

# **Manual**

Version 1.0

**DNS-G120** 

Wireless Network Storage Adapter

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DNS-G120 User's Manual Package Contents

# **Package Contents**



- D-Link DNS-G120 Wireless Network Storage Adapter
- CD-ROM with Manual and Software
- Ethernet (CAT5 UTP/Straight-Through) Cable
- 5V 2.5A Power Supply

Note: Using a power supply with a different voltage than the one included with the DNS-G120 will cause damage and void the warranty for this product.

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

### **Minimum System Requirements**

- Computer with Windows XP or 2000
- Internet Explorer version 6.0 or Netscape Navigator version 7.0 and above
- USB Hard Drive
- An 802.11g/b Wireless Network
- An available Ethernet port on the network\*

\* It is required that an Ethernet cable is used during initial setup. Once your wireless configuration is set, you may disconnect the Ethernet cable and begin communicating wirelessly with your DNS-G120.

DNS-G120 User's Manual Introduction

### Introduction

D-Link, an industry leader in networking, introduces the DNS-G120 Wireless Network Storage Adapter. By attaching up to two USB drives to the DNS-G120, create access to storage devices that are available for everyone on the network.

The DNS-G120 is an 802.11g wireless device, capable of delivering a maximum wireless signal rate of up to 54Mbps\*. You can simplify configuration of your wireless settings using Windows® Connect Now. Security features such as WPA-PSK make the DNS-G120 compatible with secure wireless networks.

You can attach either USB hard drives or flash drives of any capacity to the DNS-G120. Unlike other Network Storage Adapters, the DNS-G120 preserves all existing files on your USB drives and does not require you to reformat your USB drive. If you want to eject your USB drive, simply press the disconnect button and safely remove it from the port.

The DNS-G120 includes a built-in FTP server, allowing you to access content stored on the network while you're away. You can also create users and set password protection for your FTP server, giving you a secure storage location over the Internet.

Schedule complete or incremental backups using automated backup functionality of the DNS-G120. The DNS-G120 includes Nero® BackItUp software for backing up and restoring data.

Additional setup options can be configured using the built-in web-based admin utility, including firmware upgrades, user management and network settings. You can create multiple access accounts so that multiple users can use the DNS-G120 while retaining their privacy.

Increase network storage space with the DNS-G120, resulting in additional network functionality and convenience. The DNS-G120 is a fully featured wireless network storage adapter, suitable for your home or office network.

<sup>\*</sup> Maximum wireless signal rate based on IEEE Standard 802.11g specifications. Actual data throughput will vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead lower actual data throughput rate.

### **Features and Benefits**

802.11g Wireless Connectivity

The DNS-G120 connects to your network using either Fast Ethernet or 802.11g wireless. Wirelessly transfer data to and from the DNS-G120 with a maximum wireless signal rate of up to 54Mbps\*. The DNS-G120 is also backward compatible with 802.11b networks.

Connect USB 2.0/1.1
Drives on the Network

Add extra storage space to your network! Connect up to two stand-alone USB 1.1 or 2.0 hard drives or flash drives to the DNS-G120 and easily have access to all stored files.

Built-in FTP Server

The DNS-G120 can be configured so that your USB drives are accessible over the Internet, making it convenient to access your files, even when you're away.

Safely Add and Remove USB Drives

The DNS-G120 does not require you to reboot the system when adding USB drives to the network, thus eliminating downtime. You can also prevent any data loss by safely removing the USB drives using the **Disconnect** button on the back of the DNS-G120.

Plug & Play

Through plug and play setup, installing the DNS-G120 into your network has never been easier. Simply connect the DNS-G120 to a 10/100 Fast Ethernet port on your network router or switch, plug in USB hard drives or flash drives, and configure additional setup options using the Web-based configuration utility.

Web-based Configuration Utility Additional setup options can be configured using the built-in Web-based configuration utility including firmware upgrade, user account management, folder management, scheduled downloads, and DHCP/manual network settings.

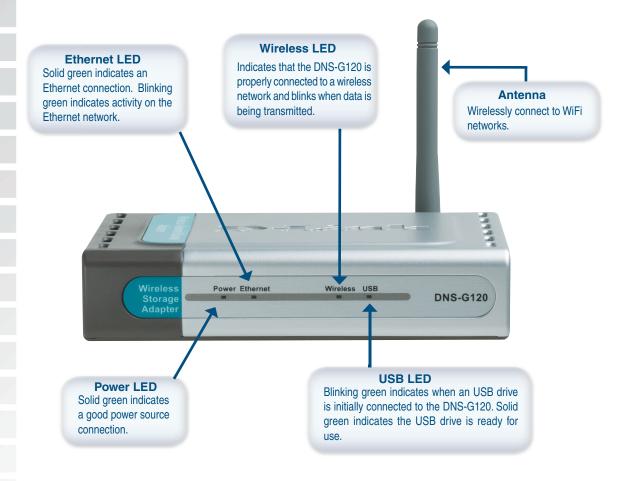
Backup Function

You can schedule the DNS-G120 to automatically create full or incremental backups of important information on the network.

<sup>\*</sup> Maximum wireless signal rate based on IEEE Standard 802.11g specifications. Actual data throughput will vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead lower actual data throughput rate.

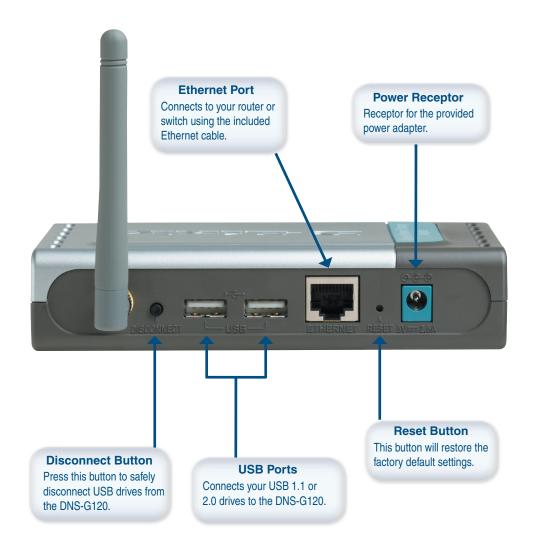
## **Hardware Overview**

#### **Front Panel**



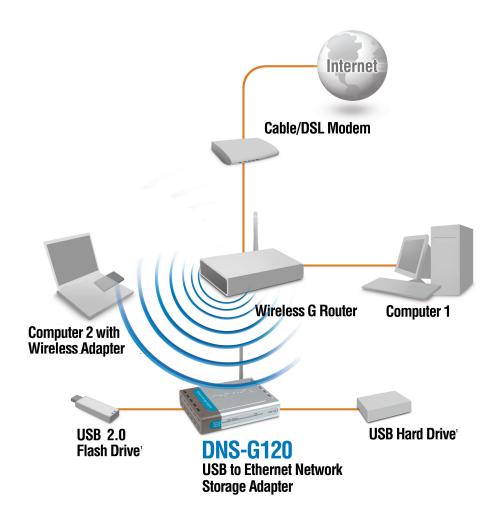
# **Hardware Overview**

#### **Rear Panel**



# **Getting Started**

When you have completed the steps in this Quick Installation Guide, your connected network may look similar to this:



### **Hardware Installation**

It is required that an Ethernet cable is used during initial setup. Once your wireless configuration is set, you may disconnect the Ethernet cable and reboot the DNS-G120 to connect to your wireless network.

**1** Attach the provided Ethernet cable to the Ethernet port on the rear panel.



- 2 Attach the other end of the Ethernet cable to an available Ethernet port on your router or switch.
- 3 Plug the AC adapter into the receptor located on the back of the device. Plug the other end of the AC Adapter into a power strip or wall outlet.



Attach your USB drive(s) to the USB port(s) on the rear panel of the DNS-G120. The USB LED on the front panel will blink until the drive has been installed. Once the USB LED is solid green, your USB drive is ready for use.



