

DNS-1250-04/DNS-1250-06

Version 1.00

# **SMB Tower 4-bay Unified storage/ SMB Tower 6-bay Unified storage**

## **User Manual**

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# Chapter 1: Introduction

## 1.1 *About This Manual*

This User Manual describes how to setup, use, and maintain the DNS-1250-04 and DNS-1250-06 NAS systems. It also describes how to use:

- ShareCenterNAVI software that you install and run on your PC
- ShareCenter Pro configuration manager software that runs on the NAS systems by browser.

This manual includes a full table of contents, chapter task lists, and numerous cross-references to help you find the specific information you are looking for.

Also included are four levels of notices:



### Note

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A Note provides helpful information such as hints or alternative ways of doing a task.

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### Important

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An Important calls attention to an essential step or point required to complete a task. Important items include things often missed.

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### Caution

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A Caution informs you of possible equipment damage or loss of data and how to avoid them.

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### Warning

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A Warning notifies you of probable equipment damage or loss of data, or the possibility of physical injury, and how to avoid them.

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## 1.2 Protocol Support

DNS-1250-04 and DNS-1250-06 NAS systems support:

- SMB/CIFS for Microsoft Windows
- NFS for Linux/Unix
- AFP for Mac OS
- FTP
- WebDAV for the file transform over the Internet
- iSCSI Target model and Initiator model

## 1.3 Hardware Specifications

CPU	1.8 GHz	
FLASH	256 MB	
SDRAM	2GB DDRII	
Smart Fan	Yes	
Gigabit Ethernet port	2	
USB 2.0 Host port	5 (Front x 1/ Back x 4)	
LCD Display	Yes	
Internal HDD Support	3.5" 3-Gb/s SATAII	
Hot Plug	Yes	
# of Bays	4 (DNS-1250-04)/ 6 (DNS-1250-06)	
Power Supply	250W (80 PLUS)	
Dimensions	DNS-1250-06	243(L)*188(W) *251(H) mm 9.56(L)*7.40(W)*9.88(H) in
	DNS-1250-04	243(L)*188(W) *191(H) mm 9.56(L)*7.40(W)*7.52H) in

For more information, visit the D-Link website at <http://www.dlink.com/>.

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## 1.4 *Client Utility OS Support*

The following operating systems support ShareCenterNAVI:

- Windows XP 32/64 Bit
- Windows Vista 32/64 Bit
- Windows Server 2003 32/64 Bit
- Windows Server 2008 32/64 Bit
- Windows Server 2008 R2
- Windows 7 32/64 Bit
- Mac OS 10.5 and above
- Mac OS 10.6 XServer

## 1.5 *Browser Support*

Choose one of the following browsers to use with the ShareCenter Pro configuration manager:

- Internet Explorer 7 and above
- Firefox 3 and above
- Safari 5 and above
- Google Chrome 8 and above



### **Warning**

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The electronic components within the NAS system are sensitive to damage from Electro-Static Discharge (ESD). Observe appropriate precautions at all times when handling the NAS system or its subassemblies.

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### **Warning**

The fan contains hazardous moving parts. Keep fingers away.



### **Caution**

Risk of explosion if the battery is replaced by an incorrect type.



### **Important**

To configure the NAS system, you are advised to install ShareCenterNAVI. Please refer to the User's Manual.

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# Chapter 2: Quick Setup

## 2.1 Verifying Package Contents

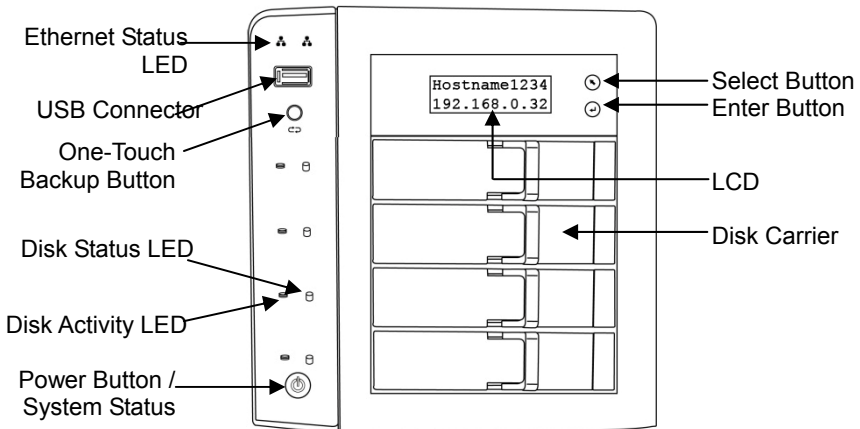
Open the shipping carton for the DNS-1250-04 or DNS-1250-06 and carefully remove and unwrap its contents.

- D-Link DNS-1250-04 or DNS-1250-06
- CD-ROM with Manual and Software
- Quick Installation Guide
- Power Cord
- Ethernet Cable
- Screws for Physical drive installation

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

**Figure 1. DNS-1250-04 Front View**

The DNS-1250-06 is similar.



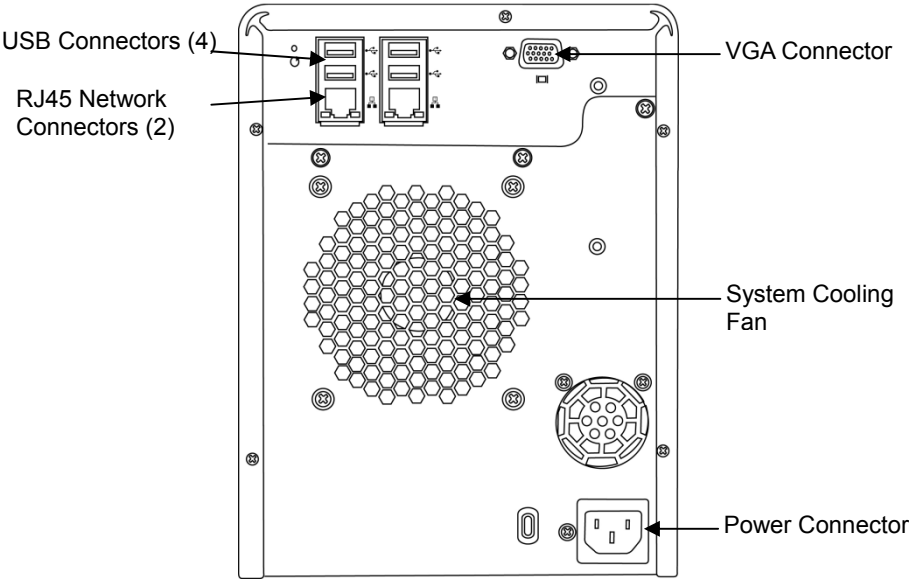
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Item	Function Description
Ethernet Status LED	Green: Network active at 1000 Mb/s Orange: Network active at 100 Mb/s
Disk Status LED	Green: Drive is healthy Orange: Disk is rebuilding Red: Disk error Flashing Green: Physical drive locate feature
Disk Activity LED	Flashing Green: Disk activity
System Status LED	Green: System is healthy Orange: Disk array degraded Red: Disk array offline or Enclosure error Flashing Red > Orange > Green: Power on
One-Touch Backup Button	Enables one-touch backup. Flashes blue while backup is processing
Power Button	Power on / power off

---

**Figure 2. DNS-1250-04 Rear View**

The DNS-1250-06 is similar.



Item	Description
USB Connectors	For USB printer and flash drive backup
RJ45 Network Connectors	For Ethernet cable connection
VGA Connector	Video output connection
Power Connection	Power cord connection

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## 2.2 *Installing Physical Drives*



### Note

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We highly recommend that you choose Enterprise Level HDDs to achieve the best data protection.

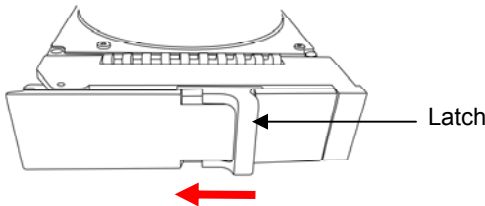
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You can populate the DNS-1250-04 and DNS-1250-06 NAS systems with SATA 1.5 Gb/s or 3.0 Gb/s physical drives. For optimal performance, install physical drives of the same model and capacity. Your physical drives become a RAID Volume on the NAS system.

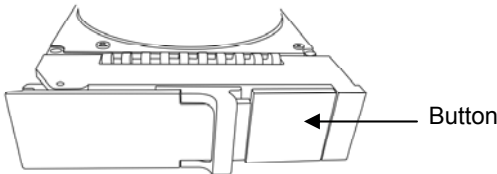
To install physical drives:

1. Remove the drive carrier from the enclosure.

Slide the latch towards the left.

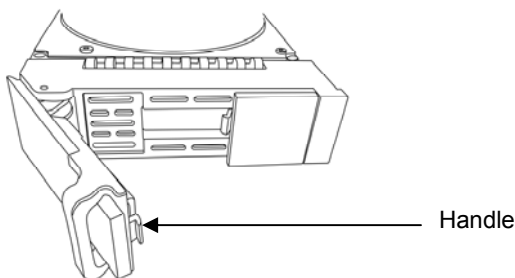


Press the button.

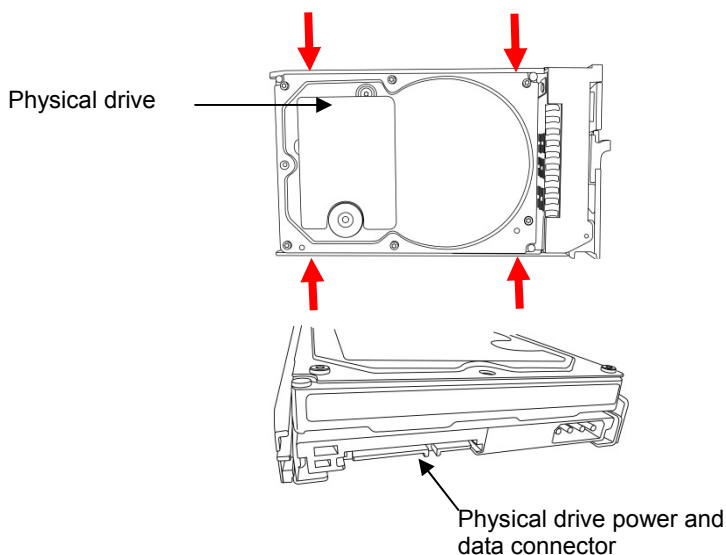


Pull the handle to slide the drive carrier out of the enclosure.

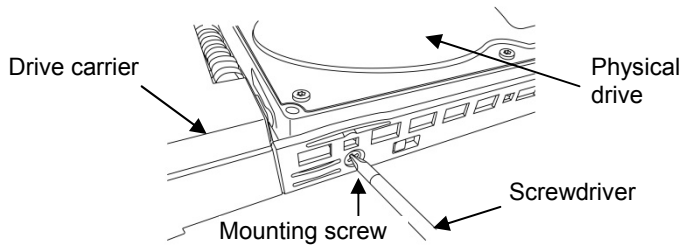




2. Carefully lay the physical drive into the drive carrier and align the screw holes of the drive and carrier.



3. Insert the screws through the holes in the drive carrier and into the sides of the physical drive.
  - Install only the counter-sunk screws supplied with the NAS system.
  - Install four screws per drive.
  - Snug each screw. Be careful not to over-tighten.



4. Reinstall the drive carrier into the enclosure.
5. Repeat steps 1 through 4 until all of your physical drives are installed.



