current DNS-323 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.



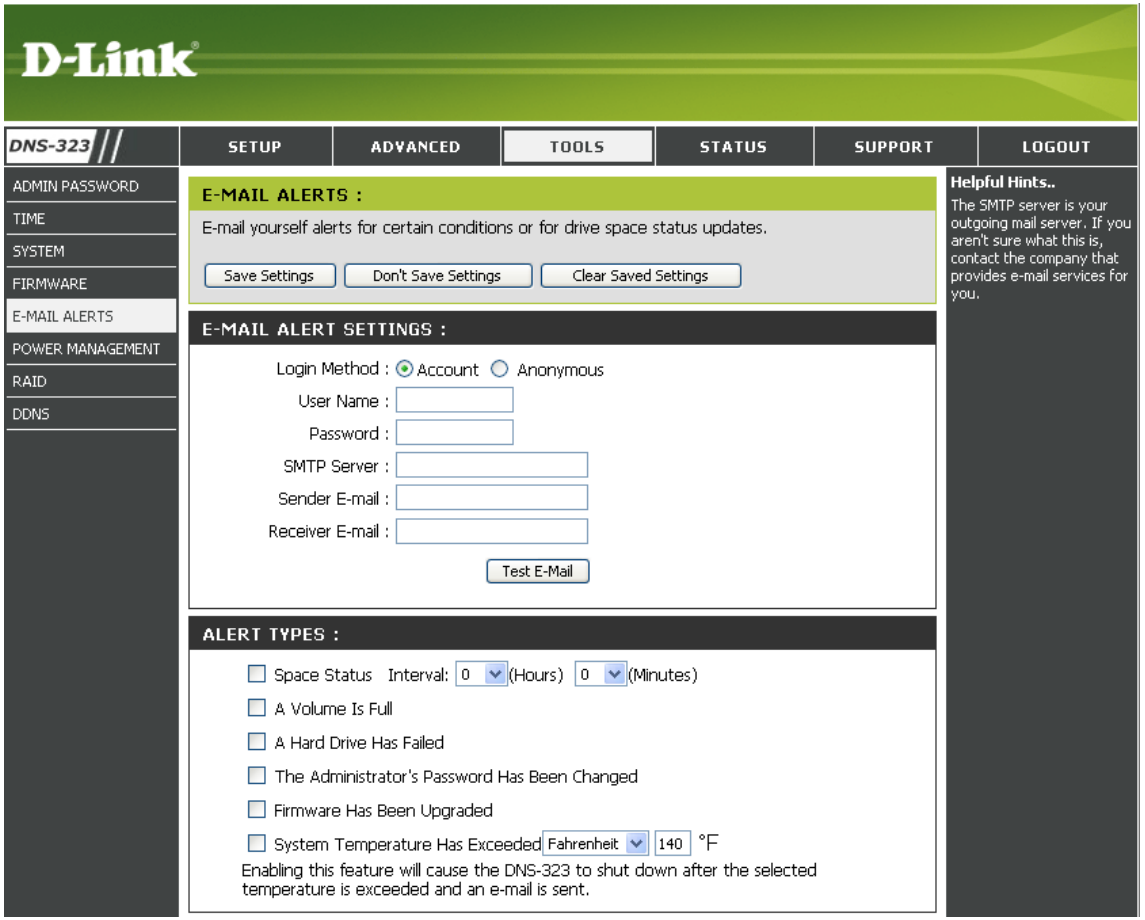
E-Mail Alerts

With the DNS-323 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.

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.

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.

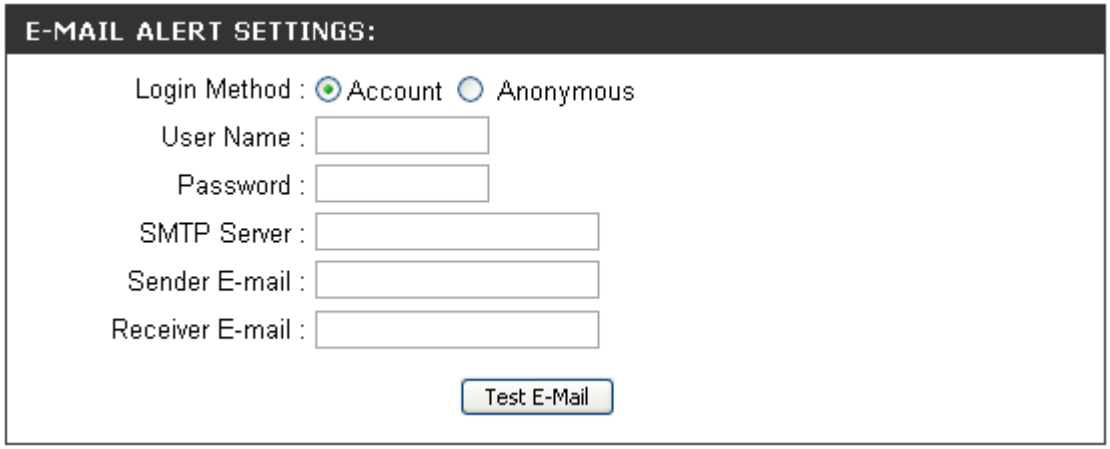
Password Enter the appropriate password for your e-mail account.

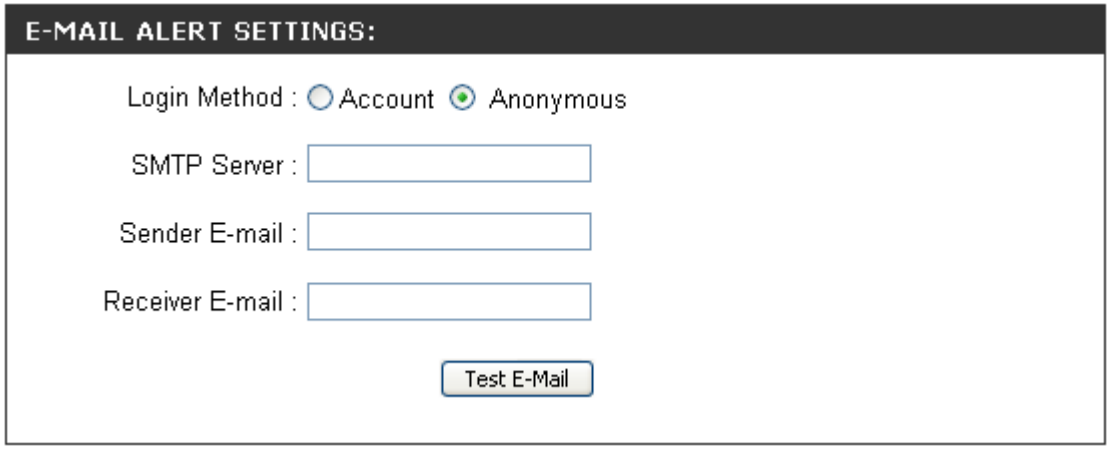
SMTP Server Enter the IP address or domain name of your outgoing mail server. If you are unsure of this value, contact your e-mail provider.

Sender E-Mail Enter the "from" e-mail address (e.g. alerts@dns323.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 E-Mail Enter the e-mail address that will receive the alerts. 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 Types

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

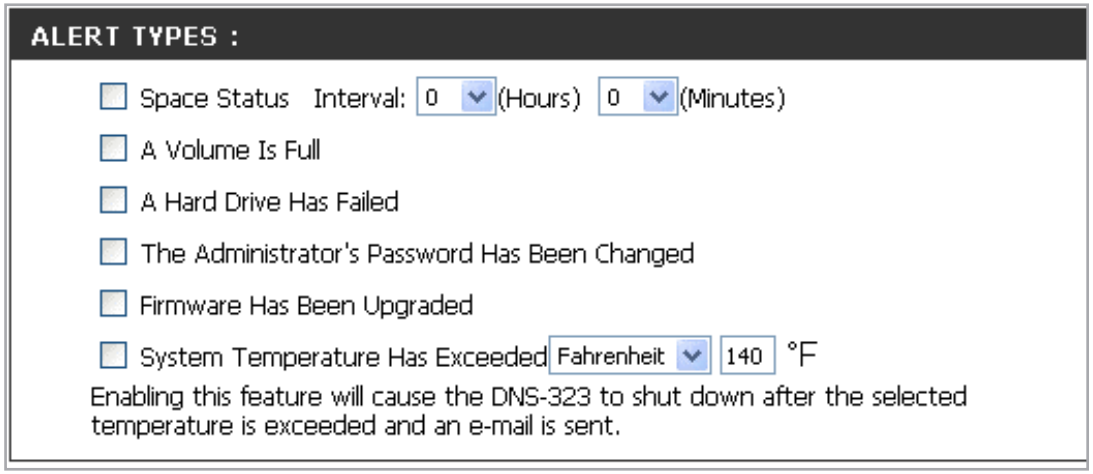
A Volume Is Full An alert will be sent when the hard drive is full.

A Hard Drive Has Failed An alert will be sent if a critical error occurs on one of the drives.

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

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

System Temperature Exceeded An alert will be sent if the DNS-323 device temperature exceeds the set threshold. After the alert has been sent, the DNS-323 will power off for safety.



Power Management

The DNS-323 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.

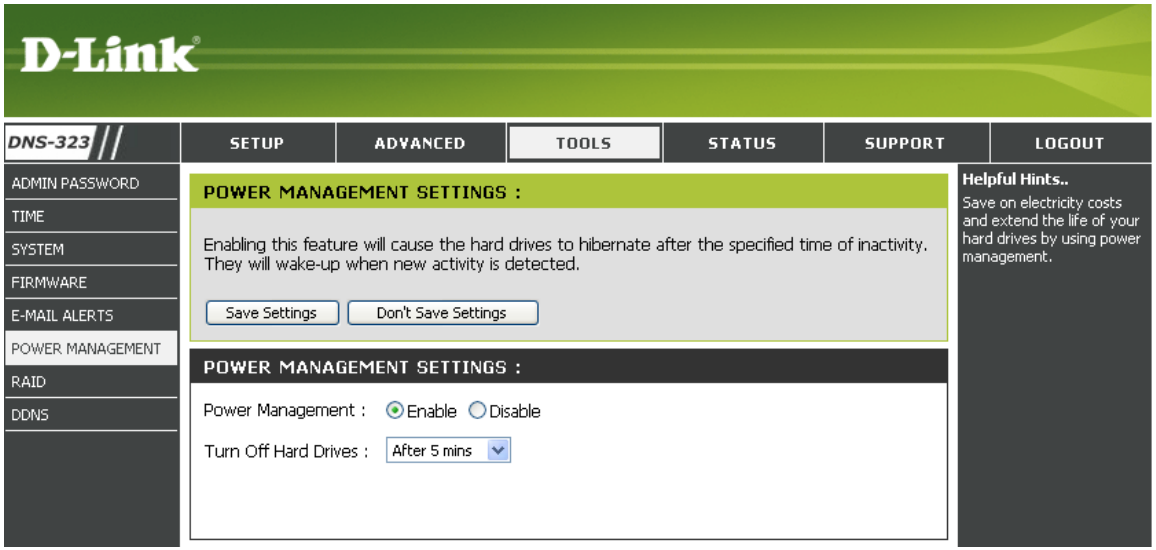
Power Management

Enable or **Disable** Power Management on the DNS-323 by clicking the appropriate radio button.

Turn off Hard Drives

Set the amount of time before idle drives will shut down.

Click **Apply** to save the settings.