DNS-G120 User's Manual Wireless Basics

### **Wireless Installation Considerations**

The DNS-G120 lets you access your stored data and media files using a wireless connection from virtually anywhere within the operating range of your wireless network. Keep in mind, however, that the number, thickness and location of walls, ceilings, or other objects that the wireless signals must pass through, may limit the range. Typical ranges vary depending on the types of materials and background RF (radio frequency) noise in your home or business. The key to maximizing wireless range is to follow these basic guidelines:

- 1 Keep the number of walls and ceilings between the DNS-G120 and other network devices to a minimum each wall or ceiling can reduce your DNS-G120's range from 3-90 feet (1-30 meters.) Position your devices so that the number of walls or ceilings is minimized.
- 2 Be aware of the direct line between network devices. A wall that is 1.5 feet thick (.5 meters), at a 45-degree angle appears to be almost 3 feet (1 meter) thick. At a 2-degree angle it looks over 42 feet (14 meters) thick! Position devices so that the signal will travel straight through a wall or ceiling (instead of at an angle) for better reception.
- 3 Building Materials make a difference. A solid metal door or aluminum studs may have a negative effect on range. Try to position access points, wireless routers, and computers so that the signal passes through drywall or open doorways. Materials and objects such as glass, steel, metal, walls with insulation, water (fish tanks), mirrors, file cabinets, brick, and concrete will degrade your wireless signal.
- **4** Keep your product away (at least 3-6 feet or 1-2 meters) from electrical devices or appliances that generate RF noise.
- 5 If you are using 2.4GHz cordless phones or X-10 (wireless products such as ceiling fans, lights, and home security systems), your wireless connection may degrade dramatically or drop completely. Make sure your 2.4GHz phone base is as far away from your wireless devices as possible. The base transmits a signal even if the phone in not in use.

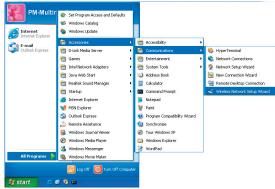
### Windows® Connect Now (WCN)

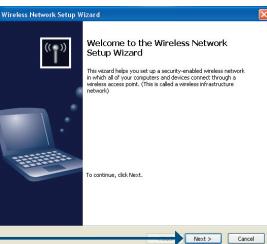
Note: This feature is only available through Windows XP with Service Pack 2 installed.

In this section, you will learn how to use the Wireless Network Setup Wizard to easily and securely set up the DNS-G120 on a wireless network. You will need to have a USB flash drive available to complete the WCN wireless setup on the DNS-G120.

If you do not have Windows XP (SP2) or do not wish to use WCN to setup your wireless settings, skip to page 14 to connect to a wireless network.

Click Start > Accessories > Communications > Wireless Network Setup Wizard.





Wireless Network Setup Wizard

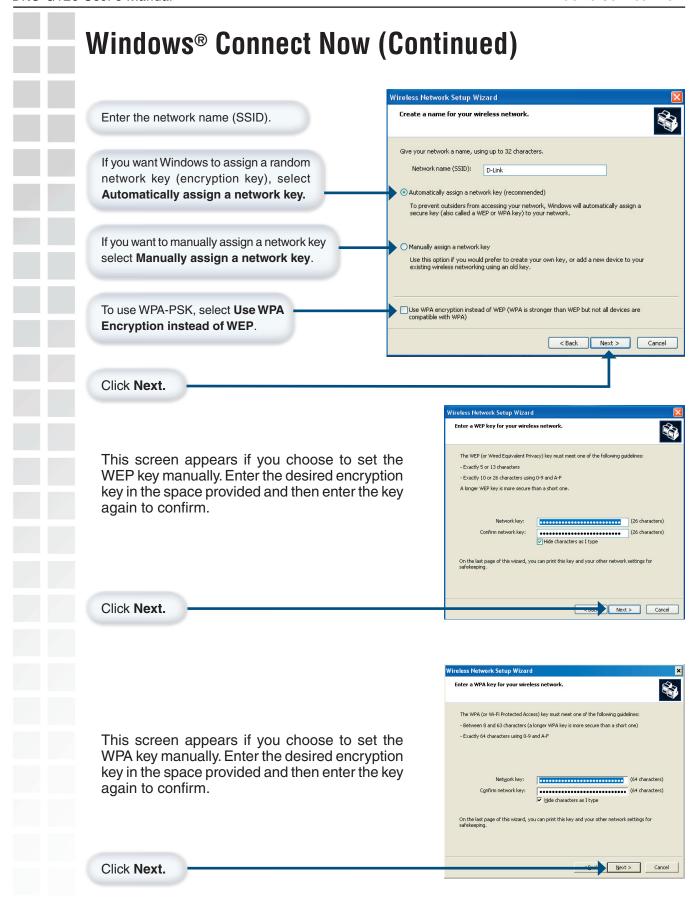
What do you want to do?

Click Next.

Click Next.

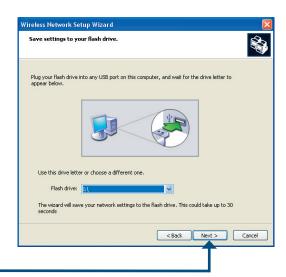
If you have already used WCN to configure other wireless devices on your network and would like to use the same settings on your DNS-G120, click **Add new computers or devices to the 'Wireless Network' network** and skip to page 13 to continue.

To create new wireless settings, click **Setup a new** wireless network.



### Windows® Connect Now (Continued)

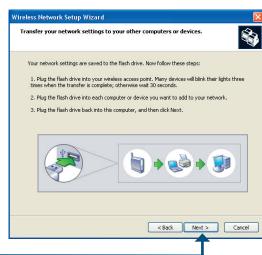
This screen appears when the WEP or WPA key has been assigned. Follow the directions on the screen to transfer settings to the USB flash drive.



Click Next.

This screen appears after the settings are successfully transferred to the USB flash drive. Follow the directions on the screen.

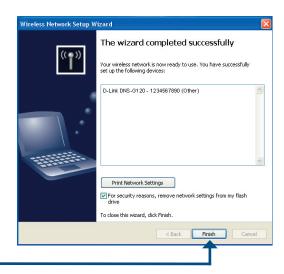
When inserting the USB flash drive into the USB port on the DNS-G120, the USB LED will blink as it detects the USB flash drive and then turn off. The USB LED will then blink quickly 3 times and turn off again. Once the USB light is solid and the WLAN light blinks, you may unplug the USB flash drive.



Click Next.

When the DNS-G120 wireless setup is successful, a window similar to this one will appear.

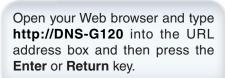
You have completed the wireless configuration of the DNS-G120.



Click Finish.

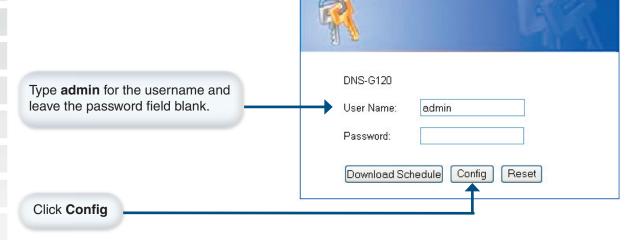
# **Connecting to a Wireless Network**

If you have configured the wireless settings using Windows® Connect Now (WCN), you may skip this section and continue to page 16.