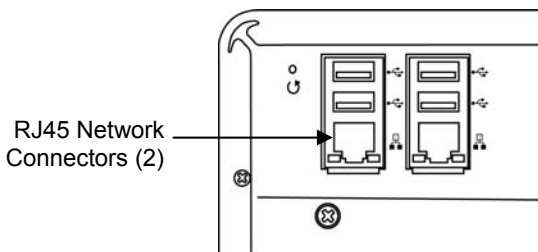
### Caution

To avoid hand contact with an electrical hazard, remove only one drive carrier a time.

## 2.3 Connecting the Ethernet Cable

To connect the NAS system to your network:

1. Attach one end of the network cable to an RJ45 network connector.

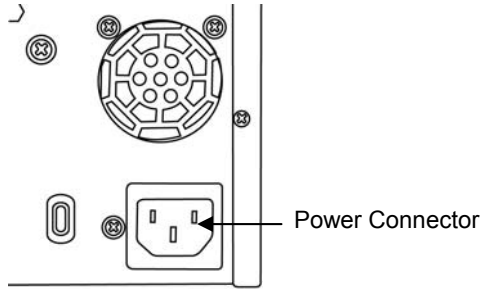


2. Attach the other end of the network cable to your Ethernet hub or switch.

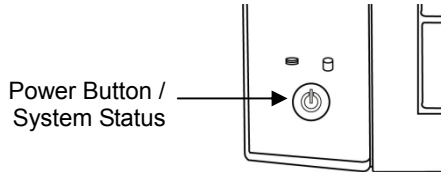
## 2.4 Connecting the Power

To connect and power up the NAS system:

1. Attach the power cord on the back of the enclosure.
2. Plug the other end into your power source.



3. On the front of the NAS system, press the **Power Button**.

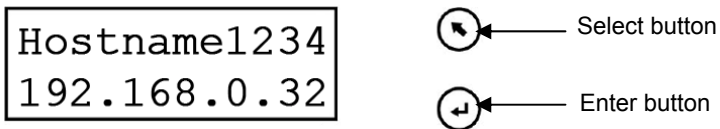


It takes about a minute to boot up. When fully booted:

- The System Status LED turns blue.
- The buzzer beeps one time.

## 2.5 *Network Configuration with the LCD Screen*

The DNS-1250-04 and DNS-1250-06 NAS systems have an LCD screen on the front panel that enables you to monitor system status and configure the network.



To configure the networking settings:

1. Press the **Enter** button to display the Network Setup option.
2. Press the **Select** button to choose each option.
3. Then press the **Enter** button to change the setting values.

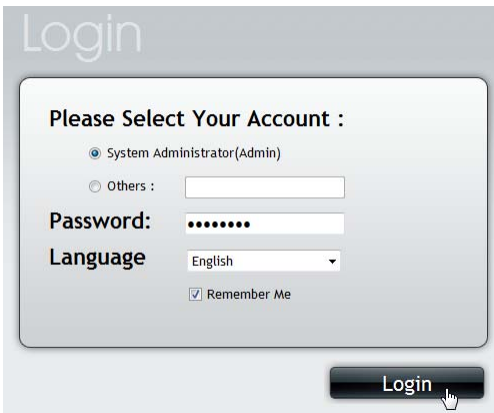
- 
4. When you are done, choose **OK** and press the **Enter** button to apply the networking configuration.

## 2.6 Configuration

### 2.6.1 Connecting to ShareCenter Pro

To connect with the ShareCenter Pro configuration manager over your network:

1. Start your browser.
2. In the URL field, enter the default IP address <http://192.168.0.32>.
3. The Login screen appears:

The image shows a web-based login interface for ShareCenter Pro. At the top, the word "Login" is displayed in a large, light gray font. Below it, a white rectangular box with a gray border contains the login form. The form has the title "Please Select Your Account :". There are two radio button options: "System Administrator(Admin)" which is selected, and "Others :". Below the "Others :" option is a text input field. The "Password:" label is followed by a password input field with masked characters (dots). The "Language" label is followed by a dropdown menu currently showing "English". Below the language dropdown is a checked checkbox labeled "Remember Me". At the bottom right of the form box is a dark gray "Login" button with a white mouse cursor icon pointing at it.

4. Choose the **System Administrator** option.  
Or choose the **Others** option and type the user name in the field provided.  
The default user name is *administrator*.
5. Type the default password into the field provided.  
The default password is *password*.
6. Click the **Login** button.

---

## 2.6.2 Choosing a Display Language

ShareCenter Pro displays in English, Russian, Spanish, French, German, Italian, Japanese, Korean, Simplified Chinese, and Traditional Chinese.

Choose the display language from the dropdown menu when you log in.

If you have already logged in:

1. Click the **Logout** button at the top right corner of the ShareCenter Pro window.  
The Login screen appears.
2. From the language dropdown menu, choose the display language you want.
3. Click the **Login** button to log into ShareCenter Pro again.

## 2.7 Setup Wizard

The Setup Wizard configures your disk arrays easily and quickly. To configure automatically, use *One-Click Setup*. To configure manually, use *Advance Setup*.

### 2.7.1 Using the One-Click Setup Wizard

To configure your disk arrays with the One-Click Setup Wizard:

1. Click the **NAS** tab.
2. Click the **One-Click Setup** button.

The Summary box displays the proposed system configuration.

- Computer Name – Input a new name, if desired
- IP Address – Shows the IP address assigned by your DHCP server
- Storage Type – Data Protection by default

- 
3. To accept the proposed configuration, click the **Submit** button.

If you disagree with the proposed configuration, click the **Advanced Setup** button to specify your settings manually.

## 2.7.2 Using Advanced Configuration Wizard

To configure your disk arrays with the Advanced Setup Wizard:

1. Click the **NAS** tab.
2. Click the **Advanced Setup** button.
3. Make the following network settings as required.
  - Computer Name – Input a new name, if desired
  - Member of – Check the box to let your enable DHCP make the network settings
4. If you did not check the **Member of** box, input your settings in the fields provided,
  - IP Address
  - Subnet Mask
  - Default Gateway
  - Primary DNS
  - Secondary DNS

When you are finished, click the **Next** button.

5. Choose the file system option you want.
  - Data Protection – Uses part of the physical drive space for redundancy
  - Maximum Capacity – Uses all physical drive space for data only
  - When you are finished, click the **Next** button.

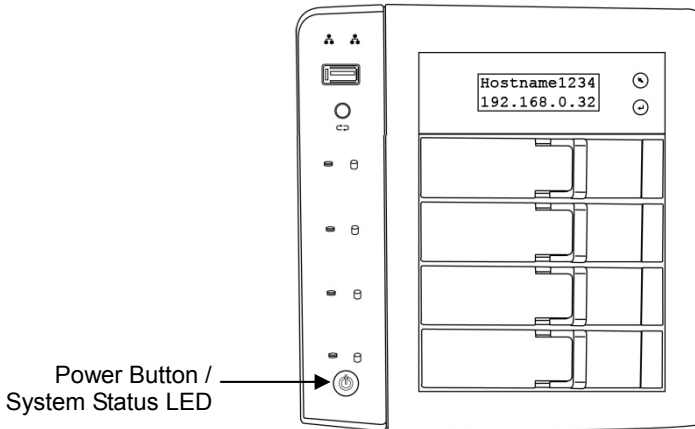
- 
6. Review the proposed configuration and click the **Submit** button.

If you disagree with the proposed configuration, click the **Back** button to change your settings.

## 2.8 Shutting Down the NAS System

To shut down the NAS system, on the front of the NAS system enclosure, press and hold the Power Button / System Status LED for five seconds.

The system status LED turns red, and then goes dark.



---

# Chapter 3: ShareCenter Pro Configuration Manager

The ShareCenter Pro Configuration Manager is factory-installed on the DNS-1250-04 and DNS-1250-06 NAS systems. ShareCenter Pro runs in the browser on your PC or Mac. You can access ShareCenter Pro by browser.

## 3.1 *Browser Support*

Choose one of the following browsers to use with ShareCenter Pro:

- Internet Explorer 7 or above
- Firefox 3 and above
- Safari 5 and above
- Google Chrome

## 3.2 *Connecting to ShareCenter Pro*

To connect with the ShareCenter Pro configuration manager over your network:

1. Start your browser.
2. In the URL field, enter the default IP address <http://192.168.0.32>.
3. The Login screen appears:



The image shows a web browser window displaying the ShareCenter Pro login interface. The title bar of the browser window says "Login". The main content area has a heading "Please Select Your Account :". Below this heading, there are two radio buttons: "System Administrator (Admin)" which is selected, and "Others :". To the right of "Others :" is a text input field. Below the radio buttons, there is a "Password:" label followed by a password input field with masked characters (dots). Below the password field, there is a "Language" label followed by a dropdown menu currently showing "English". At the bottom of the form area, there is a checked checkbox labeled "Remember Me". At the bottom right of the entire login form, there is a dark "Login" button with a mouse cursor hovering over it.



- 
4. Choose the **System Administrator** option.

Or choose the **Others** option and type the user name in the field provided.

The default user name is *administrator*.

5. Type the default password into the field provided.

The default password is *password*.

6. Click the **Login** button.

### **3.3 Choosing a Display Language**

ShareCenter Pro displays in English, Russian, Spanish, French, German, Italian, Japanese, Korean, Simplified Chinese, and Traditional Chinese.

Choose the display language from the dropdown menu when you log in.

If you have already logged in:

1. Click the **Logout** button at the top right corner of the ShareCenter

Pro window.

The Login screen appears.

2. From the **Language** dropdown menu, choose the display language you want.

3. Click the **Login** button to log into ShareCenter Pro again.

### **3.4 Navigating in ShareCenter Pro**

The five tabs displayed on the screen are the primary navigation tool in ShareCenter Pro. Categories of functions listed under their icons.

Icons for specific functions are listed above the tabs. Click the tab to view the functions.

Click the function icons to display their information on the screen. Each function has one or more tabs in its screen.

---

## 3.5 Dashboard Tab

The **Dashboard** tab is the default screen of ShareCenter Pro.



The System Status icon indicates the top-level status of NAS system by displaying:



The system is OK.



The system has errors.

### 3.5.1 System Status

The System Status field displays the high-level of the NAS components by the following status icons:



The component is OK.



The component needs attention.



The component has failed.

Click the component name to view more information.

---

### 3.5.2 Event Information

The Event Information field displays six of the most recent Runtime events.

- Click the **More** link to display the Runtime Events screen.
- Click the **NVRAM Events** button to view the NVRAM events.
- Click the **Runtime Events** button to return to Runtime events

### 3.5.3 Storage Overview

The Storage Overview field displays the general information of the current storage status, including:

- Total Physical Capacity – Displays the total storage capacity of the NAS system.
- Unconfigured – Not assigned to a logical drive.
- Configured – Assigned to a logical drive.
- Device Number – Displays the current number of devices in the system.

## 3.6 *Device Tab*

The Device tab displays the information of all device status of the NAS, including physical drives, disk arrays, logical drives, power supply units, blowers, and backplanes.

In the Device tab, you can make settings for the enclosure and physical drives.

### 3.6.1 Front View

Click the **Front View** button to view of the NAS enclosure. Mouse-over the drive carrier to display the information of the physical drive:

- Device ID
- Physical capacity
- Operational status

- 
- Configuration – Array number and sequence number

### ***Identifying Unconfigured Physical Drives***

Check the Show unconfigured PD(s) box to identify the unconfigured physical drives in the NAS.

### ***Identifying Physical Drives Assigned to a Disk Array***

Click the Highlight Arrays button to identify the physical drives assigned to a disk array.