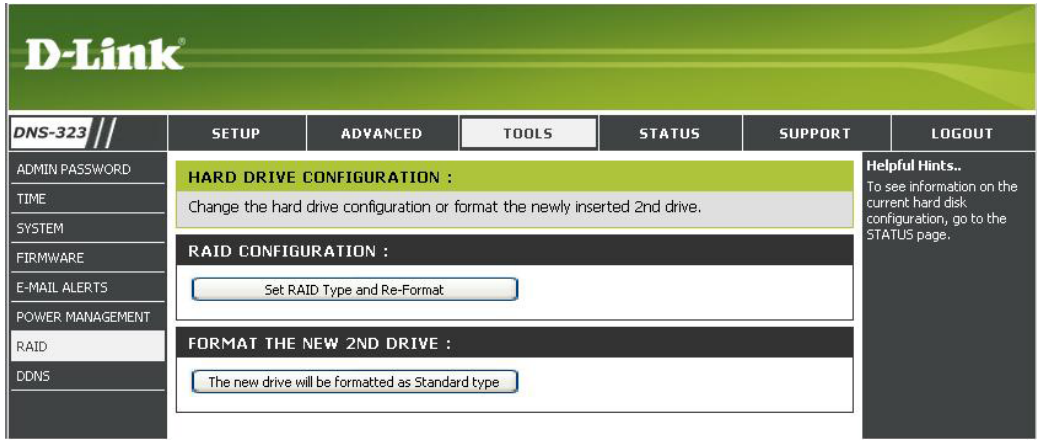
RAID

The DNS-323 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.

If you already have one drive installed, and intend to install the second drive, the DNS-323 allows you to change the drive configuration from Standard to RAID 1, which you can mirror the data from the 1st drive to the 2nd drive to protect your valuable data. This will erase all the data in the new 2nd drive.

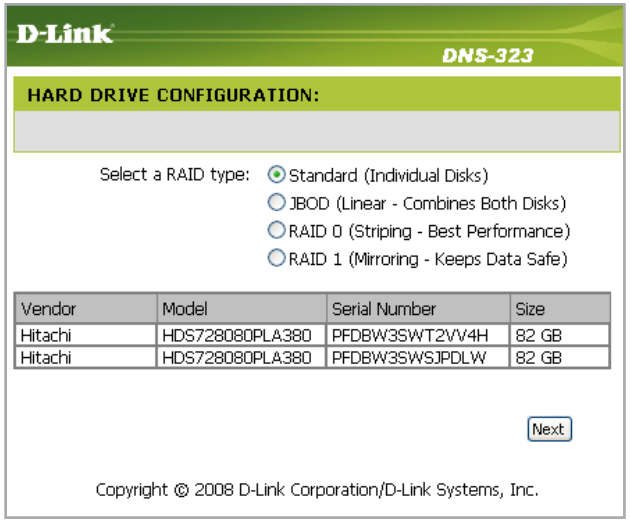
If you have installed a 2nd drive and "skipped" the configuation, you will see there is an additional option allowing you to configure the 2nd Hard Drive. This will erase all the data stored on the 2nd Hard Drive.



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

Choose the RAID option you want to implement, by clicking the appropriate radio button and press **Next** button.

The steps for configuring RAID are identical to the steps carried out earlier from the **Getting Started** section of the manual.

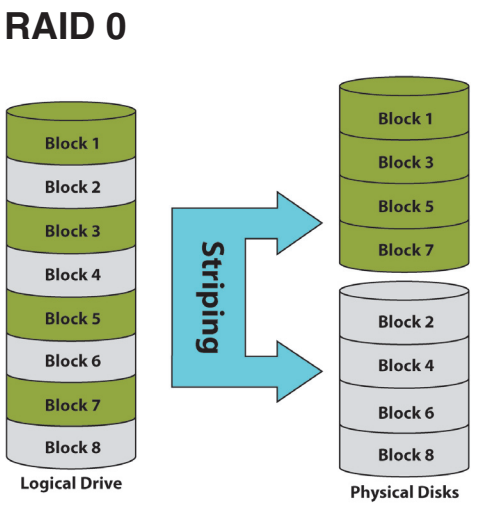


What is RAID?

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-323 supports RAID levels 0 and 1.

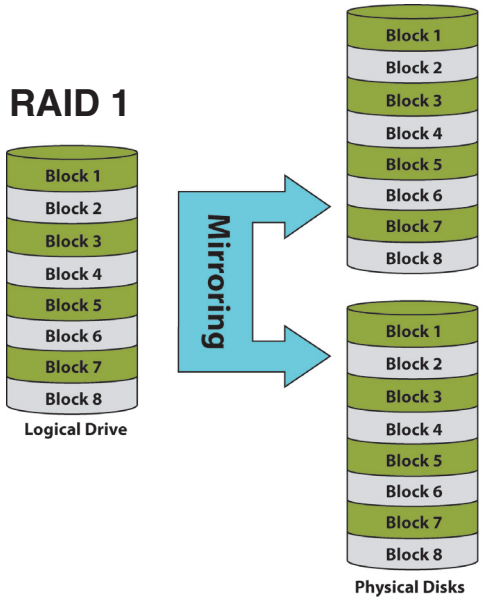
RAID 0 RAID 0 provides *data striping*, which spreads out blocks of data over both drives, but does not provide data redundancy.

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 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 no matter what your IP address is.

DDNS Select **Enable** or **Disable**.

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

Host Name Enter your DDNS host name.

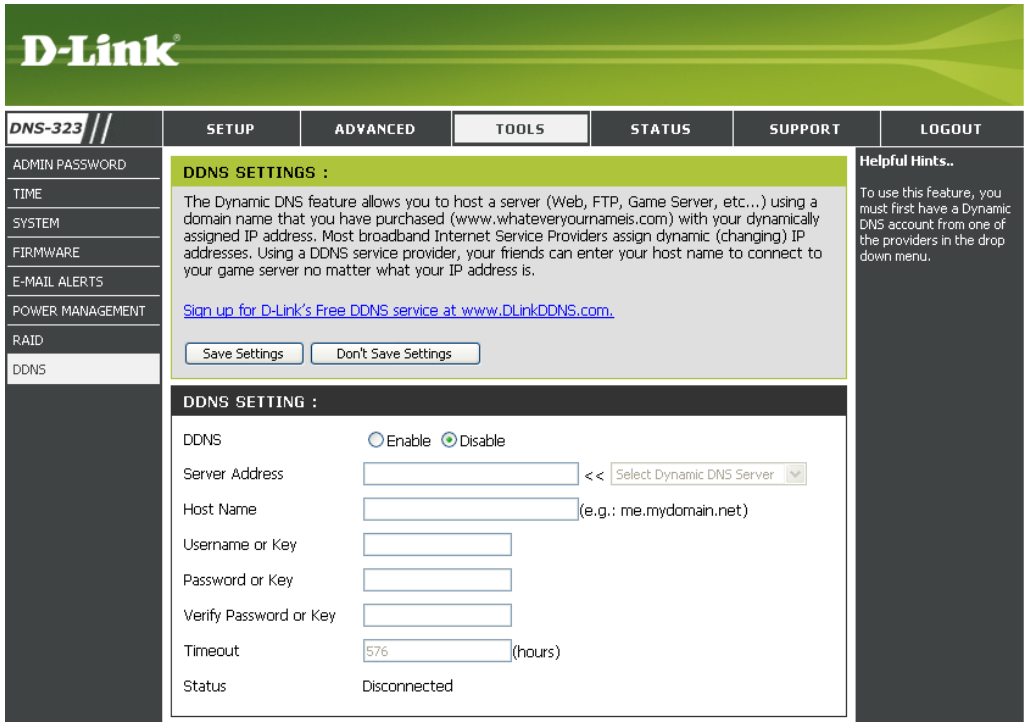
Username or Key Enter your DDNS username or key.

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, if your dynamic IP address has not changed. The timeout period is entered in hours

Status Displays your DDNS status.



Status

Device Information

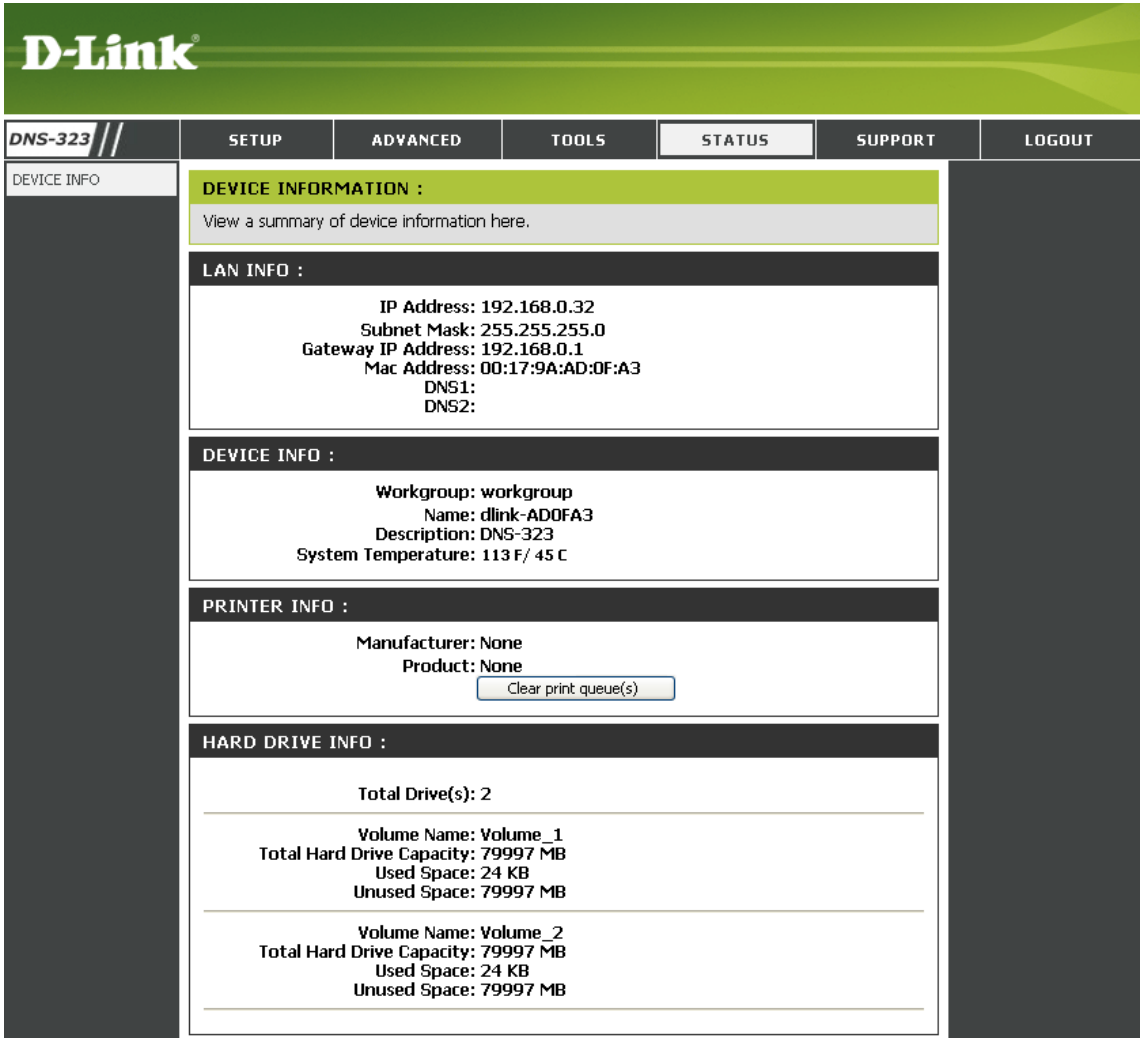
LAN Info Displays the local network settings of the DNS-323.

Device Info Displays the workgroup, name, description and current temperature of the DNS-323.

Printer Info Displays information for a connected USB printer.