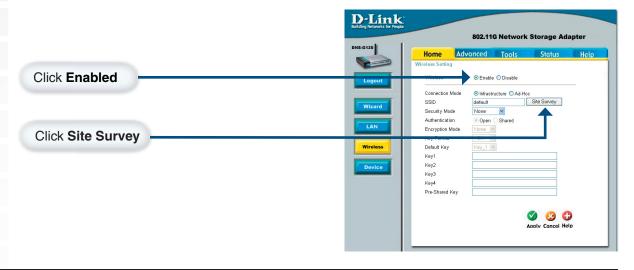




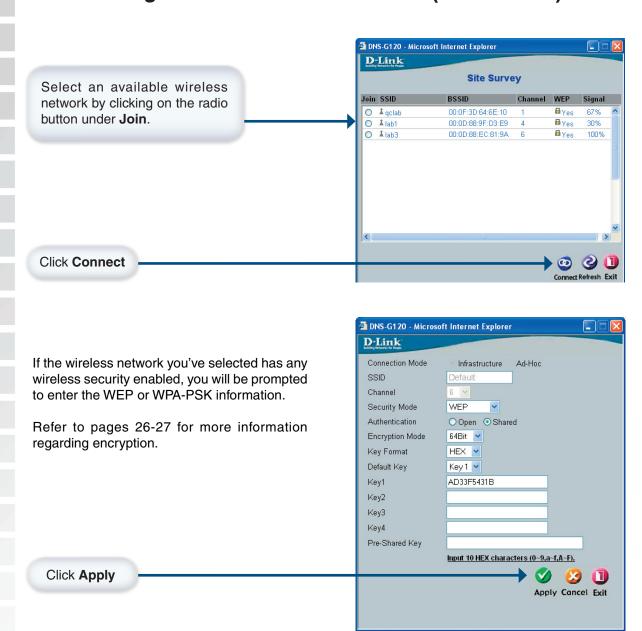
The logon screen will appear.



Next, click Wireless on the left side.



### **Connecting to a Wireless Network (continued)**



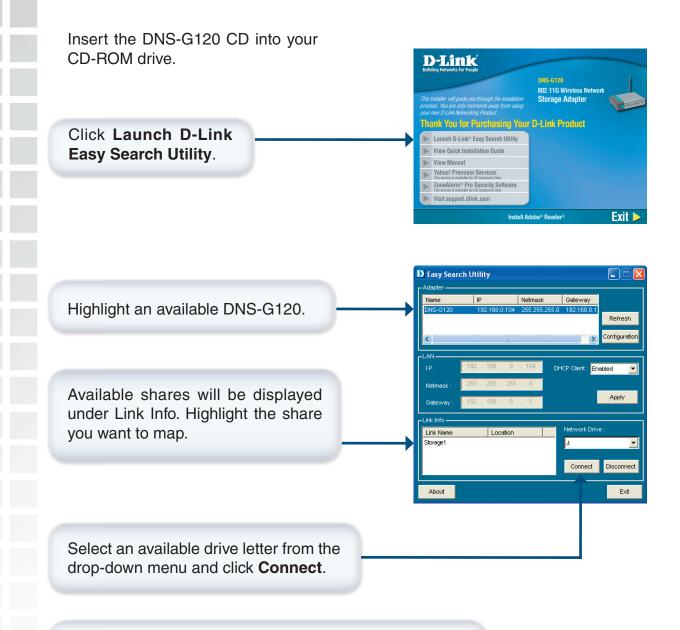
Note: Allow up to 30 seconds for the DNS-G120 to connect wirelessly.

Your wireless connection setup is now complete!

DNS-G120 User's Manual Mapping a Drive

# **Mapping a Drive**

You can use the D-Link Easy Search Utility to map drives to your computer.

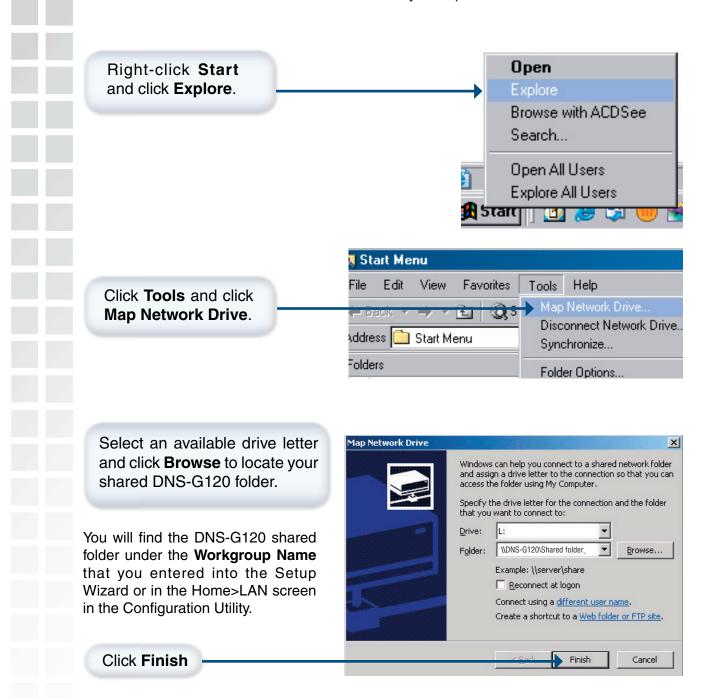


Click **Disconnect** to remove the selected mapped drive.

Once connected, your mapped drive(s) will appear in **My Computer**. From your desktop, double-click the **My Computer** icon and then double-click your mapped drive to access the files and folders.

# Mapping a Drive (continued)

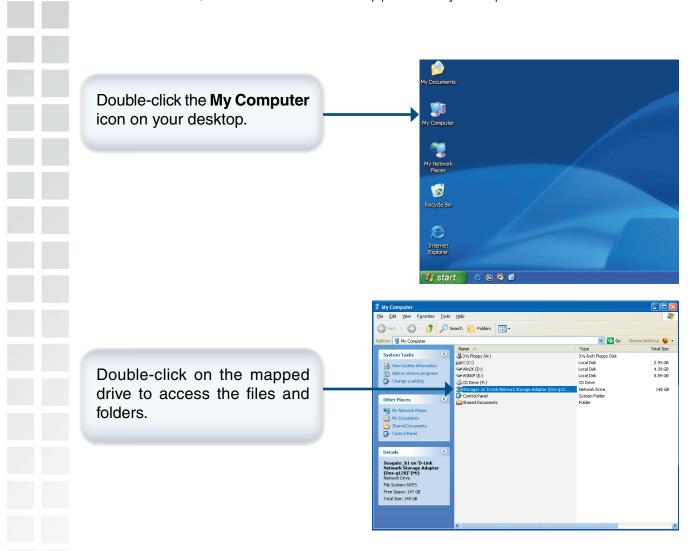
As an alternate method, you can access the DNS-G120's USB drive(s) by mapping the shared folders as drives in Windows. Please see the following instructions for mapping a USB drive so that it is accessible from the My Computer screen.



DNS-G120 User's Manual Mapping a Drive

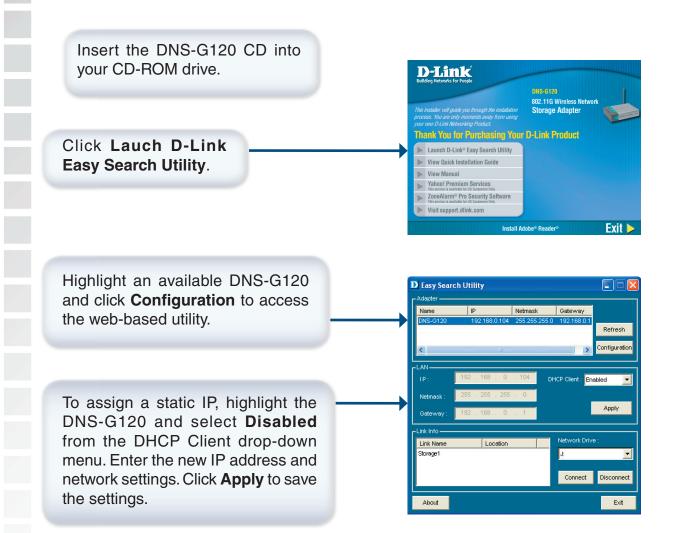
# Mapping a Drive (continued)

Once connected, all shared folders will appear in My Computer.



# **Using the Easy Search Utility**

The D-Link Easy Search utility will allow you to connect to the web-based configuration utility, assign IP address settings to the DNS-G120, and map drives to your computer.



Refer to page 16 for Mapping a Drive instructions.