Click the following items in the dropdown menu:

- All DA – all disk arrays
- DA0 (DA1, DA2, etc.) – a specific disk array
- Close – click to close the menu and return to normal view.

The carriers containing drives that do not belong to the chosen disk array are highlighted.

## **3.6.2 Back View**

Click the **Back View** button to display the back view of all enclosures in the NAS. Mouse-over the power supply and I/O units to view the PSU status and the operational status of the devices through the I/O units. Click **Show Internal Components** to display the virtual view of the internal components (see below).

Mouse-over the component and the related information will be displayed:

- CPU – CPU usage
- Controller thermometer – temperature of the controller board
- Temperature of the system
- RAM – memory usage
- Enclosure information

---

### 3.6.3 Component List

Click the **Component List** button to display the device ID, operational status, enclosure type, and status description of all enclosures.

#### ***Enclosure***

To view enclosure information, mouse-over the enclosure you want and click the **View** button.

To make enclosure settings, mouse-over the enclosure you want and click the **Settings** button. Set the controller warning and controller critical temperatures.

To locate the enclosure, mouse-over the enclosure you want and click the **Locate** button. The buzzer sounds to help you identify the NAS system.

#### ***Controller***

To view controller information, mouse-over the controller and click the **View** button.

---

To make controller settings:

1. Mouse-over the controller and click the **Settings** button.
2. Make setting changes as required.
  - Enter, change or delete the alias in the Alias field
  - Enable SMART Log – Check the box to enable or uncheck to disable
  - SMART Polling Interval – Enter a value into the field, 1 to 1440 minutes
  - HDD Power Levels – Choose time periods from the dropdown menus.
    - Level 0: Disabled
    - Level 1: Park the read/write heads
    - Level 2: Lowers disk rotation speed
    - Level 3: Spins down the disk (stops rotation)
  - Coercion – Check the box to enable or uncheck to disable.

This feature is designed for fault-tolerant logical drives (RAID 1, 1E, 5, 10, 50, and 60). It is generally recommended to use physical drives of the same size in your disk arrays. When this is not possible, the system adjusts for the size differences by reducing or coercing the capacity of the larger drives to match the smaller ones.
  - Coercion Method – Choose a method from the dropdown menu:
    - GB Truncate – Default. Reduce the useful capacity to the nearest 1,000,000,000 byte boundary.

- 
- 10GB Truncate – Reduces the useful capacity to the nearest 10,000,000,000 byte boundary.
  - Group Rounding – Uses an algorithm to determine how much to truncate. Results in the maximum amount of usable drive capacity.
  - Table Rounding – Applies a predefined table to determine how much to truncate.
  - Write Back Cache Flush Interval – Enter a value into the field, 1 to 12 seconds
  - Physical Drive Temperature Threshold
  - Enclosure Polling Interval
  - Adaptive Writeback Cache
    - UPS power good: write back
    - UPS power fail: write through
    - No UPS: write through
  - Host Cache Flushing
  - Forced Read Ahead (cache) – Check the box to enable or uncheck to disable

3. Click the **Save** button.

## ***Buzzer***

To mute the buzzer, click the **Mute** button.

To unmute the buzzer, click the **Sound** button.

To make buzzer settings:

1. Mouse-over the buzzer and click the **Settings** button.

- 
2. Make setting changes as required.
  3. Check the **Enable Buzzer** option to enable the buzzer for all events.  
Uncheck to disable.
  4. Click the **Save** button.

## **LED**

This setting enables you to turn the enclosure LEDs ON and OFF.

To make LED settings:

1. Mouse-over the buzzer and click the **Settings** button.
2. Choose an LED setting:
  - Always ON
  - Always OFF
  - Daily
3. Click the **Save** button.

### **3.6.4 Physical Drives**

#### ***View List of Physical Drives***

To view a list of physical drives:

1. Click the **Device** tab.
2. Click the Physical Drive button.  
Physical drive information includes,
  - ID – ID number of the physical drive
  - Status – Green, yellow, and red icons
  - Model – Make and model of the drive
  - Type – SATA HDD



- 
- Location – Enclosure number and slot number
  - Configuration – Array number and sequence number, spare number, unconfigured, or stale configuration
  - Capacity – The capacity of drive

## ***View Physical Drive Information***

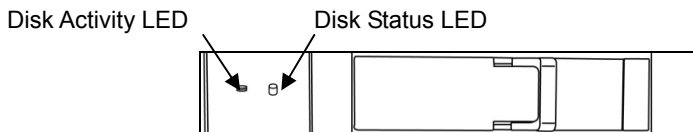
To view physical drive information:

1. Click the **Device** tab.
2. Click the **Physical Drive** button.
3. Mouse-over the physical drive you want and click the **View** button.

To locate the physical drive:

1. Click the **Device** tab.
2. Click the **Physical Drive** button.
3. Mouse-over the physical drive you want and click the **Locate** button.

The drive carrier LEDs blink for one minute.



## ***Global Physical Drive Settings***

To make global physical drive settings:

1. Click the **Device** tab.
2. Click the **Physical Drive** button.
3. Click the Global Physical Drive Settings button.

---

4. Check the boxes to enable or uncheck to disable.



- Enable Write Cache
- Enable Read Look Ahead Cache
- Enable Command Queuing

### ***Individual Physical Drive Settings***

To change the individual physical drive settings:

1. Click the **Device** tab.
2. Click the **Physical Drive** button.
3. Mouse-over the physical drive you want and click the **Settings** button.
4. Enter, change, or delete the alias in the **Alias** field.
5. Click the **Save** button.

### ***Physical Drive Problems***

Physical drives are the foundation of data storage. A physical drive problem can affect your entire NAS. When a yellow !  icon or a red X  icon appears beside a physical drive, check the drive's operational status:

1. Click the **Device** tab.
2. Click the **Physical Drive** button.
3. Mouse-over the physical drive you want and click the **View** button.
4. Check the status under **Operational Status**.

---

### 3.6.5 iSCSI

#### ***View iSCSI Information***

To view iSCSI information:

1. Click **Device** tab
2. Click the **iSCSI** button.

iSCSI information includes the following tabs.

- Node
- Session
- CHAP
- Portal
- iSNS
- Ping
- Port

#### ***Setting up a CHAP***

To set up a CHAP:

1. Click **Device** tab.
2. Click the **iSCSI** button.
3. Click the **CHAP** tab.
4. Complete the required settings.
  - User Name
  - Current Secret
  - password
  - Retype password
  - CHAP Type
    - Peer is one-way or uni-directional
    - Local is two-way or bi-directional
5. Click the **Submit** button.

---

## 3.6.6 Network

### ***Basic Network Settings***

1. Click **Device** tab.
2. Click the **Network** button.  
Networking information includes:

- ID
- DHCP
- IP Address
- Gateway IP Address
- Speed
- MTU
- Link

### ***Changing Networking Configuration***

1. Click **Device** tab.
2. Click **Network** button.
3. Mouse-over the network you and click the **TCP/IP** or **IPV6** button.
4. Make the required settings.
  - Network Speed – Select the networking speed from the menu.
  - IP Properties
  - IP Address
  - Subnet Mask
  - Gateway IP Address
  - DNS Server IP Address
  - Secondary DNS Server IP Address
5. Click the **Submit** button.

---

## ***Advanced Networking Configuration***

1. Click **Device** tab.
2. Click **Network** button.
3. Click the **Setup** button.
4. Complete the required settings.
  - Computer Name
  - Enable Network Binding – Choose to enable or disable a binding.
  - Networking Binding – From the dropdown menu, choose a proper binding type.
5. Click the **Submit** button.

## ***Setting up a DHCP Server***

1. Click **Device** tab
2. Click the **Network** button.
3. Click the **DHCP Server** button.
4. Make the required settings.
  - Enable DHCP Server – Choose to enable or disable the function.
  - IP range – Assign the IP range in the text boxes.
  - Lease Time
5. Click the **Submit** button.

## ***Setting up DDNS***

A Domain Name Service (DNS) translates human-readable host names, such as [www.symantec.com](http://www.symantec.com), into IP addresses, such as 103.204.15.26, and back again.

A Dynamic DNS (DDNS) is required because in many cases, IP

---

addresses periodically change. The DDNS enables you to keep up-to-date and stay connected.

1. Click **Device** tab.
2. Click the **Network** button.
3. Click the **DDNS** button.
4. Make the required settings.
  - Enable DDNS – Check to enable uncheck to disable.
  - DDNS Server – Enter the IP address of the DDNS server.
  - User Name – Enter the user name to log in the DDNS server.
  - Password – Enter the password to log in the DDNS server.
5. Click the **Submit** button.

### **3.6.7 UPS**

DNS-1250-04 and DNS-1250-06 support an Uninterruptible Power Supply (UPS).

#### ***View UPS Information***

To display the information of the connected UPS:

1. Click **Device** tab.
2. Click the **UPS** button.

#### ***Setting up a UPS***

To set up a UPS:

1. Click **Device** tab.
2. Click the **UPS** button.
3. Click the **Setup** button to bring up the Setup window.
4. Select the option you want and make the required settings.

- 
5. Click the **Submit** button.

### **3.6.8 External USB Drive**

#### ***External Drive Information***

To display the information of the connected external USB drive:

1. Click the **Device** tab.
2. Click the **External Drive** button.

External drive information includes:

- ID
- Type
- Capacity
- Status
- Location
- Cache
- Model

DNS-1250-04 and DNS-1250-06 support these external file systems:

- EXT3
- NTFS
- FAT32
- XFS
- HFS+

#### ***Configuring an External Drive***

To configure an external drive:

1. Click the **Device** tab.
2. Click the **External Drive** button.
3. Mouse-over the external drive and click the **Settings** button.
4. Choose the **Write Policy** (Write Through or Write Back).
5. Click the **Save** button.

#### ***Formatting an External Drive***

To format an external drive:

1. Click the **Device** tab.

- 
2. Click the **External Drive** button.
  3. Mouse-over the external drive and click the **Format** button.
  4. Choose the file format type (FAT32, NTFS, or XFS) and click the **Format** button.





### Caution

To safely remove an external USB drive, click the **Remove** button before you disconnect the drive.

## ***Removing an External Drive***

To remove an external drive:

1. Click the **Device** tab.
2. Click the **External Drive** button.
3. Mouse-over the external drive and click the **Remove** button.
4. Click the **Confirm** button.

## **3.7 Storage Tab**

The **Storage** tab enables you to create, manage, and delete disk arrays, logical drives, and spare drives.

The list of Disk Arrays provides disk array information, including:

- ID – DA0, DA1, DA2, etc.
- Alias – If assigned.
- Status – Green, yellow or red icon.
- Capacity – Data capacity of the disk array.
- Free Capacity – Unconfigured or unused capacity on the physical drives.
- Media Patrol – Enabled or disabled on this disk array.
- No. Of Logical Drives – The number of logical drives on this disk array.

### **3.7.1 Creating a Disk Array**

You can also use the Wizard to create a disk array with logical drives and a spare drive at the same time.

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To create a disk array:

1. Click the **Storage** tab.
2. Click the **Disk Array** button.
3. Click the **Create Disk Array** button.
4. Make the required settings.
  - In the Alias field, enter an alias at a maximum of 32 characters (includes letters, numbers, space between characters, and underline).
  - Check the Enable Media Patrol box to enable the function on this disk array. Uncheck to disable.
  - Check the Enable PDM box to enable the function on this disk array. Uncheck to disable.
  - Check the Enable Power Management box to enable the function on this disk array. Uncheck to disable.
5. In the Select Physical Drives diagram, click the available drives to add them to your disk array.