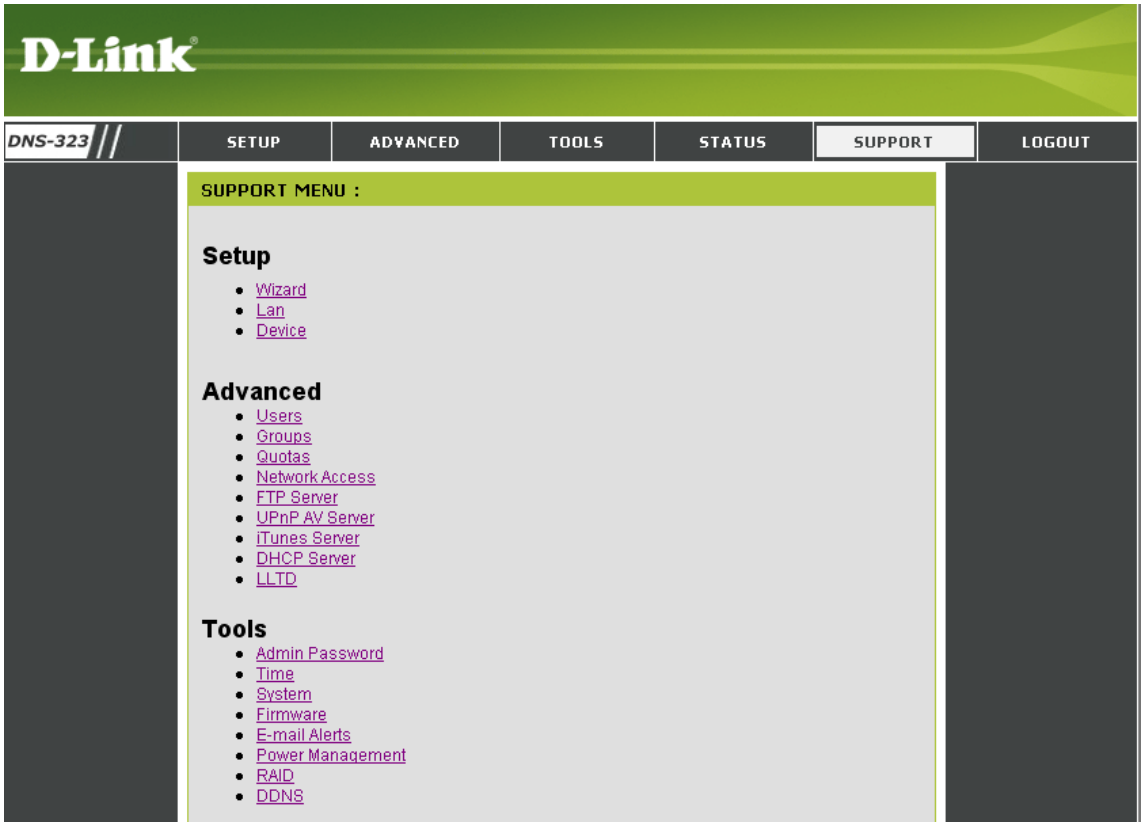
If your computer is having problems printing to the DNS-323, you can click the **Clear Print Queue(s)** button to remove any print jobs that may be causing your computer to be unable to print.

Hard Drive Info Displays the hard drive information, including the disk mode, total size, used and remaining drive space.



Support

The DNS-323 Support page provides a menu of Support topics explaining the features of the device.



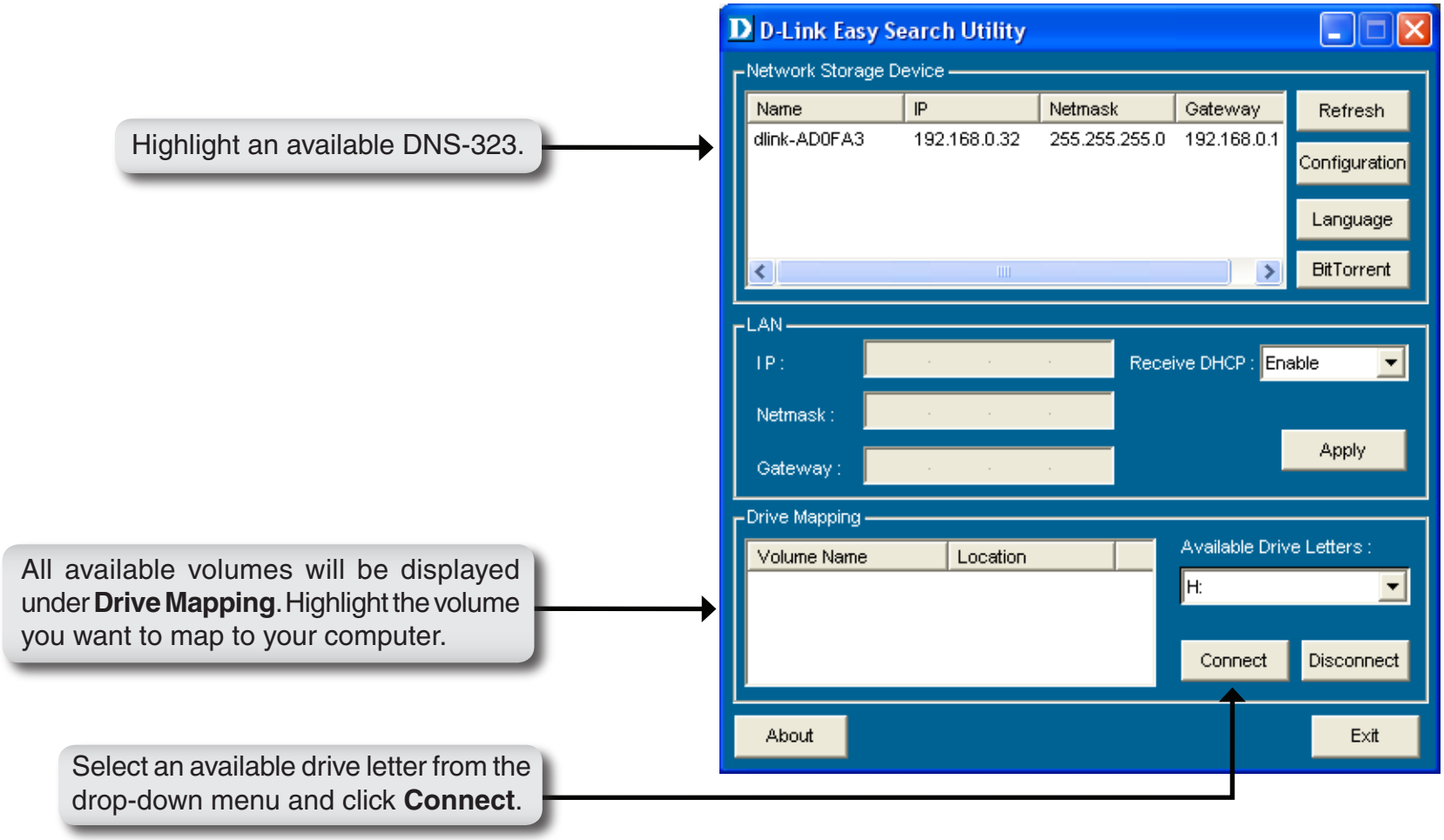
Mapping a Drive

You can use the D-Link Easy Search Utility to map drives to your computer. Insert the DNS-323 CD into your CD-ROM drive.

Click **Easy Search Utility**.

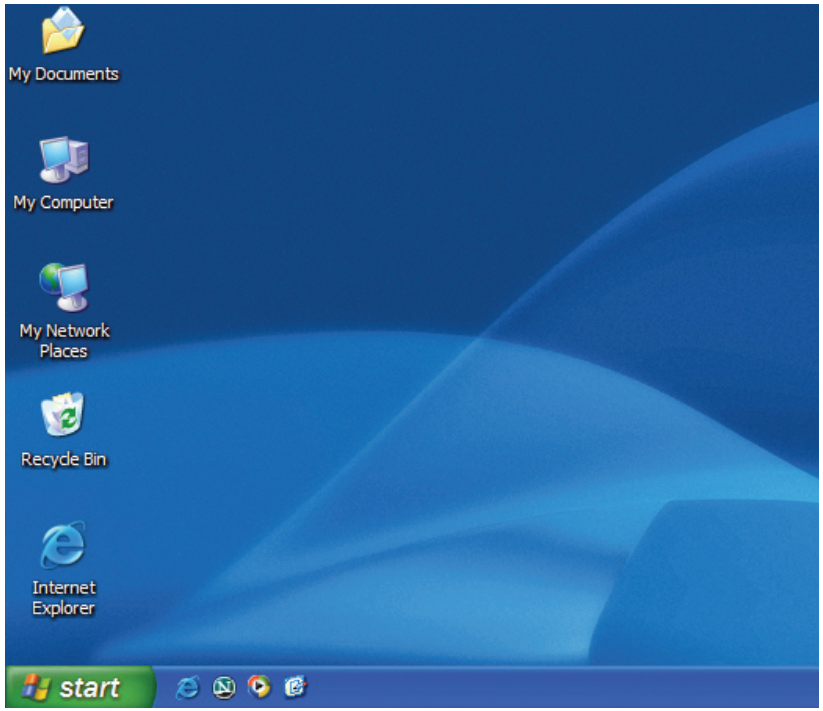
The Easy Search Utility will load and detect any DNS-323 devices that are on the local network.

If the DNS-323 you are working with does not show up in the device list, click **Refresh**.

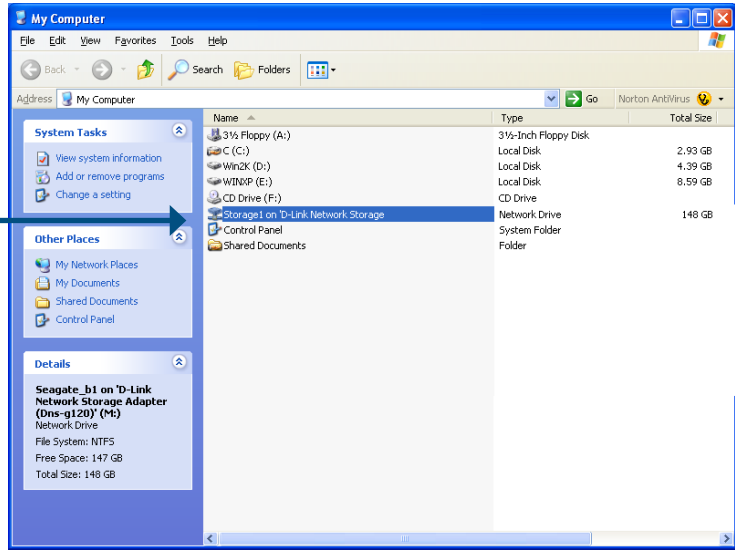


Once connected, your mapped drive(s) will appear in **My Computer**.

Double-click the **My Computer** icon on your desktop.



Double-click on the mapped drive to access the files and folders.



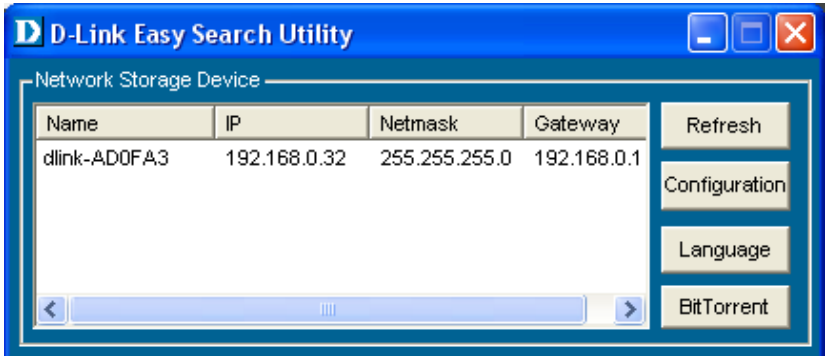
Download Scheduling

The DNS-323 Download Scheduling feature allows you to schedule folder or file downloads and backup sessions.