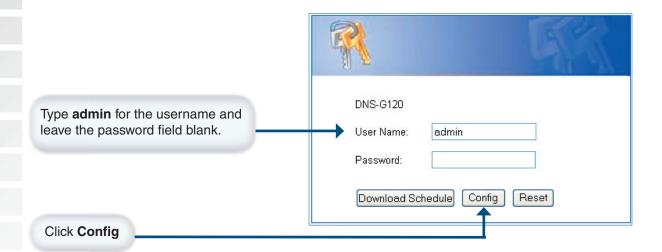
# **Using the Configuration Utility**

To log into the web-based configuration of the DNS-G120, you may run the Easy Search Utility included on your CD or type http://DNS-G120 into a web browser.





The logon screen will appear.



Once you have logged in, the **Home** screen, shown on the next page, will appear.

#### Home > Wizard

The Home>Wizard screen will appear. Click **Run Wizard** and the **Setup Wizard** will guide you through the basic configuration. For a tour of the **Wizard**, please see the following pages in this section.



These buttons appear on most of the configuration screens in this section. Please click on the appropriate button at the bottom of each screen after you have made a configuration change.



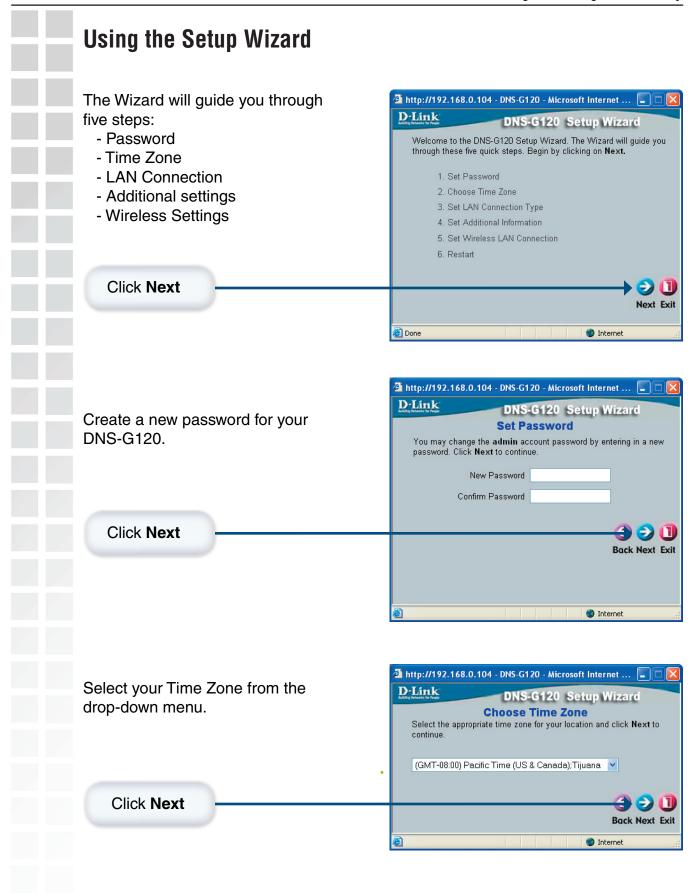
Clicking Apply will save changes made to the page

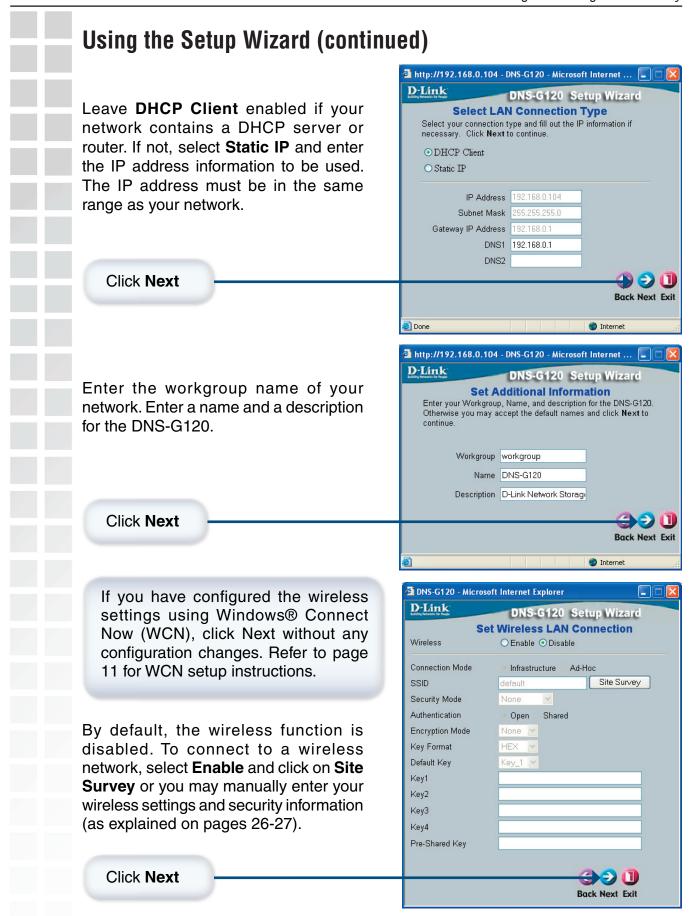


Clicking Cancel will clear changes made to the page



Clicking Help will bring up helpful information regarding the page





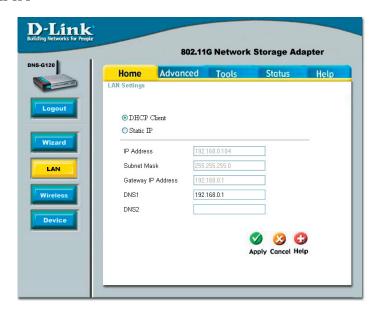
### **Using the Setup Wizard (continued)**



You have completed the basic configuration of the DNS-G120 using the setup wizard!

Please see the following pages for a complete overview of the Web-based configuration utility.

#### Home > LAN



**DHCP Client/** Static IP: Select either **DHCP Client** (default) if you have a DHCP server or router on your network, or **Static IP** if you want to assign the network

settings manually.

**IP Address:** 

Enter the IP address of the DNS-G120 here, when Static IP is

selected.

**Subnet Mask:** Enter the subnet mask here, when Static IP is selected.

**Gateway Address:** 

Enter the gateway address here, when Static IP is selected. This is

normally the LAN address of your router.

DNS1/DNS2:

DNS (Domain Name System) is an Internet service that translates domain names into IP addresses. Enter a DNS address here. If you are using a router in your network, you can usually enter the router's

LAN IP address as the DNS address.

Apply:

Click **Apply** to save the changes.

#### Home > Wireless



Wireless: Select Enabled or Disabled.

**Connection Mode:** | Select the network type from the drop-down menu.

**Infrastructure** - Connect to an access point or router. **Ad-Hoc** - Connect to another wireless client (peer-to-peer).

**SSID:** Enter the SSID of your network. You may click **Site Survey** to

select an available wireless AP or router.

**Security Mode:** Select WEP or WPA-PSK. For more information, see page 27.

**Authentication:** WEP can use different methods of Authentication. Select either

Open or Shared.

Open: to allow any wireless station to associate with the

access point.

**Shared:** to only allow stations using a shared key

encryption to associate with it.

**Encryption Mode:** | Select the level of WEP encryption (64 or 128-bit). WPA-PSK only

uses TKIP.

**Key Format:** | Select the WEP/WPA-PSK key format (Hexadecimal or ASCII)

**Hexadecimal** - only A-F and 0-9 are valid characters. **ASCII** - All numbers and letters are valid characters.

**Default Key:** Select which WEP key to activate.

**Key (1-4):** Enter a WEP key. You can make up to 4 different keys.

**Pre-Shared Key:** Enter a WPA-PSK passphrase.

Please refer to page 11 if you wish to use Windows® Connect Now to configure the wireless settings

on your DNS-G120.

#### **Security**

The DNS-G120 offers 2 types of wireless security - WEP and WPA-PSK.