Be sure you select an adequate number of physical drives for the RAID level you plan to use.

Level	Drives		Level	Drives
RAID 0	1 or more		RAID 6	4 to 6
RAID 1	2 only		RAID 10	4 only
RAID 1E	2 to 6		RAID 30	6
RAID 3	3 to 6		RAID 50	6
RAID 5	3 to 6			

6. Click the **Submit** button.

The new disk array appears in the list.

- 
- To create additional disk arrays, click the **Create More** button.
  - If you are done creating disk arrays, click the **Finish** button.

### 3.7.2 Creating a Logical Drive

After creating a disk array, you must create a logical drive on it.

To create a logical drive:

1. Click the **Storage** tab.
2. Click the **Logical Drive** button.
3. Click the Create Logical Drive button.
4. Click the disk array you want to use and click the **Next** button.
5. Make the required settings.
  - In the Alias field, enter an alias at a maximum of 32 characters (includes letters, numbers, space between characters, and underline).
  - Set the LDType.
    - NAS – Network Attached Storage
    - SAN/DAS – Storage Area Network / Direct Attached Storage
  - Choose a RAID Level from the dropdown menu.
  - The RAID levels available depend on the number of physical drives in the disk array.
  - In the Capacity field, accept the default maximum capacity or enter a lesser capacity (size in MB, GB or TB).
  - Any remaining capacity is available for an additional logical drive.
  - Choose the Stripe size

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64 KB, 128 KB, 256 KB, 512 KB, or 1 MB.

- Choose the Sector size  
512 B, 1 KB, 2 KB, or 4 KB.
- Choose the Read Policy  
Read Cache, Read Ahead, or No Cache
- Choose the Write Policy  
Write Back or Write Through.

6. Click the **Add** button.

If there is capacity remaining, you can create an additional logical drive.

7. Click the **Submit** button.

The new logical drives appear in the Logical Drive list.

New logical drives are automatically synchronized. You can access the logical drive during synchronization.

### ***Initializing a Disk Array***

Initialization is normally done to logical drives immediately after they are created. Initialization sets all data bits in the logical drive to zero. The action removes any residual data left behind from earlier configurations. Initialization is recommended whenever you create a logical drive.



#### **Caution**

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When you initialize a logical drive, all the data on the logical drive is lost. Backup any important data before you initialize a logical drive.

---

### **3.7.3 Disk Array Problems**

Disk array problems typically result from a physical drive failure. The most common problem is a degraded disk array. The RAID controller can rebuild a degraded disk array.

A more serious, but far less common problem is an Incomplete Array. An incomplete array results from a physical drive that fails or becomes missing during:

- 
- RAID level migration
  - Disk array transport

### ***Disk Array Degraded***

Disk arrays are made up of physical drives. Logical drives are created on the disk array. When one of the physical drives in a disk array fails, a RAID 1, 5 and 10 volume will (or in the case of a RAID 6, two drives must fail):

- The operational status of the disk array becomes *Degraded*.
- The operational status of logical drives becomes *Critical*.
- The operational status of physical drive becomes *Dead* or *Offline*.

### ***Disk Array Offline***

When a disk array and its logical drives go Offline, the data stored in the logical drives is no longer accessible.

- Logical drives based on fault-tolerant disk arrays, RAID 1, 5, and 10, go *Offline* when two physical drives are removed or fail.
- RAID 6 can continue to operate when two physical drives are removed or fail. It will fail when three physical drives are removed or fail.
- Logical drives based on non-fault tolerant disk arrays, RAID 0, go *Offline* when a one physical drive is removed or fails.

## **3.7.4 Disk Array Management**

To view disk array information:

1. Click the **Storage** tab.
2. Click the **Disk Array** button.
3. Mouse-over the disk array you want to see and click the **View** button.

Disk array information includes:

- Disk Array ID – DA0, DA1, DA2, etc.

- 
- Alias – If assigned
  - Operational Status – OK is normal
  - Media Patrol – Enabled or disabled on this array
  - PDM – Enabled or disabled on this array
  - Power Management
  - Total Capacity – Data capacity of the array
  - Configurable Capacity – Maximum usable capacity of the array
  - Free Capacity – Unconfigured or unused capacity on the physical drives
  - Max Contiguous Free Capacity – Unconfigured or unused capacity in contiguous sectors on the physical drives
  - Number of Physical Drives – The number of physical drives in this array
  - Number of Logical Drives – The number of logical drives on this array

To make disk array settings:

1. Click the **Storage** tab.
2. Click the **Disk Array** button.
3. Mouse-over the disk array you want to see and click the **Settings** button.
4. Make settings as needed.
  - Change or delete the alias in the Alias field.
  - Enable or disable Media Patrol.

- 
- Enable or disable PDM.
  - Enable or disable Power Management.

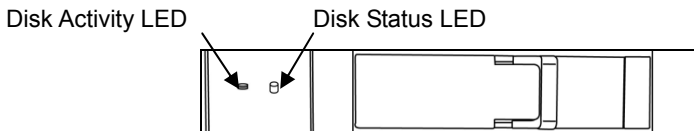
5. Click the **Save** button.

### ***Locating a Disk Array***

To locate a disk array:

1. Click the **Storage** tab.
2. Click the **Disk Array** button.
3. Mouse-over the disk array you want and click the **Locate** button.

The drive carrier LEDs blink for one minute.



### ***Deleting a Disk Array***

To delete a disk array:

1. Click **Storage** tab.
2. Click the **Disk Array** button.
3. Mouse-over the disk array you want and click the **Delete** button.
4. Click the **Confirm** button.



#### **Caution**

When you delete a disk array, you also delete logical drives that belong to it, along with the data in the logical drives.

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## 3.7.5 Logical Drive Management

### ***Logical Drive Information***

To view logical drive information:

1. Click the **Storage** tab.
2. Click the **Logical Drive** button.
3. Mouse-over the logical drive and click the **View** button. information includes:
  - Disk Array ID – LD0, LD1, LD2, etc.
  - Alias – If assigned
  - Array ID – ID number of the disk array where this logical drive was created
  - RAID Level – Set when the logical drive was created
  - Operational Status – OK means normal
  - Capacity – Data capacity of the logical drive
  - Number of Axles – For RAID 10 and 50, 2 axles
  - Physical Capacity – Data capacity of the physical drives
  - Number of Physical Drives – The number of physical drives
  - Stripe size – Set at logical drive creation
  - Read Policy – Adjustable
  - Sector size – Set at logical drive creation
  - Write Policy – Adjustable
  - Tolerable Number of Dead Drives – Number of physical drives that can fail without the logical drive going offline



- 
- Synchronized – A new logical drive shows “No” until synchronizing is completed
  - Parity Pace – Pertains to some RAID levels
  - WWN – World Wide Number, a unique identifier assigned to this logical drive
  - Codec Scheme – Pertains to some RAID levels
  - Serial Number – Assigned to this logical drive
  - ALUA Access State For Ctrl1
  - ALUA Access State For Ctrl2
  - LDType – Displays the LD type of the logical drive.

### ***Logical Drive Settings***

To make logical drive settings:

1. Click the **Storage** tab.
2. Click the **Logical Drive** button.
3. Mouse-over the logical drive you want and click the **Settings** button.
4. Make setting changes are required.
  - Change or delete the alias in the Alias field.
  - Read Policy – ReadCache, ReadAhead, or NoCache
  - Write Policy – WriteThru or WriteBack
5. Click the **Save** button.

### ***Logical Drive Check Tables***

To view logical drive check tables:

1. Click the **Storage** tab.

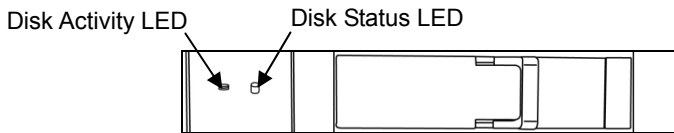
- 
2. Click the **Logical Drive** button.
  3. Mouse-over the logical drive you want and click the **Check Table** button.
  4. Choose an option.
    - All – All errors. The default choice.
    - Read Check – Read errors for this logical drive.
    - Write Check – Write errors for this logical drive.
    - Inconsistent Block – Inconsistent blocks for this logical drive.
    - Mirror data for RAID Levels 1, 1E and 10.
    - Parity data for RAID Levels 5, 6, and 50.
    - Errors and inconsistent blocks are identified by Redundancy Check.
    - Each Check Table lists:
      - Entry Number – A number assigned to each block of entry.
      - Table Type – Read Check, Write Check or Inconsistent Block.
      - Starting Logical Block Address – LBA of the first block for this entry.
      - Count – Number of errors or continuous blocks starting from this LBA.

### ***Locating a Logical Drive***

To locate a logical drive:

1. Click the **Storage** tab.
2. Click the **Logical Drive** button.

- 
3. Mouse-over the disk array you want and click the **Locate** button.  
The drive carrier LEDs blink for one minute.



## ***Deleting a Logical Drive***

To delete a logical drive:

1. Click the **Storage** tab.
2. Click the **Logical Drive** button.
3. Mouse-over the disk array you want and click the **Delete** button.
4. Click the **Confirm** button.



### **Caution**

When you delete a logical drive, you also delete all the data in the logical drive. Backup important data before you delete a logical drive.

## ***Redundancy Check***

To run Redundancy Check on a logical drive:

1. Click the **AdminTool** tab
2. Click the Background Activity button.  
The list of background activities appears.
3. Mouse-over Redundancy Check and click the **Start** button.
4. Check the boxes to the left of the logical drives you want to run.
5. Check the options you want.
  - Auto Fix – Attempts to repair the problem when it finds an error
  - Pause on Error – The process stops when it finds a non-repairable error

- 
6. Click the **Confirm** button.

### ***Synchronization Settings***

To change Synchronization settings:

1. Click the **AdminTool** tab.
2. Click the Background Activity button.
3. Click the **Settings** button.
4. Click the Background Synchronization Rate dropdown menu and choose a rate.
  - Low – Fewer system resources to Synchronization, more to data read/write operations.
  - Medium – Balances system resources between Synchronization and data read/write operations.
  - High – More system resources to Synchronization, fewer to data read/write operations.
5. Click the **Confirm** button.

### **3.7.6 Logical Drive Problems**

Logical drive problems typically result from a physical drive failure. The most common problem is a critical logical drive. The RAID controller can rebuild a critical logical drive.

A more serious but far less common problem is an Incomplete Array. An incomplete disk array results from a physical drive that fails or becomes missing during:

- RAID level migration
- Physical drive transport

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### 3.7.7 Spare Drive Management

If you have an unassigned physical drive, you can assign it as a spare drive. A spare drive is a physical drive designated to replace a failed physical drive in a RAID Volume.

Spare drive support depends on which NAS model you have.

- DNS-1250-04 supports up to four physical drives.

In the event of the failure of a physical drive within a RAID 1 or three-drive RAID 1E, or RAID 5 Volume, the spare drive is activated to replace the failed physical drive.

A spare drive is not available for a RAID 10 Volume because RAID 10 requires all four physical drives.

- DNS-1250-06 supports up to six physical drives.

In the event of the failure of a physical drive within any Volume except RAID 0 and RAID 6, the spare drive is activated to replace the failed physical drive.

A spare drive is not available for a RAID 6 Volume because RAID 6 requires all six physical drives.

#### ***Spare Drive Information***

To view spare drive information:

1. Click the **Storage** tab.
2. Click the **Spare Drive** button.
3. Mouse-over the spare drive you want to see and click the **View** button.