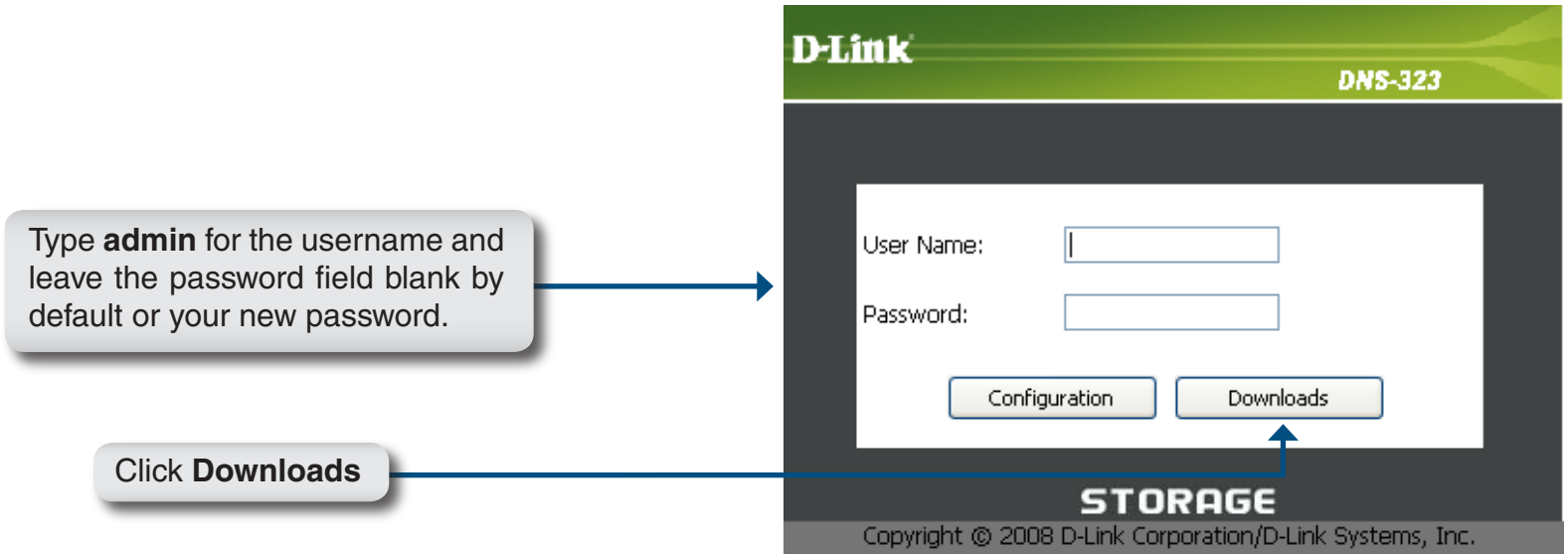
Begin by accessing the web-based configuration utility of your DNS-323:

Click **Easy Search Utility**.

Highlight an available DNS-323 and click **Configuration** to access the web-based utility.



The DNS-323 login screen will appear:

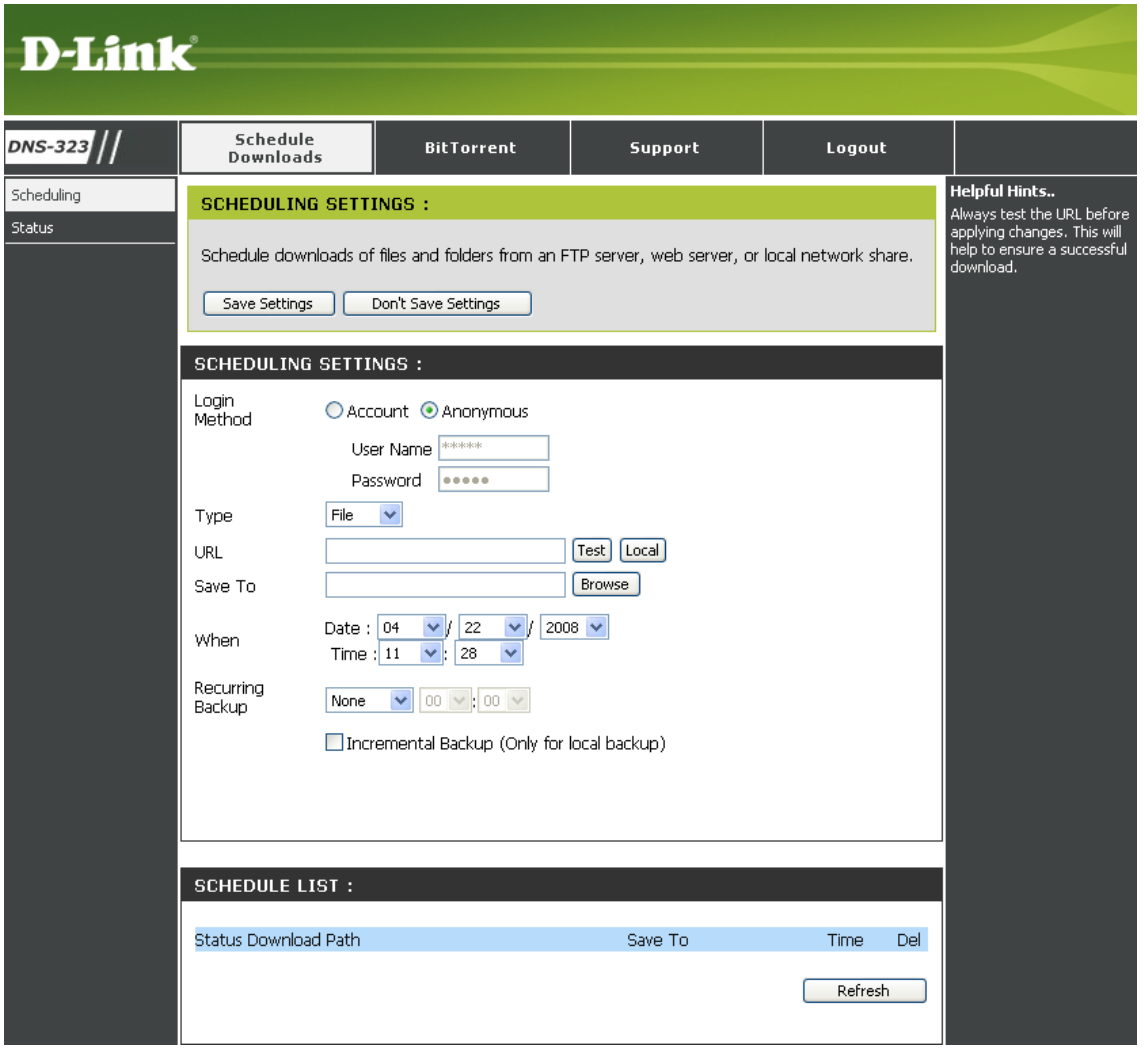


The DNS-323's **Download Scheduling** configuration page will appear.

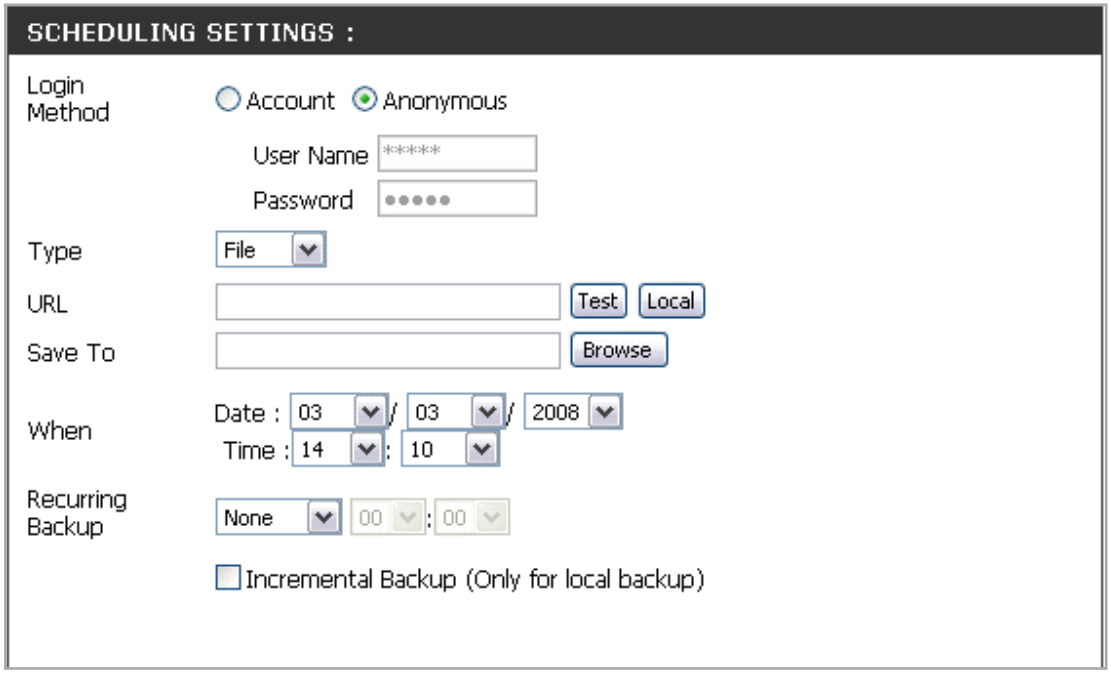
Schedule Downloads

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 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. Click **Browse** to select the file or folder, and click **Ok** to accept the network path.

Save To Enter a valid destination drive on the DNS-323, or click **Browse** to select the destination.

When Enter the date and time you want the scheduled backup or download to occur.

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-323 compare identical file names at the source and destination. Files will only be overwritten if the source file is more recent edited.

BitTorrent

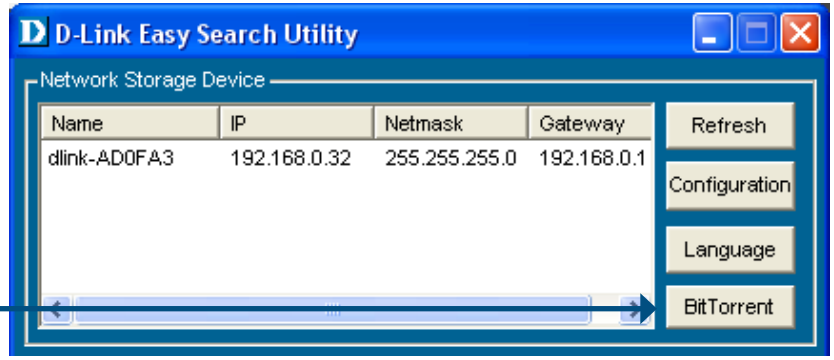
The DNS-323 features a built-in BitTorrent Manager allowing you to Download and Upload Torrents with the DNS-323.

Installing BitTorrent

To install the BitTorrent program, insert the DNS-323 CD into your CD-ROM and launch the Easy Search Utility.