WEP (Wired Equivalent Privacy) is a method of encrypting data for wireless communication intended to provide the same level of privacy as a wired network. To gain access to a WEP network, you must know the key. The key is a string of characters that you create. When using WEP, you must determine the level of encryption. The type of encryption determines the key length. 128-bit encryption requires a longer key than 64-bit encryption. Keys are defined by entering in a string in HEX (hexadecimal - using characters 0-9, A-F) or ASCII (American Standard Code for Information Interchange – alphanumeric characters) format. ASCII format is provided so you can enter a string that is easier to remember. The ASCII string is converted to HEX for use over the network. Four keys can be defined so that you can change keys easily.

#### **Example:**

64-bit hexadecimal keys are exactly 10 characters in length.

(12345678FA is a valid string of 10 characters for 64-bit encryption)

**128-bit hexadecimal keys are exactly 26 characters in length.** (456FBCDF123400122225271730 is a valid string of 26 characters for 128-bit encryption)

64-bit ASCII keys are exactly 5 characters in length

(DMODE is a valid string of 5 characters for 64-bit encryption)

**128-bit ASCII keys are exactly 13 characters in length** (2002HALOSWIN1 is a valid string of 13 characters for 128-bit encryption)

■ WPA-PSK (Wi-Fi Protected Access - Pre-Shared Key) is a Wi-Fi standard that was designed to improve upon the security features of WEP (Wired Equivalent Privacy).

WPA has Improved data encryption through the Temporal Key Integrity Protocol (TKIP). TKIP scrambles the keys using a hashing algorithm and, by adding an integrity-checking feature, ensures that the keys haven't been tampered with.

The key or passphrase is an alpha-numeric password between 8 and 63 characters long. The passphrase can include symbols (!?\*&\_) and spaces. Make sure you enter this key exactly the same as on your access point or wireless router. You may also enter a hexadecimal key (using characters 0-9, A-F).

#### Home > Device



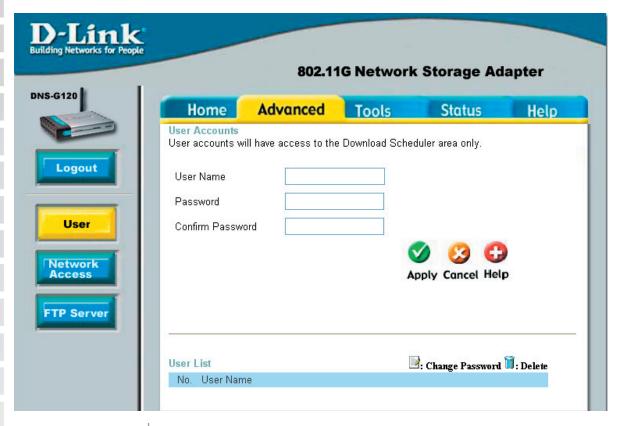
Workgroup: Enter the name of the workgroup of your network.

Name: Enter a name for the DNS-G120 device. This is useful if you have

more than one DNS-G120 devices on the network.

**Description:** Enter a description of the DNS-G120.

#### Advanced > User



User Name: Enter a user name.

Password: Enter a password for the user.

**Comfirm Password:** Enter the password again for confirmation.

Apply: Click Apply to save your settings.

Users you create will be listed under User List.

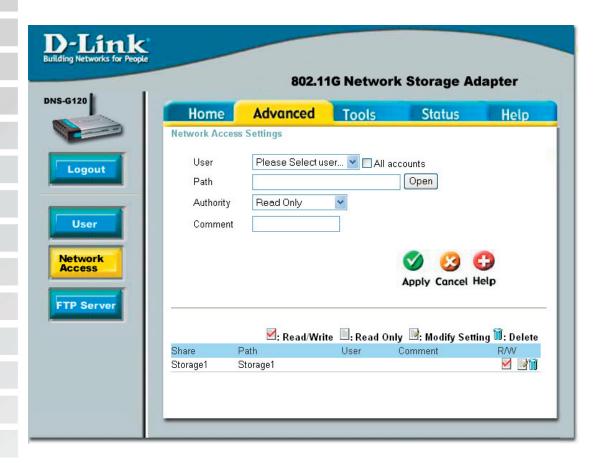


To change a current user's password, click the icon next to a user listed under *User List*. Click **Apply** to save any changes.

To delete a user, click the iii icon next to a user listed under *User List*. Click **Apply** to save any changes.

You will need to create users when assigning permissions, using FTP, and using the downloading feature.

#### **Advanced > Network Access**



User: Select a user from the drop-down menu or check All Accounts.

**Path:** Click **Open** and select the folder from the USB drive that you would like to create the rule for.

Authority: | Select Read Only or Read/Write from the drop-down menu.

**Comment:** Enter a comment regarding the rule.

By default, all users on your local network will have read/write permissions to all files and folders on the USB drive(s) that are connected to the DNS-G120. This "rule" will be displayed in the list similar to the picture above.

■ **Note:** Currently, you may only assign Read Only permissions to the USB drive(s) if formatted with NTFS. To assign read/write permissions, the drive(s) must be formatted with FAT or FAT32.

### Advanced > Network Access (continued)

To create a network access rule, you must first delete the default rule by clicking on the trash can icon. Once the rule is deleted, users will not be able to access the USB drive(s) until new rules have been created.



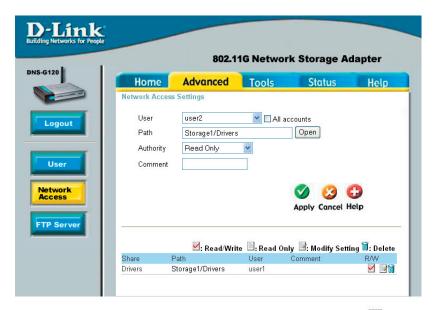


### **Example**

In the example below, permissions are set for the folder "**Drivers**" on the USB drive named "**Storage1**". Two users (user1 and user2) were created (refer to page 29 on creating users).

User1 has been assigned read/write permissions for the Drivers folder (as seen in the network access list).

User2 will be assigned read only permissions for the Drivers folder. Once the settings are applied, User2 will appear in the network access list.



You may edit a rule from the list by clicking on the icon.

To delete a rule from the list, click on the iii icon.

#### Advanced > FTP Server

You can use the built-in FTP server to allow users from the Internet or Intranet FTP access to the drive(s) or folder(s) that you want to share.



User: Select a user from the drop-down menu or check All Accounts.

Path: Click Open and select the folder from the USB drive that you would like to create the rule for.

**Root:** Check the **Root** box to select the root level of both USB drives at once.

Authority: Select Read Only or Read/Write from the drop-down menu.

Add: Click Add to save your share/permissions.

### Advanced > FTP Server (continued)



Max User: Select the maximum number of users allowed to connect

via FTP at one time from the drop-down menu.

Idle Time: Select the idle time (1-10 minutes). Users will be

disconnected when idle for the specified amount of time.

Port: You may change the port used for FTP. The default port

is 21.

Flow Control: | Select Unlimited or enter a data rate (x10 KB) for restricted

data flow. This setting is only necessary where network traffic is significant and can be affected by FTP server activity.

Path: Displays current FTP users, paths, and permissions.