Spare drive information includes:

- ID – Spare drive ID
- Status – Green, yellow or red icon.
- Capacity – Data capacity of the spare drive.
- Physical Drive ID

- 
- Revertible – Yes or No
  - Type – Global or Dedicated
  - Dedicated to Array – ID of the disk array

### ***Assigning a Spare Drive***

To assign a spare drive:

1. Click the **Storage** tab.
2. Click the **Spare Drive** button.
3. Mouse-over the spare drive you want and click the **Settings** button.
4. Make settings changes as needed.
  - Revertible – Enables you to run a transition to return the drive to spare status.
  - Type
  - Global – Supports all disk arrays
  - Dedicated – Supports only the designated disk array
  - Dedicated to Array – ID of the designated disk array
5. Click the **Confirm** button.

## ***3.8 AdminTool Tab***

The **AdminTool** tab enables you to:

- Manage the NAS subsystem or virtual enclosure
- Monitor events
- Manage background activities
- Perform firmware updates
- Restore factory default settings

- 
- Save a NAS configuration report

### **3.8.1 NAS Subsystem Management**

#### ***Viewing NAS System Information***

To view NAS system information:

1. Click the **AdminTool** tab.
2. Click the Subsystem Information button.

NAS system information includes:

- Alias, if assigned
- Vendor
- Model
- WWN – World Wide Name
- Serial Number
- Part Number
- Revision Number
- System Date & Time

#### ***Making NAS System Settings***

To make NAS system settings:

1. Click the **AdminTool** tab.
2. Click the Subsystem Information button.
3. Click the **Settings** button.
4. In the Alias field, enter an alias or change the existing alias.
5. Click the **Save** button.



---

### 3.8.2 NAS System Shutdown and Restart

To restart or shut down the subsystem:

1. Click the **AdminTool** tab.
2. Click the Subsystem Information button.
3. Click the **Shutdown/Restart** button.
4. Do one of the following actions.
  - Click the **Shutdown** button to shut down the subsystem.
  - Click the **Restart** button restart the subsystem.
  - I/O operations are stopped during this operation.
  - Click the **Power Off** button to turn off power to the subsystem.

After power off, unplug the power cord from the subsystem then plug it in to reactivate the power supply unit.

### 3.8.3 Clearing Subsystem Statistics

To clear statistics on the physical drives, logical drives, and controller:

1. Click the **AdminTool** tab.
2. Click the **Subsystem Information** button.
3. Click the **Clear Statistics** button.
4. Click the **Confirm** button.

### 3.8.4 Software Service Management

#### *Starting a Software Service*

To start a software service:

1. Click the **AdminTool** tab.
2. Click the **Service** button.

- 
3. Mouse-over the service you want and click the **Start** button.
  4. Click the **Confirm** button.

### ***Making Software Service Settings***

To make software service settings:

1. Click the **AdminTool** tab.
2. Click the **Service** button.
3. Mouse-over the service you want and click the **Settings** button.
4. Make the setting changes as needed.
5. Click the **Save** button.

### **3.8.5 Runtime and NVRAM Event Logs**

Runtime events are the 1023 most recent events since the last NAS startup.

#### ***Viewing Runtime Events***

To view runtime events:

1. Click the **AdminTool** tab.
2. Click the **Events** button.

Runtime Event information includes:

- Index – A number assigned to this specific event. The highest number is most recent
- Device – Identifies the device involved
- Event ID – Identifies the action that occurred
- Severity
- Fatal – Non-Recoverable error or failure has occurred

- 
- Critical – Action is needed now and the implications of the condition are serious
  - Major – Action is needed now
  - Minor – Action is needed but the condition is not a serious at this time
  - Warning – User can decide whether or not action is required
  - Info – Information only, no action is required
  - Time – Date and time the event occurred.
  - Description – Plain language description of the event.

### ***Viewing NVRAM Events***

NVRAM events are the most important events since the last subsystem start-up.

To view NVRAM events:

1. Click the **AdminTool** tab.
2. Click the **Events** button.
3. Click the **NVRAM Events** button.

NVRAM Events information is the same as Runtime events, above.

### ***Clearing Events***

To clear an event log:

1. Click the **AdminTool** tab.
2. Click the **Events** button.
3. Click the **NVRAM Events** button or the **Runtime Events** button.
4. Click the **Clear** button.
5. Click the **Confirm** button.

---

## ***Saving Events***

To save an event log:

1. Click the **AdminTool** tab.
2. Click the **Events** button.
3. Click the **NVRAM Events** button or the **Runtime Events** button.
4. Click the **Save** button.

Your browser saves a text file containing the event log to its designated download folder.

### **3.8.6 Background Activity**

Each background activity has its own set of parameters. The most important parameters are: Status and Progress. The Status displays:

- Running – Now in progress.
- Paused – Waiting for a higher priority activity to finish or waiting for you to click the Resume button.

## ***Media Patrol***

Media Patrol is a routine maintenance procedure that checks the magnetic media on each physical drive. Media Patrol checks all physical drives assigned to disk arrays and spare drives. Media Patrol does not check un-configured drives.

Media Patrol checks are enabled by default on all disk arrays and spare drives. You can disable Media Patrol in the disk array and spare drive settings, however that action is not recommended.

Unlike Synchronization and Redundancy Check, Media Patrol is concerned with the condition of the media itself, not the data recorded on the media. If Media Patrol encounters a critical error, it triggers PDM if PDM is enabled on the disk array.

Media Patrol has three status conditions:

- Running – Normal. You can access your logical drives at any time.

- 
- Yield – Temporary pause while a read/write operation takes place.
  - Paused– Temporary pause while another background activity runs. Or a pause initiated by the user.

## ***Redundancy Check***

Redundancy Check is a routine maintenance procedure for fault-tolerant disk arrays (those with redundancy) that ensures all the data matches exactly. Redundancy Check can also correct inconsistencies.

## ***Rebuild***

When you rebuild a disk array, you are actually rebuilding the data on one physical drive.

When a physical drive in a disk array fails and a spare drive of adequate capacity is available, the disk array begins to rebuild automatically using the spare drive.

If there is no spare drive of adequate capacity, but the Auto Rebuild function is ENABLED, the disk array begins to rebuild automatically as soon as you remove the failed physical drive and install an un-configured physical drive in the same slot.

If there is no spare drive of adequate capacity and the Auto Rebuild function is DISABLED, you must replace the failed drive with an un-configured physical drive, perform a Manual Rebuild. See below.

### **Important**



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If your replacement physical drive was formerly part of a different disk array or logical drive, you must clear the configuration data on the replacement drive before you use it.

---

## ***Migration***

The term *Migration* means either or both of the following actions:

- Change the RAID level of a logical drive.
- Expand the storage capacity of a logical drive.

Before you begin a migration, examine your current disk array to

---

determine whether:

- The physical drives in your array can support the target RAID level.
- There is sufficient capacity to accommodate the target logical drive size.

If you need to add physical drives to your array, be sure there are unassigned physical drives installed in your RAID system before you begin migration.

## Supported RAID levels

Target Source	RAID 0	RAID 1	RAID 1E	RAID 5	RAID 6	RAID 10	RAID 50
RAID 0	•	•	•	•	•	•	•
RAID 1	•		•	•		•	•
RAID 1E	•		•	•		•	•
RAID 5	•		•	•	•	•	•
RAID 6					•		
RAID 10	•		•	•	•	•	•
RAID 50	•		•	•	•	•	•

## PDM

Predictive Data Migration (PDM) is the migration of data from the suspect physical drive to a spare physical drive, similar to rebuilding a logical drive. But unlike Rebuilding, PDM constantly monitors your physical drives and automatically copies your data to a spare physical drive BEFORE the physical drive fails and your logical drive goes Critical.

The following actions trigger PDM:

- A physical drive with unhealthy status (see below).
- Media Patrol finds a disk critical error.
- You initiate PDM manually.

PDM also counts the number of media errors reported by Media Patrol.

A physical drive becomes unhealthy when:

- 
- A SMART error is reported.
  - The bad sector remapping table fills to the specified level.

You can specify the maximum levels for the reassigned and error blocks in PDM settings. When the table fills to a specified value, PDM triggers a migration of data from the suspect drive (the physical drive with the bad sectors) to a replacement drive.

During data migration, you have access to your logical drives but they respond more slowly to read/write tasks because of the additional operation. The time required for data migration depends on the size of the physical drives.

PDM is enabled on all disk arrays by default. You can disable PDM in the disk array settings, however that action is not recommended.

## ***Transition***

Transition is the process of replacing a revertible spare drive that is currently part of a disk array with an un-configured physical drive or a non-revertible spare. The revertible spare drive returns to its original status. In order to run the Transition function, the spare drive must be revertible.

In addition, you must specify an un-configured physical drive of the same or larger capacity and same media type as the revertible spare drive.

### **Synchronization**

Synchronization is automatically applied to logical drives when they are created. Synchronization recalculates the redundancy data to ensure that the working data on the physical drives is properly in sync.

Mouse-over on the logical drive, click the View button, and look under Logical Drive Information beside the line that says Synchronized. A Yes means the logical drive was synchronized.

## ***Running a Background Activity***

To run a background activity:

1. Click the **AdminTool** tab.
2. Click the **Background Activity** button.
3. Click the **Start** button beside the activity you want to run.

---

## ***Scheduling a Background Activity***

To add a scheduled background activity:

1. Click the **AdminTool** tab.
2. Click the **Background Activity** button.
3. Click the **Scheduler** button.
4. Click the **Add Schedule** button.
5. Make the required settings.
  - Scheduler (Activity) Name – Select Media Patrol, Battery Recondition, Power On, Redundancy Check, Spare Check, or Power Off.
  - If you select Redundancy Check, the following settings need to be completed:
    - Auto Fix – Attempts to repair the problem when it finds an error.
    - Pause on Error – The process stops when it finds a non-repairable error.
    - Select LD – Select at least one logical drive on which Redundancy Check will run.
    - Enable This Schedule – Select to enable this function.
    - Start Time – Choose a start time.
    - Recurrence Pattern – Select a Recurrence Pattern as Daily, Weekly, or Monthly.
    - Start From – Select a start date.
    - End On – Select an end option.
6. Click the **Save** button.



---

## ***Viewing a List of Scheduled Background Activities***

To view a list of scheduled background activities:

1. Click the **AdminTool** tab.
2. Click the **Background Activity** button.
3. Click the **Scheduler** button.

The list of Scheduled Background Activities displays.

- Type – Media Patrol, Redundancy Check, or Spare Check.
- Recurrence – Daily, weekly, monthly.
- Start Time – Date and time.
- Operational Status – Enabled or disabled.

## ***Changing a Scheduled Background Activity***

To change a scheduled background activity:

1. Click the **AdminTool** tab.
2. Click the **Background Activity** button.
3. Click the **Settings** button.
4. Make settings changes are required.
  - Rate – Choose a Rate from the dropdown menu for each activity.
  - Low – Fewer system resources to the Rebuild, more to data read/write operations.
  - Medium – Balances system resources between the Rebuild and data read/write operations.
  - High – More system resources to the Rebuild, fewer to data read/write operations.
  - Reassigned Block Threshold – Enter a value in the blocks field.

- 
- Error Block Threshold – Enter a value in the blocks field.
  - Enable Media Patrol – Check the box to enable.
  - Enable Auto Rebuild – Check the box to enable.

5. Click the **Confirm** button.

### 3.8.8 Firmware Updates

Before you update the firmware, go to the D-Link website <http://www.dlink.com/> and download the latest firmware image file to your PC or Mac.