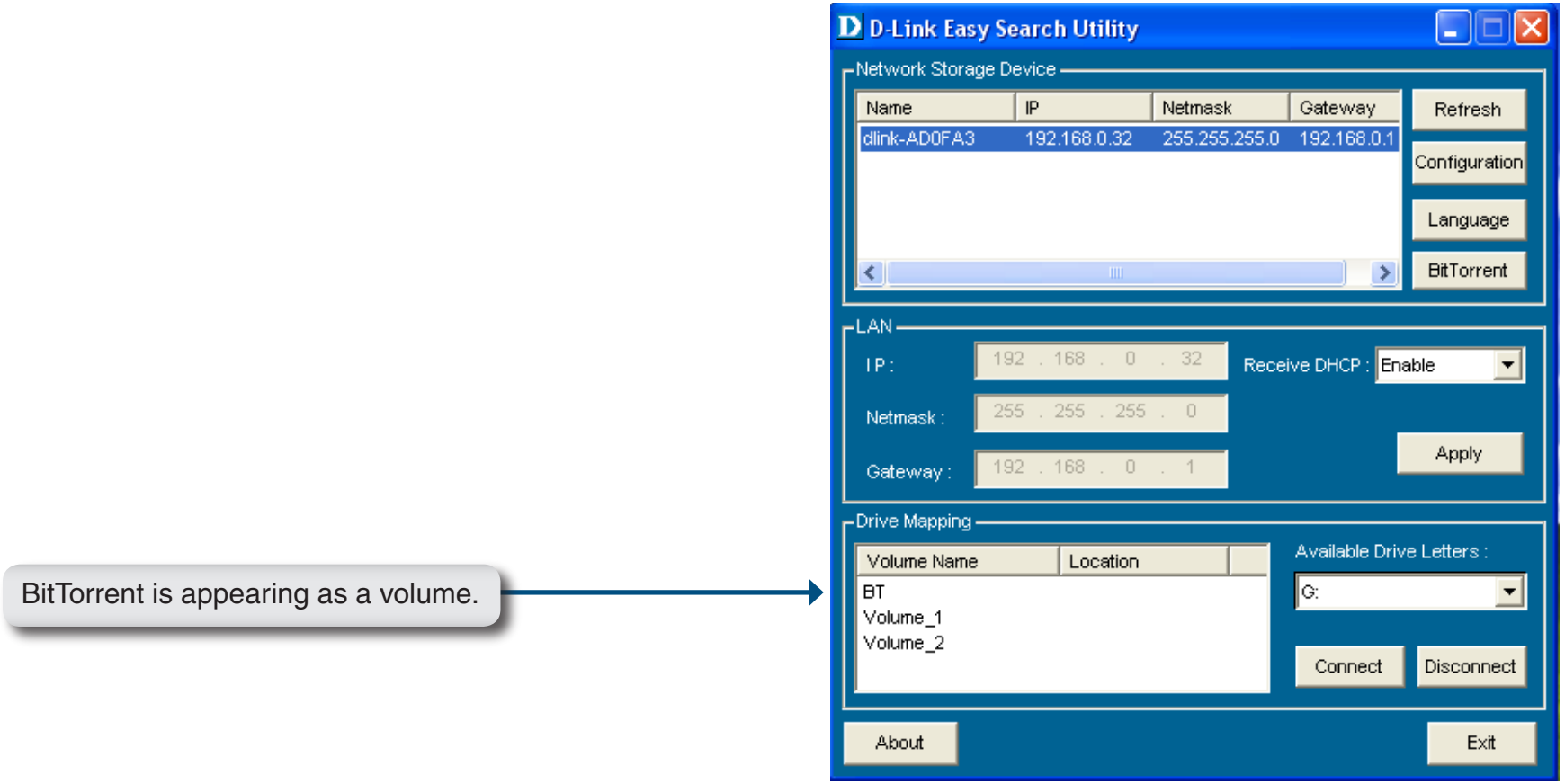
Click **Easy Search Utility**.

Highlight the DNS-323 and click the **BitTorrent** button



When the BitTorrent installation has completed, the following window will appear to indicate that the DNS-323 is restarting.

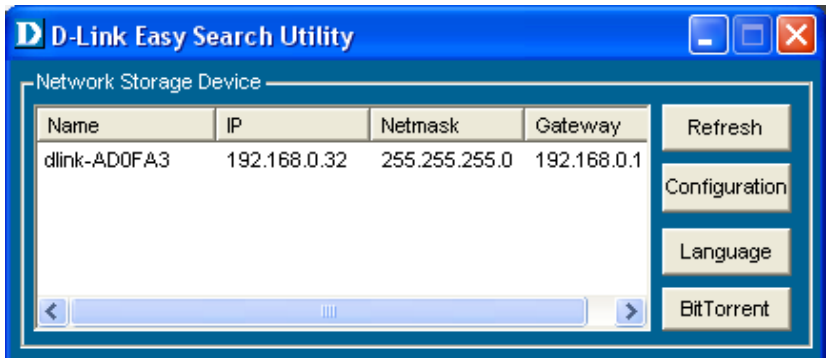
After restarting, the Easy Search utility will show the BitTorrent as a volume on the DNS-323.



BitTorrent Configuration

After installing the BitTorrent program, you can access the DNS-323 built-in BitTorrent menu by inserting the DNS-323 CD into your CD-ROM and launching the Easy Search Utility.

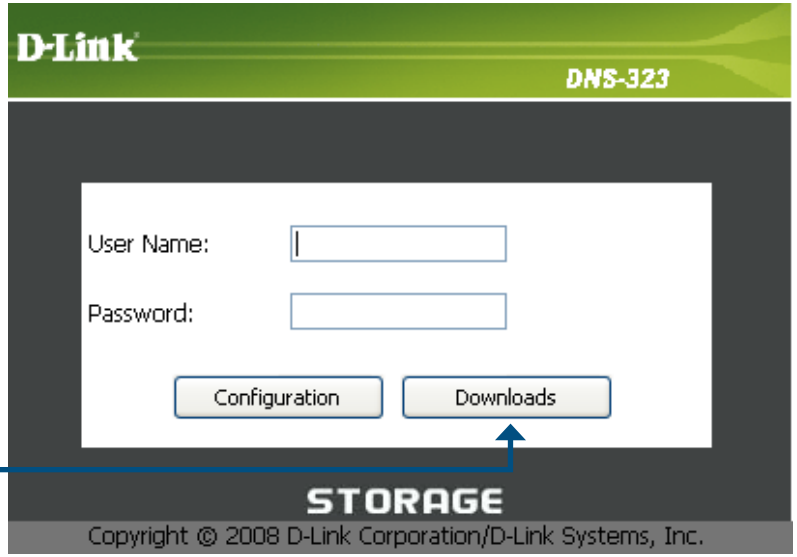
Highlight an available DNS-323 and click **Configuration** to access the web-based utility.



The DNS-323 login screen will appear:

Type **admin** for the username and leave the password field blank by default or your new password.

Click **Downloads**.



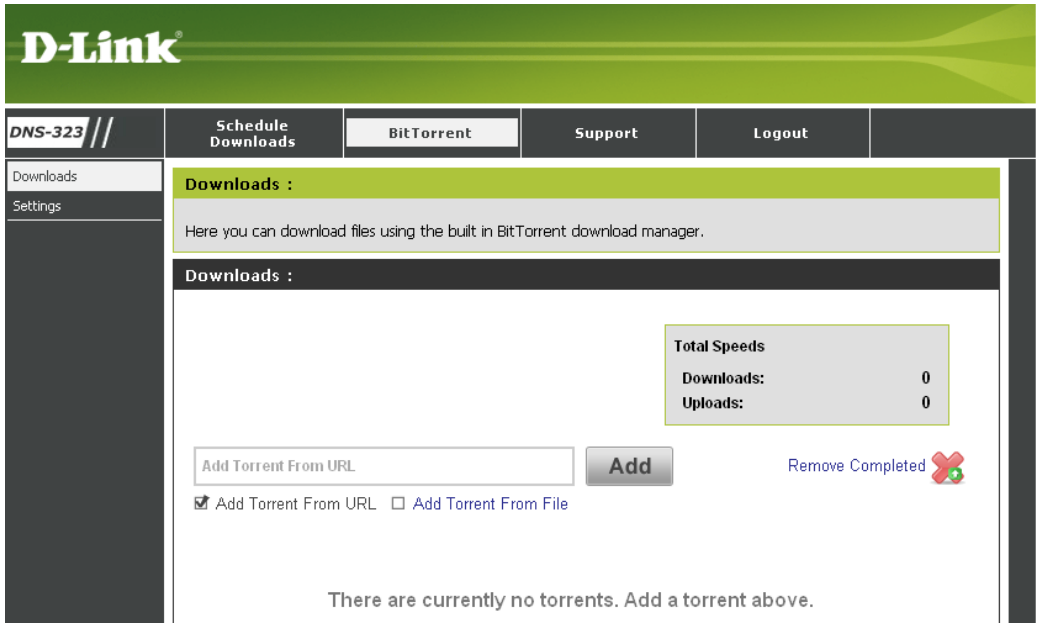
Click on the **BitTorrent** tab to access the BitTorrent settings. You can add Torrents from either a URL or from a file on your PC.

Adding a Torrent From URL

To add a Torrent from a URL

- Click the **Add Torrent from URL** checkbox.
- Type in the URL of the website where you will download the Torrent from and click the **Add** button.

The Torrent will now appear in the Downloads list.

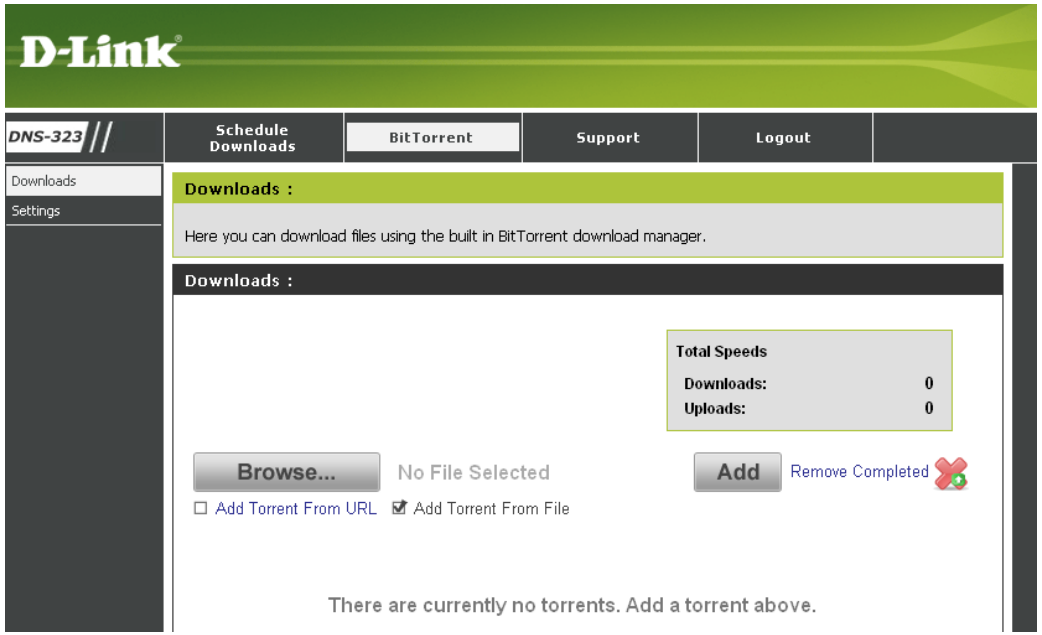


Adding a Torrent From File

To add a Torrent from a File

- Click the **Add Torrent from File** checkbox.
- Click the **Browse** button.
- Navigate to the folder where the Torrents are located on your PC and click the **Add** button.

The Torrent will now appear in the Downloads list.