FTP Server Status: Displays the current information regarding the FTP

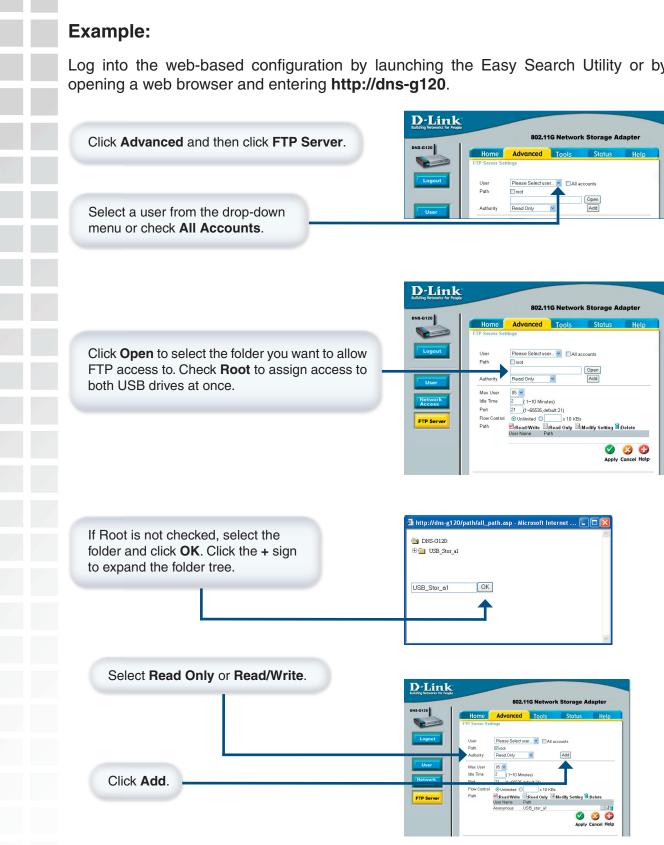
server.

You may edit a rule from the list by clicking on the icon.

To delete a rule from the list, click on the iii icon.

### **Advanced > FTP Server (continued)**

Log into the web-based configuration by launching the Easy Search Utility or by



### **Advanced > FTP Server (continued)**



You may edit a rule from the list by clicking on the Micon.

To delete a rule from the list, click on the 📋 icon.

To access the FTP server from your local network, open a web browser and enter **ftp://dns-g120** and press enter.

If you are behind a router, you will need to forward the FTP port to the DNS-G120. Additional filtering and firewall settings may need to be modified on your router to allow Internet access to the DNS-G120. Once the port is forwarded to the DNS-G120, users from the Internet will enter ftp:// followed by the WAN IP address of the router (e.g. ftp://64.56.23.111).

If you are using a port other than 21, you must enter a colon (:) followed by the new port number in the URL to connect (e.g. ftp://ftp.mysite.com:3000).

Please consult your router's user manual for more information on port forwarding.

#### Tools > Admin

The Admin screen will allow you to change the Admin password.



User Name: The user name is set to admin. You cannot change

the user name.

**Password:** Enter the old password.

**New Password:** Enter your new password.

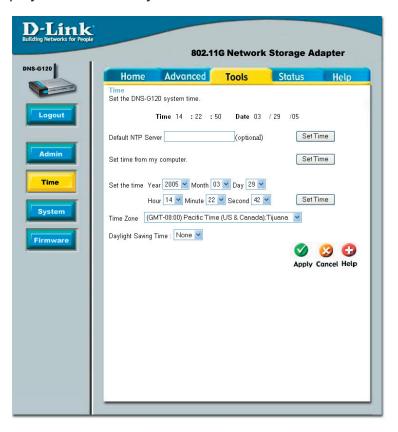
**Confirm Password:** Enter your new password again.

**Apply:** Click Apply to save your new password.

### Tools > Time

This section will set the DNS-G120 internal clock. It is important that accurate time is set for scheduled downloading and backup of files and folders.

Current Time is displayed in 24-hour format (e.g. 14:00 is 2:00pm). Current Date is displayed in Month/Day/Year format.



**Default NTP** Server:

Network Time Protocol (NTP) synchronizes clocks on devices in the network, using Internet time servers.

This field is optional.

Set time from my

Synchronize the time from the computer you are currently using. Click the Set Time button to set the computer:

DNS-G120 internal clock to the local PC time.

Set the Time: Select the appropriate date and time from the drop-

> down boxes provided. Click the Set Time button to set the DNS-120 internal clock to the changes made.

Time Zone: Select the time zone.

**Daylight Saving** Select to enable daylight savings.

Time:

**Apply:** Click Apply to save your settings.

### Tools > System



System Restart: Click Restart to reboot your DNS-G120.

**Restore to Factory** 

Click Restore to reset the DNS-G120 back to the **Defaults:** factory default settings - erasing all changes you

have made.

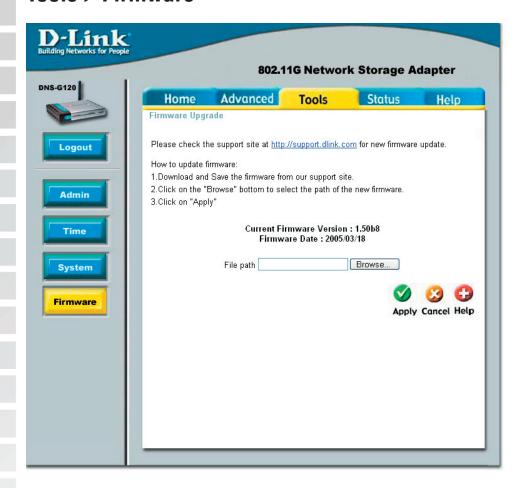
Idle Time: Enter the time (in minutes) for the idle time in both

the Scheduling and Config sections. Users will be

logged off if the idle time is exceeded.

Apply: Click **Apply** to save your settings.

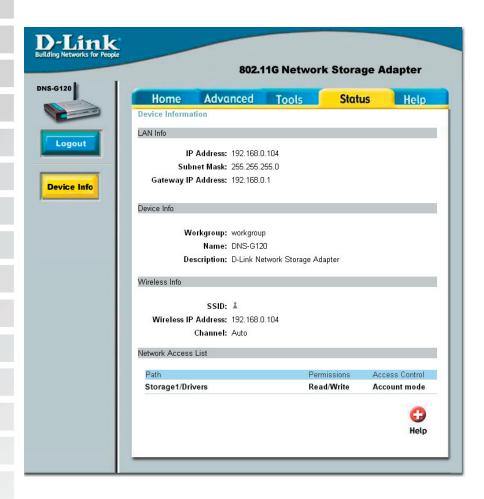
### **Tools > Firmware**



Browse: After you have downloaded the firmware upgrade file to your hard drive, click Browse to find the upgrade. When you have found it, click Open in the browser window and click Apply in this screen to begin the firmware upgrade.

> When the "upgrade is complete" message appears, click Restart. After the login screen appears, wait 30 seconds before logging into the DNS-G120.

### Status > Device Info



LAN Info: The LAN Info section will display the network settings of the DNS-G120.

**Device Info:** The workgroup, name, and description of the DNS-G120 will

be displayed in this section.

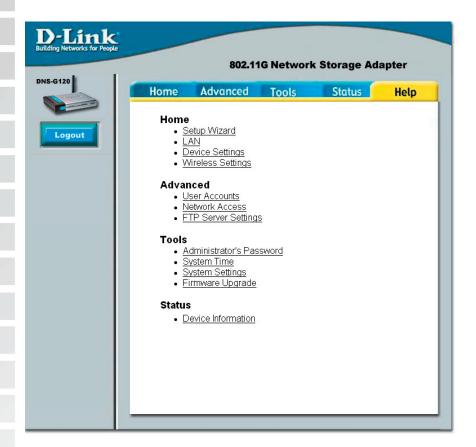
Wireless Info: The Wireless Info section will display the current wireless

settings including the SSID, IP address, and channel.

**Network Access** Current shares and permissions will be displayed in this

> List: section.

# Help



This section lists all of the available help topics for reference. Click on a topic to view the online help information.

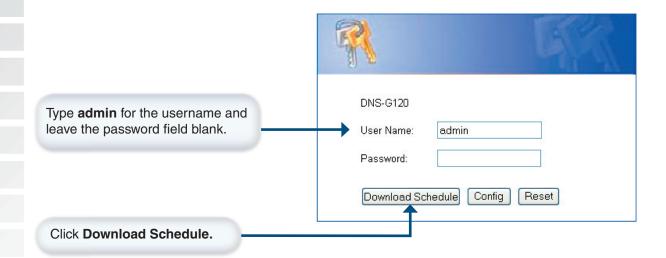
### **Download Scheduling**

This function will allow the user to set up scheduled folder or file downloads and backup jobs.