1. Click the **AdminTool** tab.
2. Click the **Firmware Update** button.

The NAS Firmware Update window screen appears showing the current Image Version Number.

3. Click the **Browse** button to locate the firmware image file, and then click the **Open** button.

The firmware image file appears in the in the field.

4. Click the **Submit** button.



Warning

---

Do NOT power off the system during the update!

---

When the update is completed a message tells you to reboot the subsystem.

5. Click the **OK** button to restart the system.

---

### 3.8.9 Performance Monitor

The Performance Monitor screen allows you to monitor the performance of NAS using the analyzed illustrations.

#### ***Monitored Components***

	Logical Drive	Physical Drive	Port
Bandwidth	•	•	•
Cache Usage	•		
Dirty Cache	•		
Maximum Latency	•	•	•
Average Latency	•	•	•
Minimum Latency	•	•	•
IO request	•	•	•

#### ***Viewing Logical Drive Performance***

To view the Logical Drive performance:

1. Click the **AdminTool** tab.
2. Click the **Performance Monitor** button.
3. Click the **Select Logical Drives** button to choose the logical drive you want.
4. Choose a performance type from the dropdown menu.

#### ***Viewing Physical Drive Performance***

To view the Physical Drive performance:

1. Click the **AdminTool** tab.
2. Click the **Performance Monitor** button.
3. Click the **Select Physical Drives** button to choose the physical drive you want.

- 
4. Choose a performance type from the dropdown menu.

### ***Viewing Port Performance***

To view the Port performance:

1. Click the **AdminTool** tab.
2. Click the **Performance Monitor** button.
3. Click the **Select Ports** button to choose the port you want.
4. Choose a performance type from the dropdown menu.

### **3.8.10 Restore Factory Default Settings**

The Restore Factory Default function restores the default settings for the NAS system.



#### **Caution**

Use this feature only when required and only on the settings that you must reset to default in order to set them correctly.

To restore the factory default settings:

1. Click the **AdminTool** tab.
2. Click the **Restore Factory Default** button.
3. Check the boxes beside the settings you want to reset to default value.
4. Click the **Submit** button.
5. Click the **OK** button in the confirmation box.

---

### 3.8.11 System Configuration Files

#### ***Importing a System Configuration File***

To import the configuration file to the NAS:

1. Click the **AdminTool** tab.
2. Click the **Configuration File** button.
3. Click the **Import** button.
4. Click the **Browse** button to locate the configuration file (.bcf), and click the **Open** button.
5. Click the **Submit** button.

The NAS system automatically reboots.

#### ***Exporting a System Configuration File***

To export the current configuration file:

1. Click the **AdminTool** tab.
2. Click the **Configuration File** button.
3. Click the **Export** button.
4. Click the **Submit** button.

The current configuration is saved as a .bcf file in your Host PC.

### 3.8.12 LUNMap Management

The LUN Mapping function allows you to control what storage arrays are visible to which computers.

#### ***Adding an Initiator***

To add an initiator:

1. Click the **AdminTool** tab.
2. Click the **LUNMap** button.

- 
3. Click the **Add Initiator** button.
  4. Enter a name in the **Initiator Name** field and click the **Submit** button.  
The initiator is added in the LUNMap list.

### ***Defining LUN Mapping***

To define the LUN Mapping:

1. Click the **AdminTool** tab.
2. Click the **LUNMap** button.
3. Click the **LUN Mapping** button.
4. Select the initiator you want from the dropdown menu and click the **Next** button.
5. In the LUN Mapping field, indicate the arrays you wish to make visible by putting a unique number in the LUN field.
6. Click the **Assign** button.
7. Click the **Submit** button.
8. Check the **Enable LUN Masking** option to enable the LUN Mapping and Masking function of the NAS.

### **3.8.13 Power Option**

The Power Option screen displays the power management of the NAS system.

To change Power Option settings:

1. Click the **AdminTool** tab.
2. Click the **Power Option** button.
3. Mouse-over the item and clicking the **Settings** button.

- 
- Power On LAN – When the NAS system is shut down, this feature powers on automatically in the event of network activity.
  - Power On Automatically – When to power on the NAS system automatically.

4. Click the **Save** button.

### **3.8.14 Message Alerts**

The Message Alert function allows the user to receive an e-mail alert for the events of the NAS system.

#### ***Setting-up Email Alert Service***

To set up the e-mail service for the NAS system:

1. Click the **AdminTool** tab.
2. Click the **Message Alert** button.
3. Click the **Setup** button.
4. Make the settings as required.
  - Enable Services – Check to enable message alert service.
  - SMTP Server – Enter the IP address of SMTP server.
  - SMTP Port – Enter the port number of SMTP server
  - From – The sender of the notification message.
  - SMTP Authentication
  - Username – Enter the username to log in the SMTP server.
  - Password – Enter the password to log in the SMTP server.
5. Click the **Save** button.

---

## ***Adding an E-Mail Account***

To add an E-Mail account:

1. Click the **AdminTool** tab.
2. Click the **Message Alert** button.
3. Click the **Create** button.
4. Enter your e-mail address.
5. Click the **Save** button.

## ***Editing an E-Mail Account***

To edit an E-Mail account:

1. Click the **AdminTool** tab.
2. Click the **Message Alert** button.
3. Mouse-over the e-mail account you want to edit and click the **Setting** button.
4. Change the email address as required.
5. Click the **Save** button.

## ***Deleting an E-Mail Account***

To delete an E-Mail account:

1. Click the **AdminTool** tab.
2. Click the **Message Alert** button.
3. Mouse-over the e-mail account you want to edit and click the **Delete** button.
4. Click the **Confirm** button.



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### 3.8.15 Network Security

#### ***Setting-up a Security Policy***

To set up a Security Policy:

1. Click the **AdminTool** tab.
2. Click the **Network Security** button.
3. Click the **Security Policy** button.
4. Make the required settings.
  - HTTPs Redirection
  - I/O Policy
  - IP Address or Domain Name
5. Click the **Save** button.

#### ***Setting-up Access Protection***

To set up Access Protection:

1. Click the **AdminTool** tab.
2. Click the **Network Security** button.
3. Click the **Access Protection** button.
4. Make the required settings.
  - Enable Services – Check to enable.
  - Block Policy – Time interval and number of unsuccessful attempts.
  - Protocols – Choose one or more. SSH, Telnet, FTP, AFP, Samba, WebDAV, and HTTP/HTTPS.
5. Click the **Save** button.

---

## ***Setting-up an SSL Certificate***

To set up SSL Certificate:

1. Click the **AdminTool** tab.
2. Click the **Network Security** button.
3. Click the **SSL Certificate** button.
4. Make the required settings.
  - Specific SSL Certificate – Check to enable the function.
  - Certificate (X.509 format)
  - Private Key (X.509 format)
5. Click the **Save** button.

## ***3.9 NAS Tab***

### ***3.9.1 Setup Wizard***

The system's Wizard lets you configure your disk array(s) easily and quickly. The Wizard will guide you through the required settings step by step. You can choose to configure:

- Automatically using One-Click Setup.
- Manually using Advance Setup

### ***Using the Automatic Configuration Wizard***

1. Click the **NAS** tab.
2. Click the **Wizard** button.
3. Click the **One-Click Setup** tab.

The Summary window displays the general information of the system, including:

- Computer Name – Of the NAS system

- 
- IP Address – Of the NAS system
  - Storage Type – Data Protection
4. To accept the proposed configuration, click the **Submit** button.

The NAS system creates the RAID volume based on the number of the physical drives available.

1 drive – RAID 0	3 to 5 drives – RAID 5
2 drives – RAID 1	6 drives – RAID 6

If you disagree with the proposed configuration, click the **Advance Setup** button to directly specify your parameters.

### ***Using the Advanced Configuration Wizard***

1. Click the **NAS** tab.
2. Click the **Wizard** button.
3. Click the **Advance Setup** tab.
4. Make settings as required.
  - Computer Name – Of the NAS system.
  - Obtain an IP address automatically – Requires a DHCP server on your network.
  - IP Address – Of the NAS system.
  - Subnet Mask – Of your network.
  - Default Gateway Mask – Of your network.
  - Primary DNS Mask – Of your network.
  - Secondary DNS Mask – Of your network.
5. Click the **Next** button.
6. Choose a Storage Type.
  - Data Protection – RAID 0

- 
- Maximum Capacity – The RAID level depends on number of physical drives available.

7. Click the **Next** button.

The Summary window displays the general information of the system, including:

- Computer Name – Of the NAS system
- IP Address – Of the NAS system
- Storage Type – Data Protection or Maximum Capacity

8. To accept the proposed configuration, click the **Submit** button.

### **3.9.2 User Account Management**

#### ***Adding Users***

To add users for the NAS system:

1. Click the **NAS** tab.
2. Click the **NAS User** button.
3. Click the **Create User** button.
4. Make settings as required.
  - User Name
  - Password
  - Retype Password
5. Click the **Save** button.

See “Making User and Group Permission Settings” on page 70.

#### ***Editing User Information***

To edit user information:

1. Click the **NAS** tab.

- 
2. Click the **NAS User** button.
  3. Mouse-over the user you want and click the **Change Password** button.
  4. Type the new password in the fields provided.
  5. Click the **Save** button.

### ***Deleting Users***

To delete a user:

1. Click the **NAS** tab.
2. Click the **NAS User** button.
3. Mouse-over the user you want to delete and click the **Delete** button.
4. Click the **Confirm** button.

### ***Adding a Group of Users***

To add a group of users:

1. Click the **NAS** tab.
2. Click the **NAS User** button.
3. Click the **Group** button.
4. Click the **Create Group** button.
5. Enter the Group Name and click the **Next** button.
6. Click the users under NAS users to move them to under the Group name and click the **Submit** button.



#### **Note**

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You cannot add the administrator or guest users to a group.  
Each user can only belong to one group.

---

---

## ***Adding and Removing Users from a Group***

To add or remove users from a group:

1. Click the **NAS** tab.
2. Click the **NAS User** button.
3. Click the **Group** button.
4. Mouse-over the group you want to change and click the **Group Settings** button.
5. Click each user name to move it to the other list.
  - Group Name – Members of this group
  - NAS User – Not a member of this group
6. Click the **Save** button.

## ***Making User and Group Permission Settings***

When the new user or group is added, you must make permission settings for each user/group to access the system. Follow the steps below to complete the settings:

1. Click the **NAS** tab.
2. Click the **File Sharing** button.
3. From the File Sharing list, mouse-over the folder you want and click the **Share Settings** button.
4. Select the user or group you want and set one of the access options. Deny-Access, Read-Only, or Read-Write
5. Click the **Save** button.

## ***Deleting a Group of Users***

To delete a group:

- 
1. Click the **NAS** tab.
  2. Click the **NAS User** button.
  3. Click the **Group** button.
  4. Mouse-over the group you want to delete and click the **Delete** button.
  5. Click the **Confirm** button.



#### Note

---

You must delete all users from a group before you can delete the group.

---

### 3.9.3 Protocol Control and Setting

1. Click the **NAS** tab.
2. Click the **Protocol Control** button.
3. In the Protocol Control list, mouse-over the protocol option you want and click the **Enable/Disable** button to turn the feature on or off.

To configure the advanced settings, mouse-over the protocol option and click the **Settings** button.

### 3.9.4 File System Management

#### *Viewing File System Information*

To view file system information:

1. Click the **NAS** tab.
2. Click the **File System** button.
3. In the File System list, mouse-over the item you want and click the **View** button.

---

## ***Setting a File System Quota***

To set a file system quota:

1. Click the **NAS** tab.
2. Click the **File System** button.
3. In the File System list, mouse-over the item you want and click the **Quota** button.