Torrent Settings

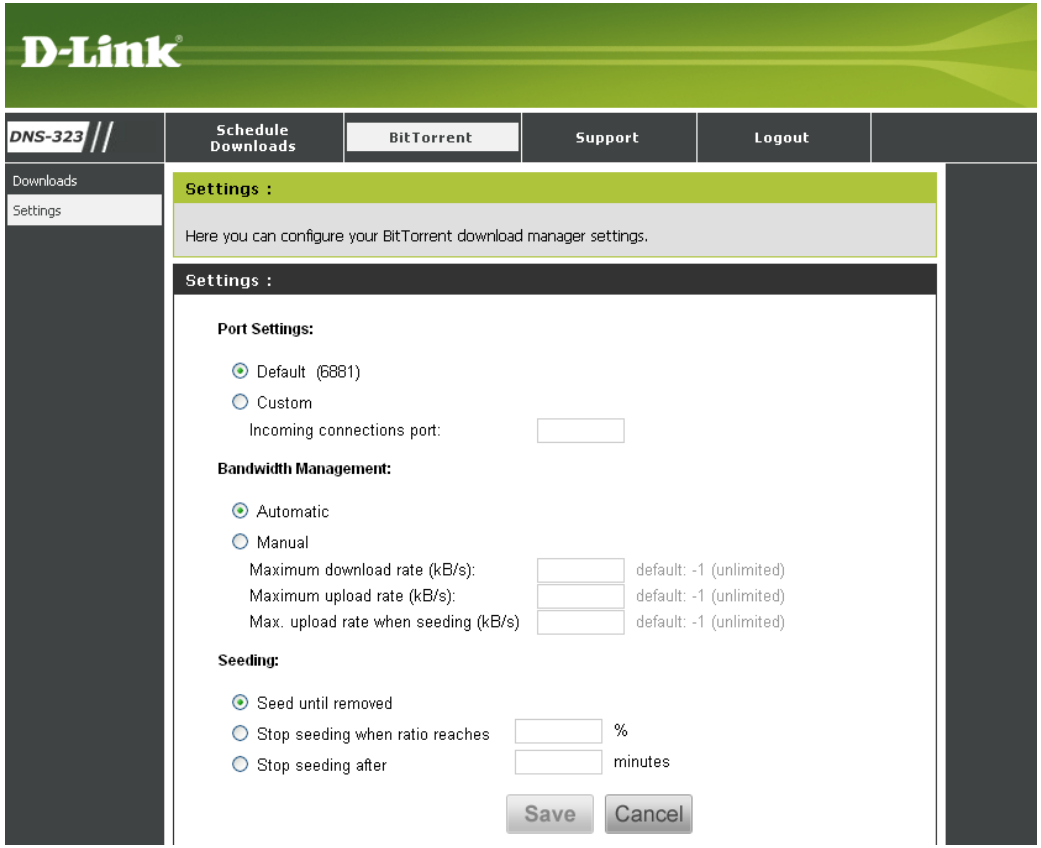
Click the Settings link in the **BitTorrent** menu to change the Bit Torrent settings.

You can use the radio buttons on this screen to customize the Bit Torrent Settings of the DNS-323.

Port Settings 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.

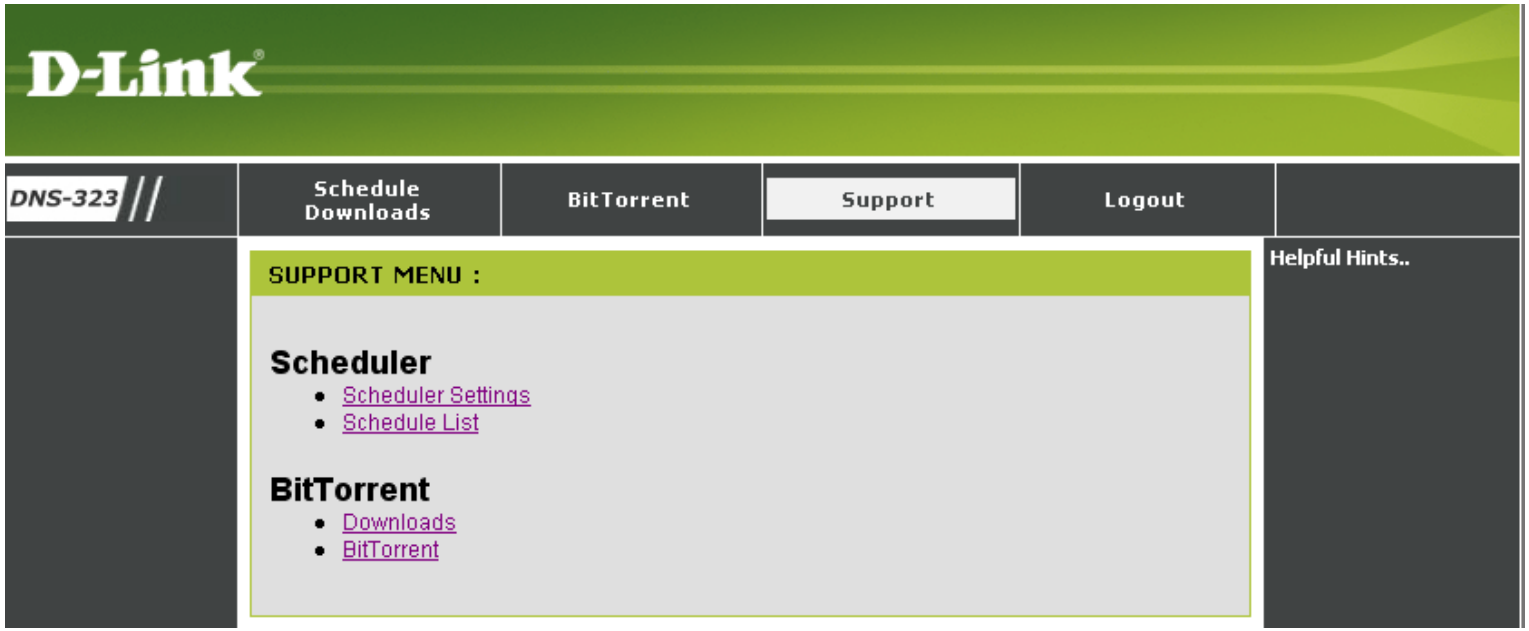
Bandwidth Management To manually set the Bandwidth Management click the **Manual** radio button and type in the Maximum download rate, Maximum upload rate and Maximum upload rate when seeding in the appropriate text boxes.

Seeding Select the appropriate seeding option from the radio buttons.



Downloads Support

The DNS-323 features support files to help you with the Downloads features.

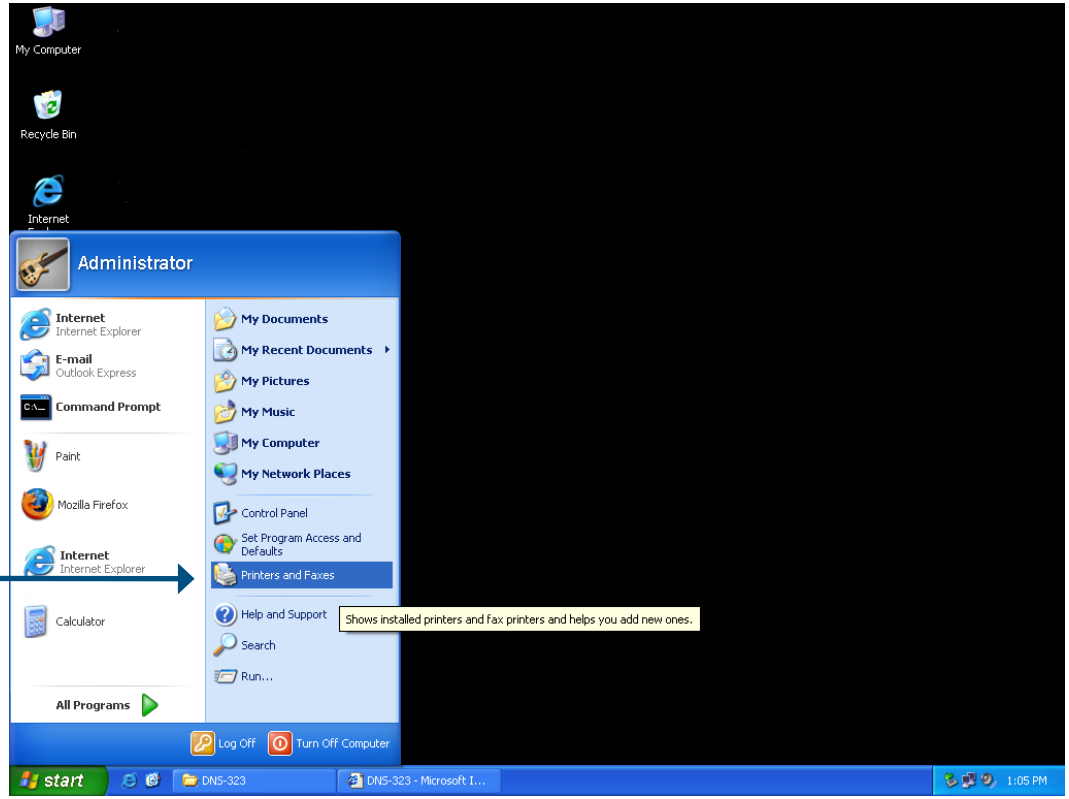


USB Print Server

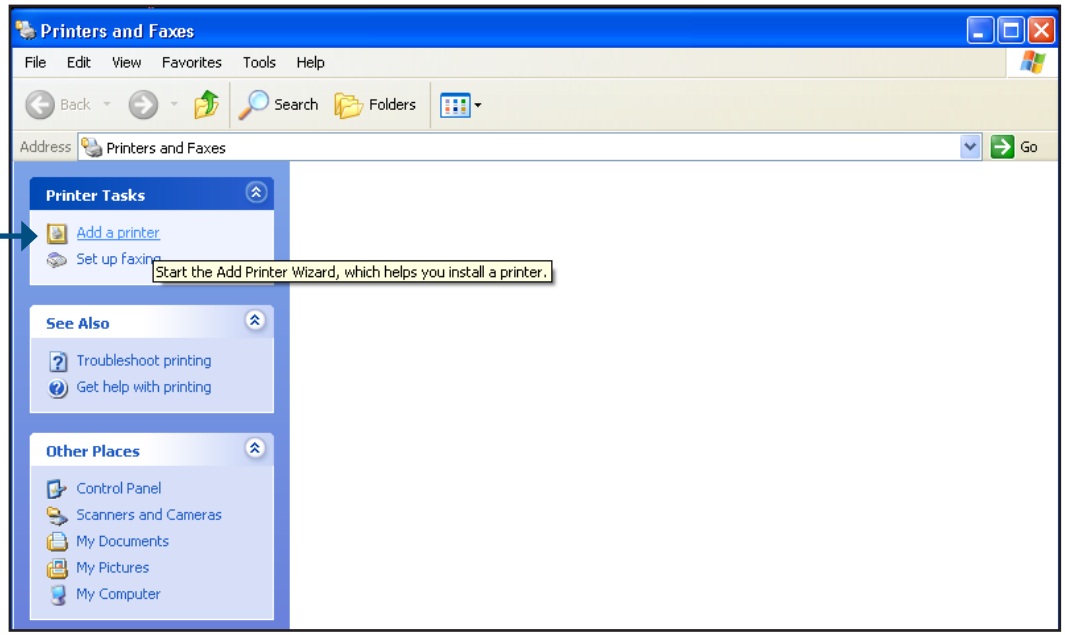
The DNS-323 features a built-in USB print server, giving users the ability to share a printer on their local network. Connect a USB printer to the USB port on the back of the DNS-323. It is important to ensure that any of the printer manufacturer's drivers are already installed on any computer you want to print from.

To add a printer:

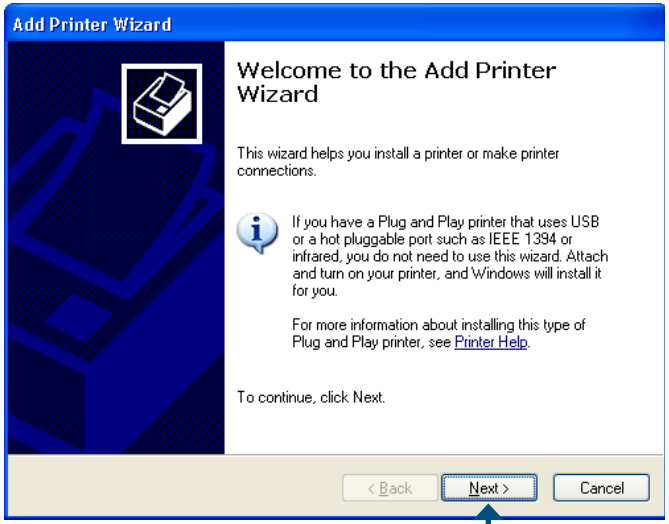
Click **Start**, and select Printers and Faxes.