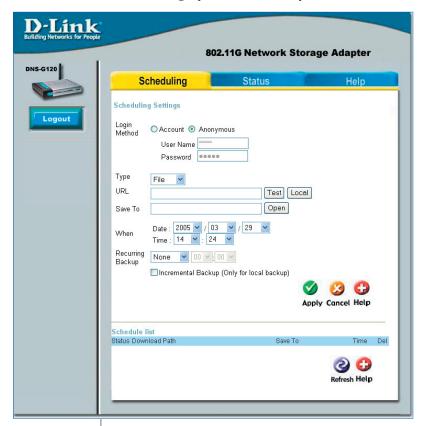
To log into the web-based configuration of the DNS-G120, you may run the Easy Search Utility included on your CD or type in http://DNS-G120 into a web browser.



The logon screen will appear.



### **Download Scheduling (continued)**



#### **Login Method:**

Select the appropriate login method to access files for download:

- Account If the download site employs restricted access, check this button and enter in the User Name and Password in the appropriate fields provided below this button.
- Anonymous Click this button if this job is a local (drive/ PC to drive) backup or the download site does not require any login information.

**Type:** Select the appropriate type of content for download or backup.

**URL:** Enter a valid URL to the remote location from which you wish to initiate a file or folder transfer.

To initiate a remote FTP or HTTP file or folder transfer, refer to the following examples of valid URL formats:

- · ftp://123.45.67.89/Test (for a folder transfer)
- · ftp://123.45.67.89/Test/hello.txt (for a single file transfer)
- · http://www.abc123.org/Test (transfer from an HTTP site)

To initiate a local PC's (same network as DNS-G120) shared file or shared folder transfer, refer to the following example of the valid URL format.

· \\192.168.0.100\Test

The local PC's internal IP address must be known and be accessible to the DNS-G120 on the network.

### **Download Scheduling (continued)**

This button is provided to test the given URL to make sure it is valid as well as the user name/password authentication set in login method.

Local: This button will let you set the source file or folder from any USB drive connected to the DNS-G120. When you click on the button, a window will appear with a graphical representation of the folder structure on the USB drive(s).

> To select a folder, click on the plus sign next to the USB drive name to reveal all sub-folders available. When the folder you want is displayed, click on the folder name, scroll to the bottom of the folder structure, and verify the correct folder path is listed.

> If the folder path is correct, click on the OK button to accept. If you wish to specify a single file to transfer, follow the above process to select the desired folder and then manually type in the file name at the end of the folder path displayed in the URL field.

Save To:

Enter a valid destination folder path to an attached USB drive on DNS-G120. Click on the Open button to begin the browsing process.

Enter the date and time you wish the file or folder transfer to commence. The current date and time according the DNS-G120 internal clock will be displayed in the various drop-down boxes that appear as a reference point. The format of the date is Year/Month/ Day. The time is set and displayed in 24 hour format.

**Recurring Backup:** 

If you wish to make unattended backups at regular intervals, then designate the appropriate interval (e.g. daily, weekly, or monthly) and specific time for the backup to occur.

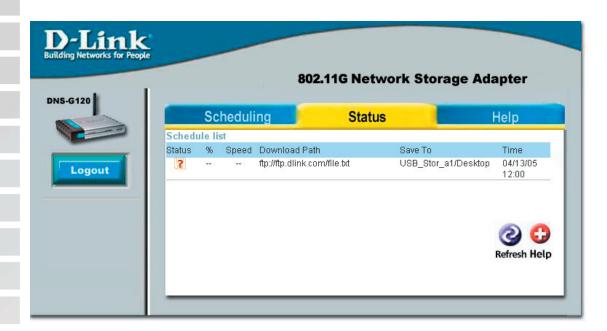
**Incremental Backup:** 

By default all backups and file/folder downloads are in Overwrite mode. This means that files at the destination drive/folder with identical names will be written over by the source files (also known as "Full Backup"). If the Incremental Backup option is checked, then DNS-G120 will compare identical file names at source and destination by Last Modified Date/Time and overwrite the destination if the source is more recent.

Note: Incremental Backup is not available for HTTP or FTP downloads as the Last Modified Date/Time is not accessible at the remote location.

Schedule List: The Schedule List will display all completed, active, and pending scheduled transfer or backup jobs. Additional options are available to initiate or cancel an active or pending backup job immediately.

### Scheduling > Status



The Status Schedule List will show pending or completed download events. Current download statistics, such as % completed and download speed are displayed for each event. The icons below represent the current status of each event.

- Download Successful
- X Download Failed
- Download Pending
- Waiting
- Link File
- Download in Progress

# **Networking Basics**

To name your computer n **Windows XP**, please follow these directions.

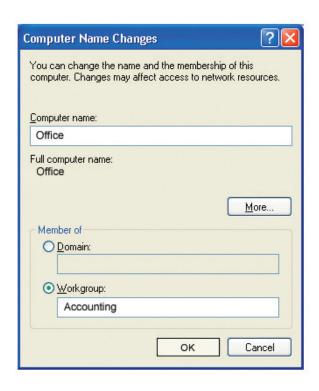
- Click Start (in the lower left corner of the screen).
- Right-click on My Computer.
- Select Properties and click.



- Select the Computer Name Tab in the System Properties window.
- You may enter a **Computer Description** if you wish; this field is optional.
- To rename the computer and join a domain, Click **Change**.



- In this window, enter the Computer name.
- Select **Workgroup** and enter the name of the **Workgroup**.
- All computers on your network must have the same **Workgroup** name.
- Click **OK**.



# **Checking the IP Address in Windows XP**

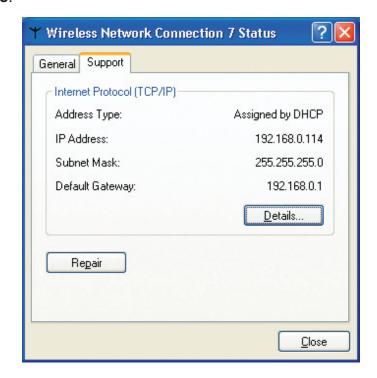
The wireless adapter-equipped computers in your network must be in the same IP Address range (see Getting Started in this manual for a definition of IP Address Range). To check the IP Address of the adapter, please do the following:

- Right-click on the Local Area Connection icon in the task bar.
- Click on Status.



This window will appear:

- Click the Support tab. This screen will list your IP address, subnet mask, and the default gateway.
- Click Close.



DNS-G120 User's Manual Networking Basics

# Assigning a Static IP Address in Windows XP/2000

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

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

- Go to Start.
- Double-click on Control Panel.



Double-click on Network Connections.



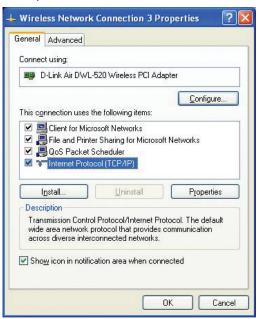
DNS-G120 User's Manual Networking Basics

Right-click on Local Area Connections.

■ Double-click on **Properties**.



- Click on Internet Protocol (TCP/IP).
- Click Properties.
- Input your **IP** address and subnet mask. (The IP addresses on your network must be within the same range. For example, if one computer has an IP address of 192.168.0.2, the other computers should have IP addresses that are sequential, like 192.168.0.3 and 192.168.0.4. The subnet mask must be the same for all the computers on the network.)

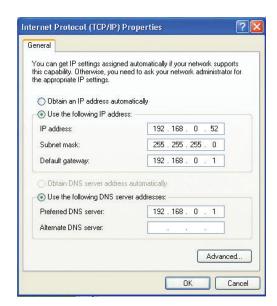


DNS-G120 User's Manual Networking Basics

Input your DNS server addresses. (Note: If you are entering a DNS server, you must enter the IP address of the default gateway.)

The DNS server information will be supplied by your ISP (Internet Service Provider.)

Click OK.