## ***Deleting a File System***

To delete a file system:

1. Click the **NAS** tab.
2. Click the **File System** button.
3. In the File System list, mouse-over the item you want and click the **Delete** button.
4. Click the **Confirm** button.

## **3.9.5 File Sharing Management**

### ***Creating an ISO Folder***

1. Click the **NAS** tab.
2. Click the **File Sharing** button.
3. Click the **Create ISO Folder** button.
4. Enter the Source Folder, ISO Image File and Folder Name, and click the **Next** button.
5. Select the protocol and click the **Next** button.
6. Windows/FTP or UNIX/LINUX only. In the Permission Setting field, set the privilege for the users to access the folder.



---

Deny-Access, Read-Only, or Read-Write

Click the **Next** button.

7. Click the **Submit** button.

## ***Making ISO Folder Settings***

1. Click the **NAS** tab.
2. Click the **File Sharing** button.
3. In the File Sharing list, mouse-over the folder you want and click the **Share Setting** button.
4. Make settings changes as required.
  - Windows/Mac/FTP/WebDAV – Select the Protocol for your networking configuration. Set the Permissions for each user and group.
  - UNIX/LINUX – Add the IP address in the New IP Address box then click the Add button for sharing.  
Enter \*.\*.\* if all IP addresses are allowed to share.
5. Click the **Save** button.

## ***Creating a Folder***

1. Click the **NAS** tab.
2. Click the **File Sharing** button.
3. Click the **Create Folder** button.
4. Enter the Volume and Folder Name and click the **Next** button.
5. Select the protocol as Windows/FTP or UNIX/LINUX and click the **Next** button.

- 
6. In the Permission Setting field, set the privilege for the users to access the folder and click the **Next** button.  
Deny-Access, Read-Only, or Read-Write
  7. Click the **Submit** button.

### ***Changing Folder Settings***

1. Click the **NAS** tab.
2. Click the **File Sharing** button.
3. In the File Sharing list, mouse-over the folder and click the **Share Setting** button.
4. Make settings changes as required.
  - Windows/Mac/FTP/WebDAV – Select the Protocol for your networking configuration, and set up the Permission Setting for each user/group.
  - UNIX/LINUX – Add the IP address in the New IP Address box then click the Add button for sharing.  
Enter \*.\*.\*.\* if all IP addresses are allowed to share.
5. Click the **Save** button.

### ***Setting up Folder Sharing***

1. Click the **NAS** tab.
2. Click the **File Sharing** button.
3. In the File Sharing list, mouse-over the folder and click the **Share Setting** button.
4. Make settings as required.
  - Windows (CIFS)

---

Group	Member	Result
Deny-Access	Deny-Access	Deny-Access
	Read-Only	Deny-Access
	Read-Write	Deny-Access
Read-Only	Deny-Access	Deny-Access
	Read-Only	Read-Only
	Read-Write	Read-Write

Read-Write	Deny-Access	Deny-Access
	Read-Only	Read-Write
	Read-Write	Read-Write

- Mac (AFP)

Group	Member	Result
Deny-Access	Deny-Access	Deny-Access
	Read-Only	Deny-Access
	Read-Write	Deny-Access
Read-Only	Deny-Access	Deny-Access
	Read-Only	Read-Only
	Read-Write	Read-Only
Read-Write	Deny-Access	Deny-Access
	Read-Only	Read-Only
	Read-Write	Read-Write

- FTP

Group	Member	Result
Deny-Access	Deny-Access	Deny-Access
	Read-Only	Deny-Access
	Read-Write	Deny-Access
Read-Only	Deny-Access	Deny-Access
	Read-Only	Read-Only

---

	Read-Write	Read-Write
Read-Write	Deny-Access	Deny-Access
	Read-Only	Read-Write
	Read-Write	Read-Write

- 
- WebDAV

Group	Member	Result
Deny-Access	Deny-Access	Deny-Access
	Read-Only	Deny-Access
	Read-Write	Deny-Access
Read-Only	Deny-Access	Deny-Access
	Read-Only	Read-Only
	Read-Write	Read-Only
Read-Write	Deny-Access	Deny-Access
	Read-Only	Read-Only
	Read-Write	Read-Write

- UNIX/LINUX -- Add the IP address in the New IP Address box then click the Add button for sharing.

Enter \*.\*.\* if all IP addresses are allowed to share.

5. Click the **Save** button.

### 3.9.6 Backup Management

#### *Choosing a Backup Solution*

1. Click the **NAS** tab.
2. Click the **Backup** button.
3. Click the tab for the Backup solution you want.
  - Snapshot Backup
  - Remote Backup
  - Local Backup
  - Client Backup

- 
- Amazon S3

## ***Setting up Snapshot Backup***

1. Click the **NAS** tab.
2. Click the **Backup** button.
3. Click the **Snapshot Backup** tab.
4. Click the **Create** button.
5. Make settings as required.
  - Choose a Volume from the dropdown menu.
  - From the Reserve Capacity for Snapshot dropdown menu, assign the reserved capacity for the backup solution.
  - Check the Auto Extend box to enable this function.
  - Choose a Snapshot schedule.
  - Disable – No snapshots taken.
  - Time interval by hour – Snapshots are taken at the hourly interval you choose from the dropdown menu.
  - Daily – Snapshots are taken at the time of day you choose from the dropdown menus.
  - Weekly – Snapshots are taken on the day of the week, at the time of day you choose from the dropdown menus.
6. Click the **Run** button.

The new backup schedule is applied.

## ***Changing Snapshot Backup Schedule Settings***

1. Click the **NAS** tab.

- 
2. Click the **Backup** button.
  3. Click the **Snapshot Backup** tab.
  4. Mouse-over the item schedule you want and click the **Settings** button.
  5. Make settings as required.
  6. Click the **Run** button.

The new backup schedule is applied.

### ***Deleting a Snapshot Backup Schedule***

1. Click the **NAS** tab.
2. Click the **Backup** button.
3. Click the **Snapshot Backup** tab.
4. Mouse-over the item schedule you want and click the **Delete** button.
5. Click the **Confirm** button.

### ***Performing a Remote Backup***

1. Click the **NAS** tab.
2. Click the **Backup** button.
3. Click the **Remote Backup** tab.
4. Click the **Create** button.
5. Make settings as required.
  - Source Path
  - Backup Server – Enter the IP address of the remote backup server.
  - Port -- Enter the port number for the remote backup server.

- 
- User Name – Enter the user name to login the remote backup server.
  - Password – Enter the password to login the remote backup server.
  - Enable SSL – Select this option if the server requires SSL.
  - Snapshot – Select this option if you want to upload snapshot of backup to the server.
  - Choose a Snapshot schedule.
  - Disable – No snapshots are taken.
  - Time interval by hour – Snapshots are taken at the hourly interval you choose from the dropdown menu.
  - Daily – Snapshots are taken at the time of day you choose from the dropdown menus.
  - Weekly – Snapshots are taken on the day of the week, at the time of day you choose from the dropdown menus.
6. Click the **Test** button to test the server before applying the settings.
  7. Click the **Run** button.

### Notes



- The USB port on the front panel backs- up files from the Flash drive to the NAS system.
  - The four USB ports on the back panel back-up files from the NAS system to the Flash drive.
-



---

## ***Local Backup***

Local Backup enables you to change the backup services of the NAS system and the USB storage device.

To set the Local Backup settings:

1. Click the **NAS** tab.
2. Click the **Backup** button.
3. Click the **Local Backup** tab.
4. Mouse-over the USB device you want and click the **Settings** button.
5. Make settings as required.
  - Check the Enable Services box to enable the backup solution.
  - Choose a Backup Method from the dropdown menu.
  - Add, Directory, Copy, or Synchronize.
  - Choose the Folder Name you want from the list.
6. Do one of the following actions.
  - Click the **Save** button to apply the settings.
  - Click the **Run** button to backup immediately.
  - Select the schedule type you want for the backup solution.

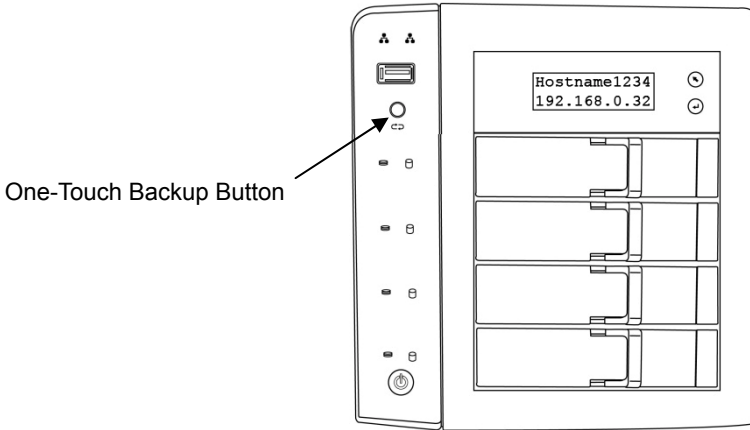
## ***Enabling One-Touch Backup***

One-Touch Backup enables you to back-up specified folders from your PC to the NAS system by simply pressing a button on the front of the NAS system.

1. Click the **NAS** tab.
2. Click the **Backup** button.
3. Click the **Client Backup** tab.

- 
4. Check the **One Touch Backup** box to enable this backup solution.

With One-Touch Backup enabled, press the One-Touch Backup button the front of the NAS system.



To disable One-Touch Backup:

1. Click the **NAS** tab.
2. Click the **Backup** button.
3. Click the **Client Backup** tab.
4. Uncheck the **One Touch Backup** box.
5. Click the **Save** button.

### ***Amazon S3 Backup***

**Amazon S3** enables you to upload backup files to an Amazon S3 server.

1. Click the **NAS** tab.
  2. Click the **Backup** button.
  3. Click the **Amazon S3** tab.
  4. Click the **Create** button.
  5. Make the required settings in the Create Amazon S3 Backup window.
-

- 
- Local Path
  - Direction
  - Download – From the Amazon S3 to your system
  - Upload – From your system to the Amazon S3
  - Access Key – For the Amazon S3 server
  - Private Key – For the Amazon S3 server
  - Retries Number
  - Incremental Backup – Backs up updated files only.
  - Synchronized Backup – Deletes any extra files while synchronizing.
  - Schedule
  - Disable – No snapshots are taken.
  - Time interval by hour – Snapshots are taken at the hourly interval you choose from the dropdown menu.
  - Daily – Snapshots are taken at the time of day you choose from the dropdown menus.
  - Weekly – Snapshots are taken on the day of the week, at the time of day you choose from the dropdown menus.
6. Click the **Run** button.

The new backup schedule is applied.

Click the **Test** button to test the server before applying the settings.

To change the settings of the backup solution, move you mouse over the item you want and click the option button.

---

### 3.9.7 Plug-in Management

You must download the plug-in to your PC before you can add it to ShareCenter Pro.

To add a plug-in:

1. Click the **NAS** tab.
2. Click the **Plug-in** button.
3. Click the **Add** button.
4. Click the Browse button and navigate to the plug-in you want to add.
5. Click the **Install** button.

The plug-in is added.



#### Warning

Do not disconnect the power or shut down the NAS system while the plug-in installation is running!

To manage a plug-in:

1. Click the **NAS** tab.
2. Click the **Plug-in** button.
3. In the plug-in list mouse-over the plug-in you want and,
  - Click the Open button to display the plug-in application in a new window.
  - Click the Stop button to stop the plug-in.
  - Click the Start button to start the plug-in.
  - Click the Re-Install button to re-install the plug-in.