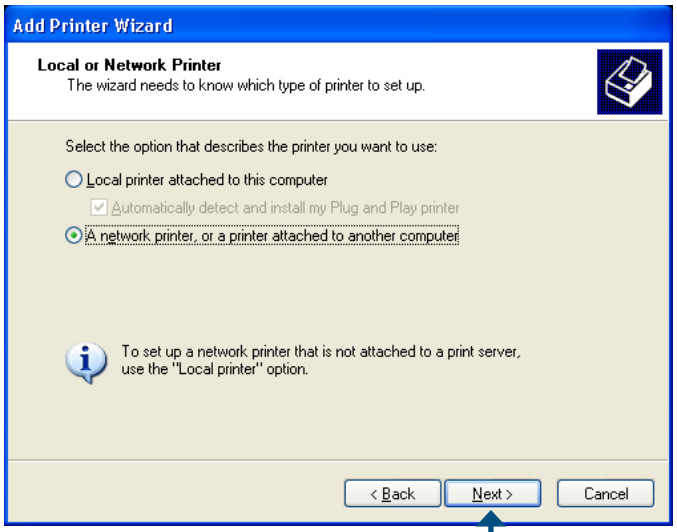
Select **Add a printer**



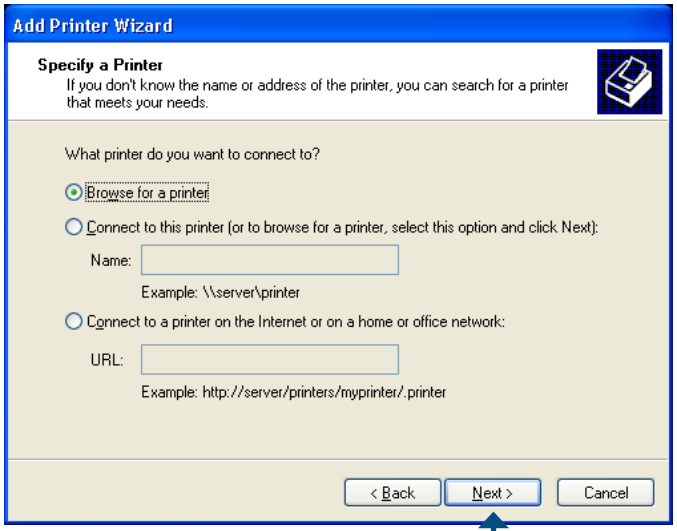
The Windows® Add Printer Wizard will launch:



Click **Next** to continue.

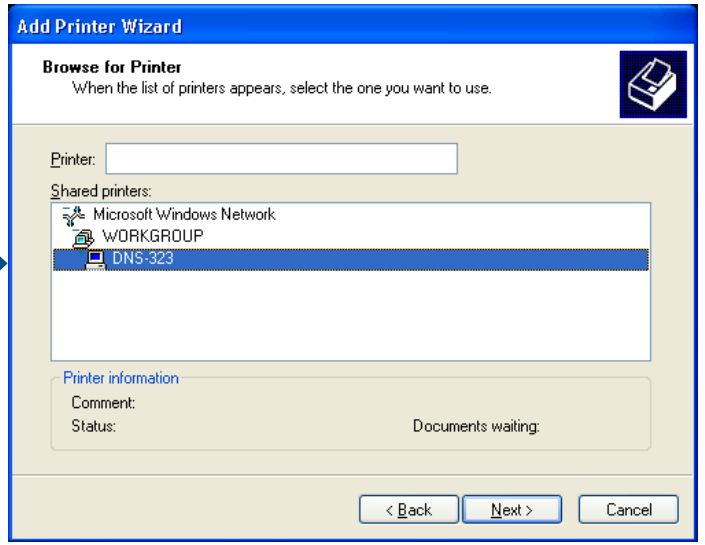


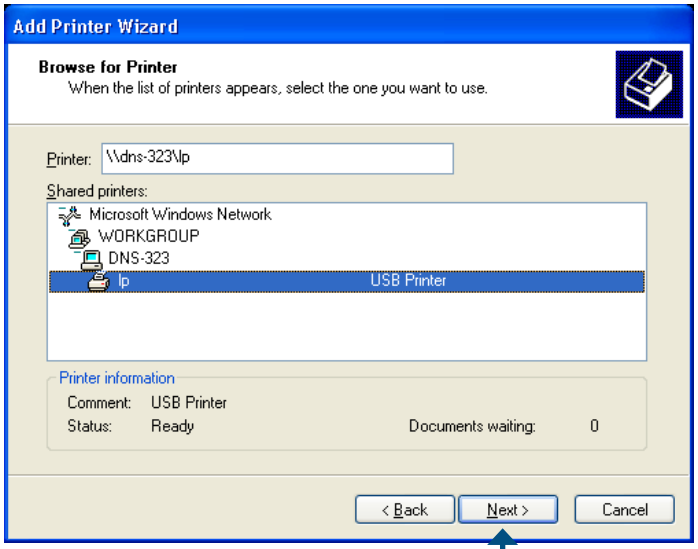
When prompted to choose a local, or network printer, select **A network printer, or a printer attached to another computer**. Click **Next** to continue.



Select **Browse for a printer** and click **Next** to continue.

Double-click **DNS-323** from the Shared Printers list to expand the tree.

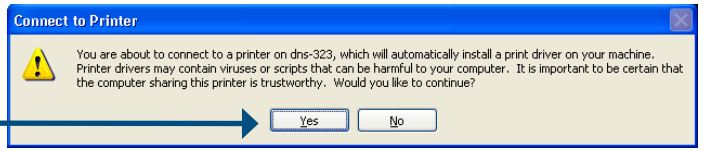




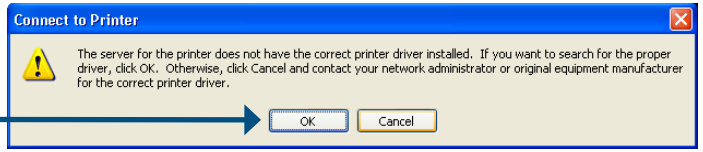
Select the available USB printer, and click **Next** to continue.

The following printer driver messages will appear:

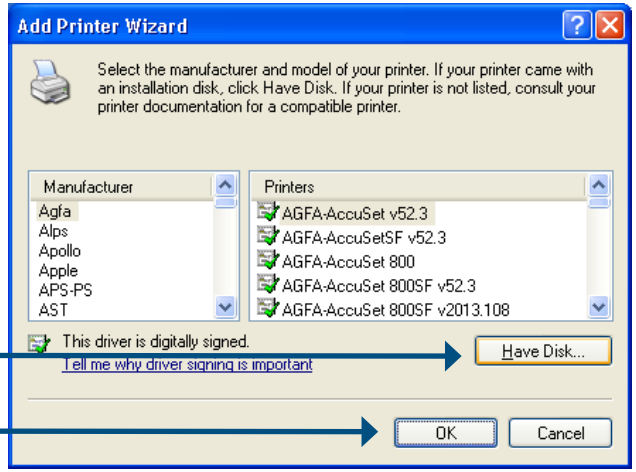
Click **Next** to continue.

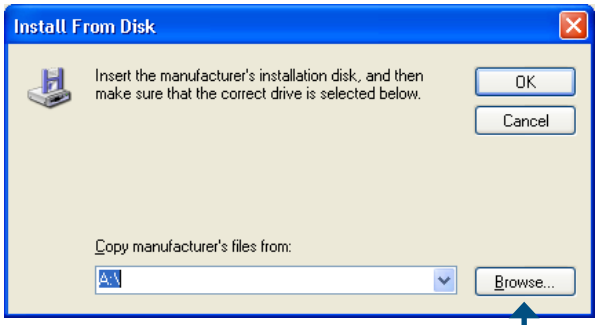


Click **OK** to continue and select a printer driver.

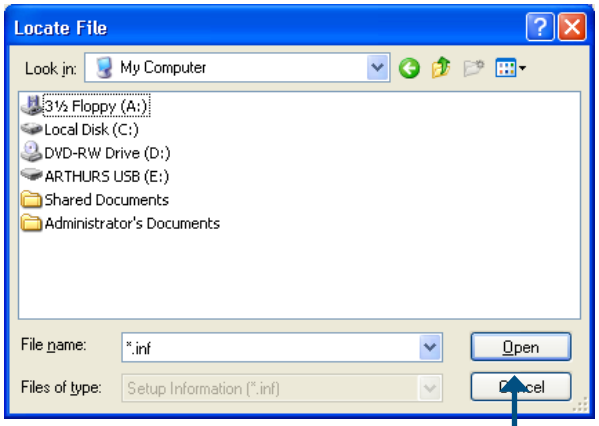


Select the appropriate printer driver from the list and click **OK** to complete the wizard. If the driver is not in the list, select **Have Disk**.

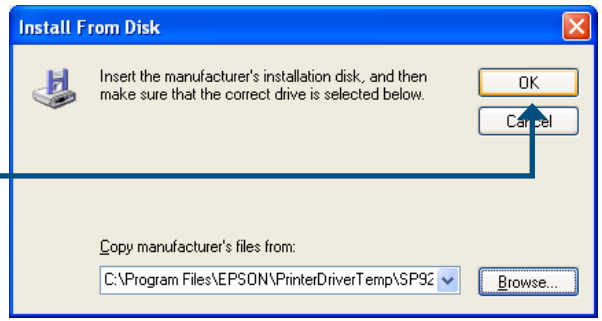




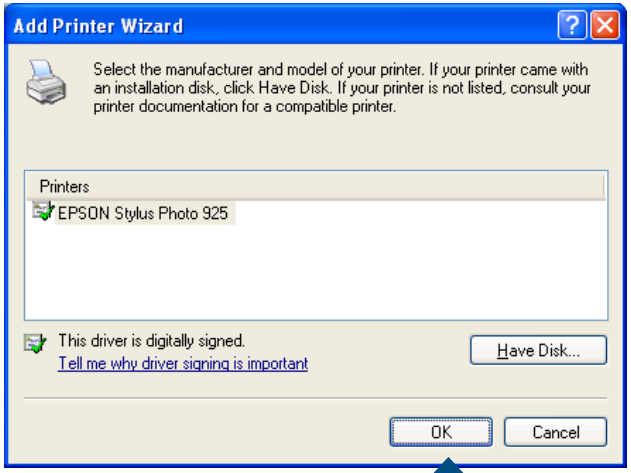
Insert the print driver CD or browse to the appropriate directory.



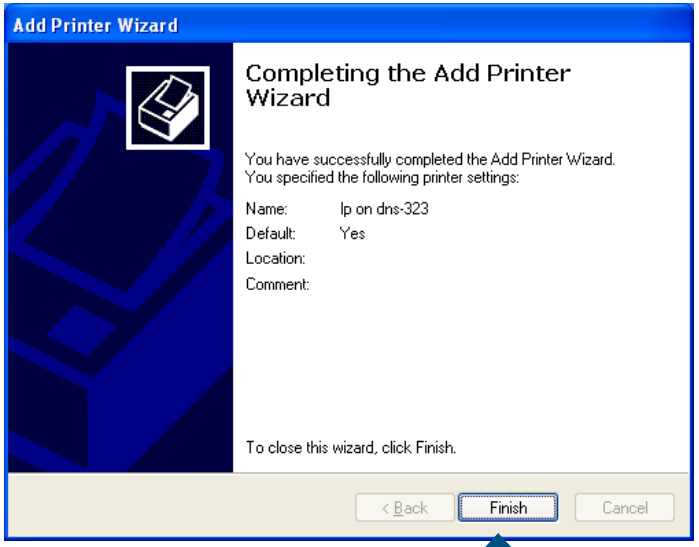
Select the appropriate driver file, and click **Open** to continue.



Click **OK** to continue.