# Checking the Wireless Connection by Pinging in Windows XP and 2000

Go to **Start** > **Run** > type **cmd**. A window similar to this one will appear. Type **ping xxx.xxx.xxx**, where **xxx** is the **IP address** of the wireless router or access point. A good wireless connection will show four replies from the wireless router or access point, as shown.

```
Microsoft Windows XP [Uersion 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

F:\Documents and Settings\lab4\ping 192.168.0.50

Pinging 192.168.0.50 with 32 bytes of data:

Reply from 192.168.0.50: bytes=32 time=5ms TTL=30
Reply from 192.168.0.50: bytes=32 time=64ms TTL=30
Reply from 192.168.0.50: bytes=32 time=3ms TTL=30
Reply from 192.168.0.50: bytes=32 time=17ms TTL=30

Ping statistics for 192.168.0.50: bytes=32 time=17ms TTL=30

Ping statistics for 192.168.0.50:

Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 3ms, Maximum = 64ms, Average = 22ms

F:\Documents and Settings\lab4\_
```

DNS-G120 User's Manual Troubleshooting

# **Troubleshooting**

#### 1. Why does my wireless connection keep dropping?

- Antenna Orientation- Try different antenna orientations for the DNS-G120. Try to keep the antenna at least 6 inches away from the wall or other objects.
- If you are using 2.4GHz cordless phones, X-10 equipment or other home security systems, ceiling fans, and lights, your wireless connection will degrade dramatically or drop altogether. Try changing the channel on your wireless router or access point to a different channel to avoid interference.
- Keep your product away (at least 3-6 feet) from electrical devices that generate RF noise, like microwaves, monitors, electric motors, etc.

#### 2. Why can't I get a wireless connection?

If you have enabled encryption on the DNS-G120, you must enter the same security settings as your wireless router or access point in order to establish a wireless connection.

- Make sure that the SSID on the access point or router is exactly the same as on the DNS-G120. If they are not, wireless connection will not be established.
- Move the DNS-G120 and the wireless access point or router into the same room and then test the wireless connection.
- Disable all security settings.
- Turn off the DNS-G120 and the wireless router or access point. Turn the wireless router or access point back on first. Wait about 30 seconds and then turn the DNS-G120 back on.
- Check that the LED indicators are indicating normal activity. If not, check that the AC power and Ethernet cables are firmly connected.
- Check that the IP address, subnet mask, gateway and DNS settings are correctly entered for the network.

#### 3. Why is the USB LED orange when I connect my USB drive?

- If the USB LED is solid orange after plugging in your USB hard drive, most likely the USB drive is formatted with an incompatible file system. The drive must be formatted with FAT, FAT32, or NTFS\*.
- \* A NTFS formatted drive will be readable but cannot be written to by the DNS-G120.

# **Technical Specifications**

#### Standards

- IEEE 802.11
- IEEE 802.11b
- IEEE 802.11g
- IEEE 802.3
- IEEE 802.3u
- USB 1.1
- USB 2.0
- WCN (Windows Connect Now)

#### **Device Management**

• Web-Based – Internet Explorer v6 or later; Netscape Navigator v7 or later; or other Java-enabled browsers

#### Data Rates<sup>1</sup>

Data rates with automatic fallback:

54Mbps, 48Mbps, 36Mbps, 24Mbps, 18Mbps, 12Mbps, 11Mbps, 9Mbps, 6Mbps, 5.5Mbps, 2Mbps, 1Mbps

#### Security

- 64 and 128-bit WEP
- WPA-PSK (TKIP)

#### Wireless Frequency Range

• 2.4GHz to 2.4835GHz

#### Wireless Operating Range<sup>2</sup>

- Indoors: Up to 328 feet (100 meters)
- Outdoors: Up to 1,312 feet (400 meters)

#### Ports

- 1 10/100 Ethernet Port
- 2 USB 2.0 Ports
- Power

#### Power

- Output: 5VDC, 2.5A
- Max Power 36W, 100-110V

#### Modulation Technology

- Orthogonal Frequency Division Multiplexing (OFDM)
- Complementary Code Keying (CCK)

#### Weight

• 7.9oz (0.5 lbs)

1 Maximum wireless signal rate based on IEEE Standard 802.11g specifications. Actual data throughput will vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead lower actual data throughput rate.

2 Environmental factors may adversely affect wireless signal range.

# Wireless Transmit Power • 802.11b - 16 dBm

• 802.11g - 12 dBm

#### Receiver Sensitivity

- 54 Mbps OFDM, 10% PER, -68 dBm
- 48 Mbps OFDM, 10% PER, -68 dBm
- 36 Mbps OFDM, 10% PER, -75 dBm
- 24 Mbps OFDM, 10% PER, -79 dBm
- 18 Mbps OFDM, 10% PER, -82 dBm
- 12 Mbps OFDM, 10% PER, -84 dBm
- 11 Mbps CCK, 8% PER, -82 dBm
- 9 Mbps OFDM, 10% PER, -87 dBm
- 6 Mbps OFDM, 10% PER, -88 dBm
- 5.5 Mbps CCK, 8% PER, -85 dBm
- 2 Mbps QPSK, 8% PER, -86 dBm
- 1 Mbps BPSK, 8% PER, -89 dBm

#### External Antenna Type

One external 2.0dB gain with reverse SMA connector.

#### **LEDs**

- Power
- Ethernet
- Wireless
- USB

#### Temperature

- Operating: 41°F to 122°F (5°C to 50°C)
- Storing: -4°F to 122°F (-20°C to 50°C)

#### Humidity

• 5%~90% (non-condensing)

#### Certifications

• FCC Part 15 Class B

#### **Dimensions**

- L = 5.6 inches (142mm)
- W = 4.3 inches (109mm)
- H = 1.2 inches (30mm)

#### Warranty

• 1 Year

# **Contacting Technical Support**

You can find software updates and user documentation on the D-Link website.

D-Link provides free technical support for customers within the United States and within Canada for the duration of the warranty period on this product.

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

#### Tech Support for customers within the United States:

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

#### Tech Support for customers within Canada:

D-Link Technical Support over the Telephone: (800) 361-5265

Monday to Friday 7:30am to 12:00am EST

D-Link Technical Support over the Internet: http://support.dlink.ca
email:support@dlink.ca

When contacting technical support, please provide the following information:

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

©2005 D-Link Corporation/D-Link Systems, Inc. All rights reserved. D-Link, the D-Link logo are registered trademarks of D-Link Corporation or its subsidiaries in the United States and other countries. Other trademarks are the property of their respective owners. Maximum wireless signal rate based on IEEE Standard 802.11g specifications. Actual data throughput will vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead lower actual data throughput rate. Product specifications, size and shape are subject to change without notice, and actual product appearance may differ from that depicted on the packaging. Visit www.dlink.com for more details.

# 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 and fans): One (1) year
- Power supplies and fans: One (1) year
- · Spare parts and spare kits: 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 <a href="https://rma.dlink.com/">https://rma.dlink.com/</a>.

DNS-G120 User's Manual Warranty

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 NON-CONFORMING PRODUCT. THE MAXIMUM LIABILITY OF D-LINK UNDER THIS WARRANTY IS LIMITED TO THE PURCHASE PRICE OF THE PRODUCT COVERED BY THE WARRANTY. THE FOREGOING EXPRESS WRITTEN WARRANTIES AND REMEDIES ARE EXCLUSIVE AND ARE IN LIEU OF ANY OTHER WARRANTIES OR REMEDIES, EXPRESS, IMPLIED OR STATUTORY.

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

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

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

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

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

DNS-G120 User's Manual Warranty

	FCC Caution: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment; such modifications could void the user's authority to operate the equipment.
	(1) The devices are restricted to indoor operations within the 5.15 to 5.25GHz range. (2) For this device to operate in the 5.15 to 5.25GHz range, the devices must use integral antennas.
	This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
	IMPORTANT NOTE: FCC Radiation Exposure Statement: This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. The antenna(s) used for this equipment must be installed to provide a separation distance of at least eight inches (20 cm) from all persons. This equipment must not be operated in conjunction with any other antenna.

DNS-G120 User's Manual Registration

# Registration



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

05/25/2005