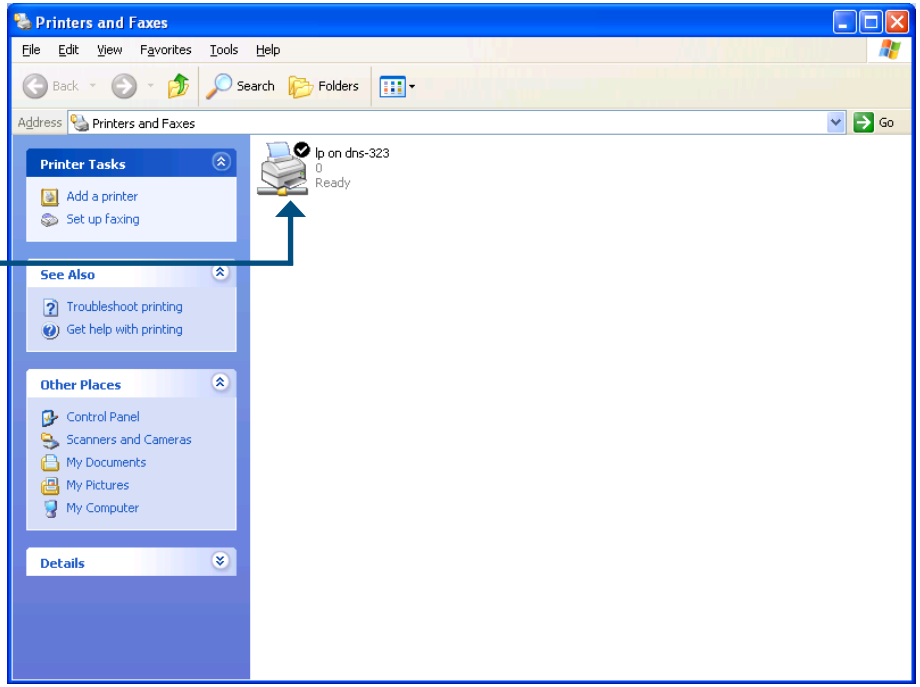


Verify if the driver is correct, and click **OK** to continue.



The wizard will install the printer drivers, and return a completion screen. Click **Finish**.

The printer should now appear as an available printer.



Storing non-English Character Files

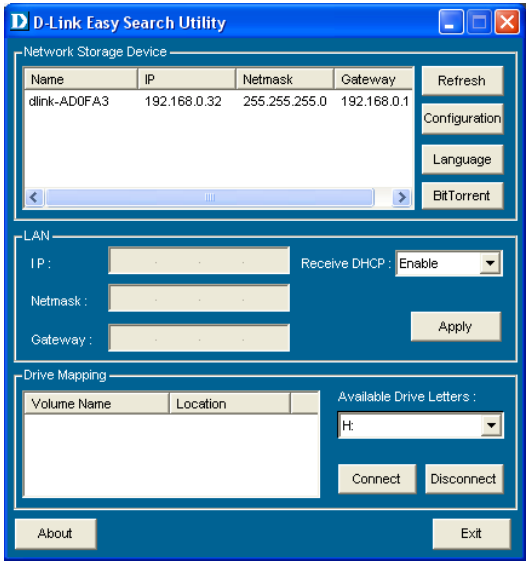
If you are using firmware 1.04 or later, by default the DNS-323 will support Unicode which is an industry standard allowing computers to consistently represent and manipulate text expressed in most of the world's writing formats. However, if you were using an earlier version of firmware (1.03 or earlier) and have just upgraded to 1.04 or higher, Unicode will not be supported until you have reformatted the hard drives in your DNS-323. If you wish to store non-English character files but do not want to reformat your hard drives, you will need to change the Language setting of the device to ensure compatibility with those files.

Follow the Easy Search Utility steps below to change the language of your device if you have chosen to not reformat your hard drives.

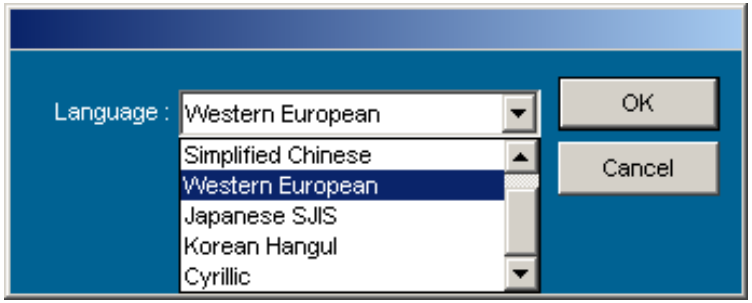
Insert the DNS-323 CD into your CD-ROM drive.

Click **Easy Search Utility**.

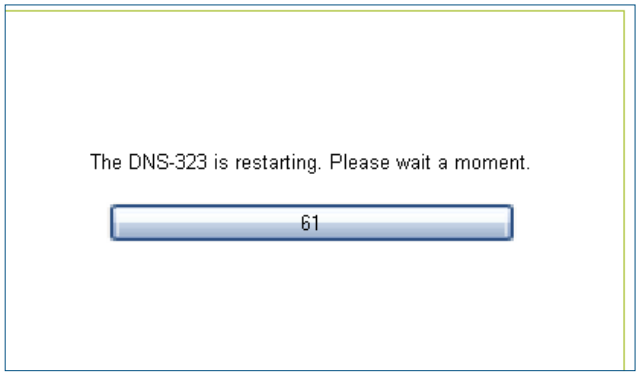
Highlight an available DNS-323 and click **Language**.



Select the appropriate language from the drop-down menu and click **OK**.



The DNS-323 will restart.



Note: Changing the language setting will NOT change the display language of the user interface. It is only for supporting non-English character file names.

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-323.

Replacing a Hard Drive:

Please make sure the power is off before replacing a hard drive. After you install the new drive, turn on the DNS-323 and then connect to the Web UI. The DNS-323 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-323 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.

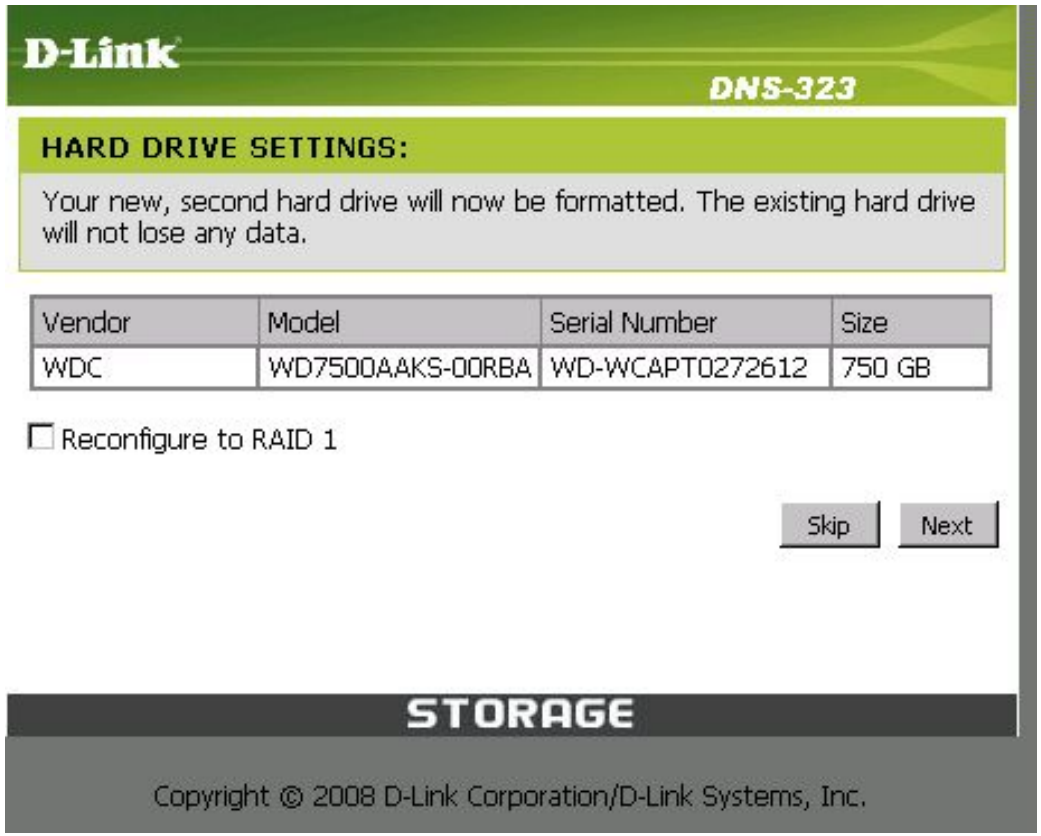
After you install the new drive, turn on the DNS-323 and then connect to the Web UI. The DNS-323 will prompt you to format the new drive.

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

After you install the new drive, turn on the DNS-323 and then connect to the Web UI. The DNS-323 will prompt you to format the new drive.

You will now have two choices for your disk configuration:

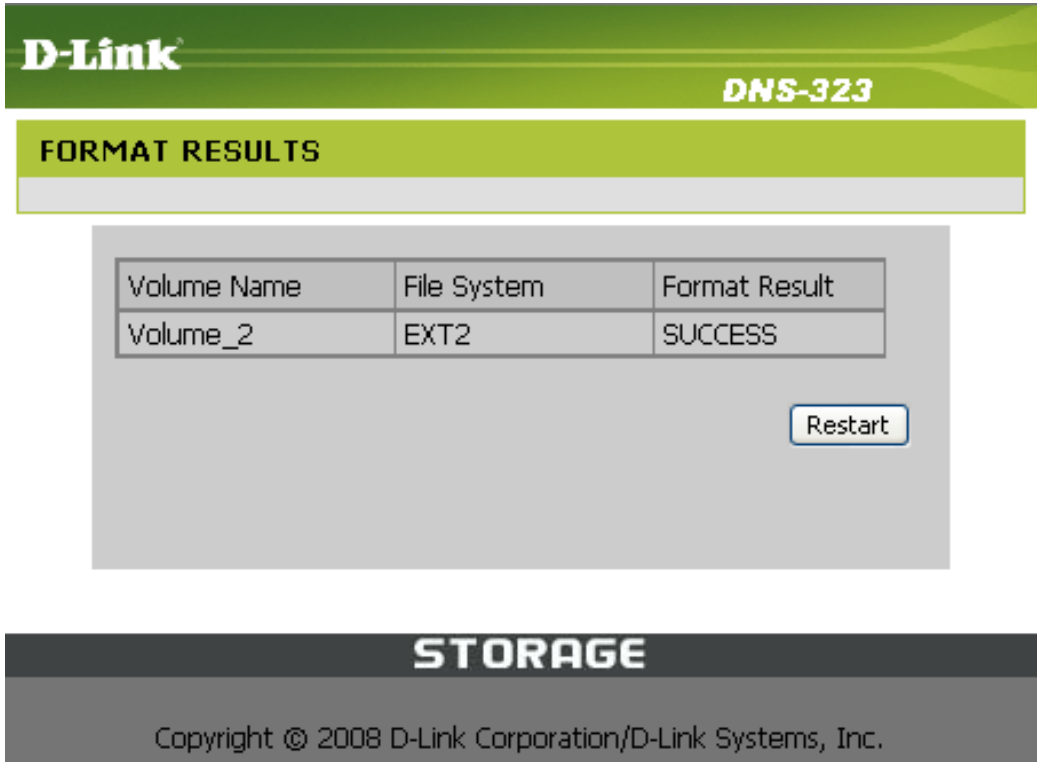
- If you want to configure the new disk as a separate volume, press the **Next** button.
- If you want to configure the new disk in the DNS-323 to use RAID 1, click the **Reconfigure to RAID 1** check box and click the **Next** button.



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

The following message will display when the formatting has completed:

Press the **Restart** button to continue.



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-323)
- Hardware Revision (located on the label on the bottom of the switch (e.g. rev B1))
- 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

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 limited
- 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.

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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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