---

### 3.9.8 iSCSI Initiator Management

The iSCSI feature enables you to use the disk volume on NAS system as a virtual drive on your computer.

To add an iSCSI initiator:

1. Click the **NAS** tab.
2. Click the **iSCSI Initiator** button.
3. Click the **Create** button.
4. Enter the required information.
  - IP address of your computer
  - iSCSI port number on your computer
5. Click the **Connect** button.

---

# Chapter 4: ShareCenterNAVI

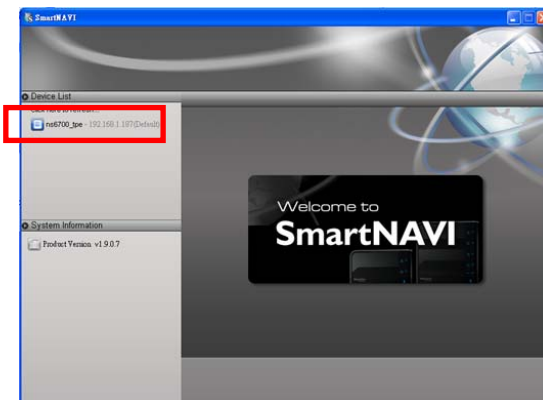
## 4.1 Working with ShareCenterNAVI

The ShareCenterNAVI software connects your PC to the NAS system, performs backups, changes the network settings, creates RAID volumes, adds and mounts folders, and manages file downloads from the Internet.

### 4.1.1 Opening the Main Window

To open the Main Window:

1. Do one of the following actions.
  - If neither Window is open, double-click the ShareCenterNAVI icon in the Windows application tray or Mac Dock (right).
  - If the ShareCenterNAVI Window is open, double-click a system in the Device List.
2. When the ShareCenterNAVI Window opens, double-click a system in the Device List.



ShareCenterNAVI  
I in Windows



ShareCenterNAVI  
VI in Mac OS X

- 
3. When the login window appears, enter the user name and password.  
Click the Login then Yes to login the system.
- The default user name is administrator.
  - The default password is password.
  - The user name and password are case sensitive.



The Main Window opens, which contains the management features of ShareCenterNAVI.

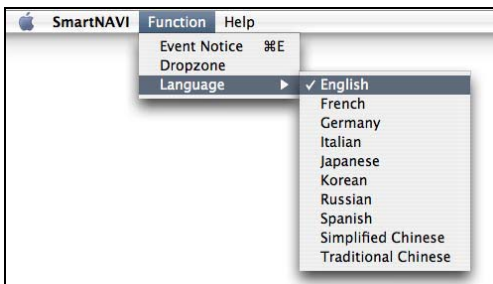
### 4.1.2 Choosing a Display Language

On Windows PCs, ShareCenterNAVI chooses the display language automatically based on your OS language setting.

On Macs, you choose the display language.

To choose a language on a Mac:

1. Open the ShareCenterNAVI Window.
2. From the dropdown menus, choose **Function > Language**, then choose the language you prefer.



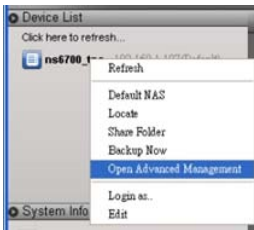
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### 4.1.3 Starting ShareCenter Pro

This feature opens ShareCenter Pro in your default browser.

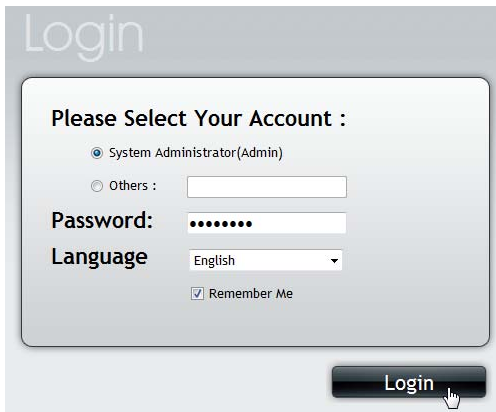
#### ***Main Window***

1. Right-click the system in the Device List that you want to open in ShareCenter Pro.



2. Choose the Open Advanced Management item.

The ShareCenter Pro login screen appears in your browser.



### 4.1.4 ShareCenterNAVI Information

#### ***Viewing ShareCenterNAVI on Windows***

ShareCenterNAVI is the software application that connects your PC with the NAS system.

To view information about ShareCenterNAVI on Windows:



- 
1. Right-click the **ShareCenterNAVI** icon in the application tray.
  2. Choose **About** from the popup menu.



### ***Viewing ShareCenterNAVI on Mac***

To view information about ShareCenterNAVI on Mac:

1. From the dropdown menus at the top of the screen, choose **Help > About**.

The About window appears and lists the following information:



- ShareCenterNAVI Version number
- Java Virtual Machine (JVM) Version number
- JVM Vendor name
- ShareCenterNAVI installation directory on your PC
- ShareCenterNAVI Plug-in directory on your PC
- Names of installed Plug-ins
- Version numbers of installed Plug-ins

2. When you are done, click the **Close** button.

### **4.1.5 Closing ShareCenterNAVI**

To close ShareCenterNAVI:

Click the close icon on the Main Window.

- Windows: Click the  icon in the top right corner.
- Mac: Click the  icon in the top left corner.

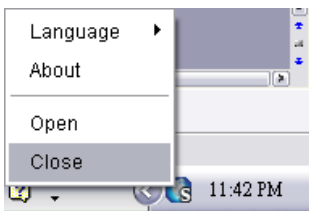
---

For Windows PCs, if you close ShareCenterNAVI this way, you can open it from the application tray icon.

### ***Alternative Method for Windows***

To close ShareCenterNAVI:

1. Right-click the **ShareCenterNAVI** icon in the application tray.
2. Choose **Close** from the popup menu.



If you close ShareCenterNAVI this way, you must open it from the Windows **Start** menu.

## **4.2 Managing Backups**



### **Caution**

---

Do not close the ShareCenterNAVI or log out the Windows PC while you are setting a scheduled backup or running a back-up.

---

### **4.2.1 Doing a Backup Now**

This feature enables you to perform an immediate schedule backup of your files from your Windows or Mac to the NAS system (ShareCenterNAVI).


You can perform an immediate backup of your files from:

- ShareCenterNAVI Main Window
- ShareCenterNAVI Device List
- ShareCenterNAVI tray icon (Windows PCs only)
- One Touch Button

---

## **Main Window**

If you do not have a backup schedule for your PC, start your backup from the ShareCenterNAVI Main Window.

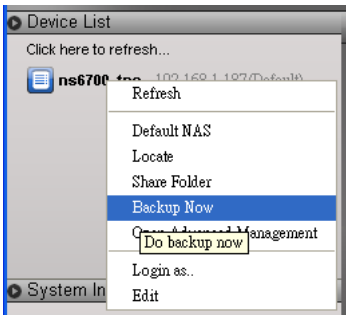
1. Go to the Main Window.
2. Click the **SmartSYNC** icon.
3. Click the **Backup** button.
4. Under Backup your data to, choose:
  - The NAS or Local drive (your PC or MAC) from the first dropdown menu.
  - The letter designation of your PC or MAC drive under the second dropdown menu.
5. Do any of the following actions to select your backup folders:
  - Check the Backup My Data box – Selects the My Documents, Favorites, and Desktop folders with all their contents.
  - Click the Add to Backup  icon – Opens the My Documents folder. Click a folder you want to back up, then click the Choose button. Repeat for additional folders.
  - Drag and drop the folders you want to back up to the Backup your data from window.
6. Click the **Backup** button.

The backup begins immediately.

## **Device List**

Before you can do a back-up from the ShareCenterNAVI Main Window, you must create a backup schedule.

- 
1. Go to the Main Window.
  2. Right-click the system in the Device List whose backup you want to run.
  3. Choose the **Backup Now** option.
- The backup begins immediately.



## **Tray Icon**

Before you can do a backup from the ShareCenterNAVI tray icon, you must create a backup schedule and setup default NAS first. This feature applies to Windows PCs only.

1. Right-click the **ShareCenterNAVI** icon in the application tray.
2. Choose **Backup Now** in the popup menu.

The backup begins immediately.

The amount of time required depends on the size and number of files being backed up.

The backed up files appear on the NAS system in ShareCenterNAVI in a folder named BACKUPDATA\_ your username.


You can restore the backup files to your PC at any time.

---

## 4.2.2 Scheduling a Backup

You can schedule backups by the hour, day, or week.

To set a schedule for backing up files from your PC to the NAS system:

1. Go to the Main Window.
2. Click the **SmartSYNC** icon.
3. Click the **Backup** button.
4. Under Backup your data to, choose
  - The NAS or Local drive (your PC or MAC) from the first dropdown menu.
  - The letter designation of your PC or MAC drive under the second dropdown menu.
5. Do any of the following actions to select your backup folders.
  - Check the Backup My Data box – Selects the My Documents, Favorites, and Desktop folders with all their contents.
  - Click the Add to Backup  icon – Opens the My Documents folder. Click a folder you want to backup, and then click the Choose button. Repeat for additional folders.
  - Drag and drop the folders you want to back up to the Backup your data from window.
6. Click the **Schedule** button.
7. Click an option button for
  - Hour

- 
- Day
  - Day of the week
8. Choose the corresponding values from the dropdown menus:
    - Number of hours
    - Time of day in hours and minutes
    - Time of day and day of the week
  9. Click the **Add** button.

The newly created schedule appears in the **Schedule List**.

The backed up files will appear on the NAS in a folder named **BACKUPDATA\_your username**.

You can also click the **Start** button to run a scheduled backup immediately.

### 4.2.3 Viewing Backup Schedules

To view the list of current schedules:

1. Go to the Main Window.
2. Click the **SmartSYNC** icon.
3. Click the **Schedule List** button.

The list of all backup schedules appears.

### 4.2.4 Changing a Scheduled Backup

You can schedule backups by the hour, day, or week.

To change the scheduled backup of files from your PC to the NAS system:


1. Go to the Main Window.
2. Click the **SmartSYNC** icon.
3. Click the **Schedule List** button.

---

4. Click the schedule you want to change.

5. Click the **Modify** button.

6. Click the folder whose contents you want to backup.

7. Click the **Add to Backup**  icon to expand the tree and narrow your choices.

8. Click the **Schedule** button.

9. Click an option button for

- Hour
- Day
- Day of the week

10. Choose the corresponding values from the dropdown menus:

- Number of hours
- Time of day in hours and minutes
- Time of day and day of the week

11. Click the **Add** button.

The modified schedule appears in the **Schedule List**.

You can also click the **Start** button to run a scheduled backup immediately.

## 4.2.5 Deleting a Scheduled Backup

Deleting a scheduled backup has no effect upon any files previously backed-up to the NAS system.

To delete a scheduled backup:

1. Go to the Main Window.

- 
2. Click the **SmartSYNC** icon.
  3. Click the **Schedule List** button.
  4. Click the schedule you want to delete.
  5. Click the **Delete** button.
  6. Click the **Yes** button in the confirmation box.

## 4.2.6 Restoring Backed-up Files

You can restore all or any portion of the files in the **BACKUPDATA\_your username** folder on the NAS system.

You can choose to restore the files to their original location or an alternative location.

The original file structure is maintained during backup and restoration.

### Caution



If you restore to the original folders on your PC, the restore function will overwrite the files in those folders.

Be careful which files you restore and where on your PC you direct the backup files.

To restore your backed-up files from the NAS system to your PC:

1. Go to the Main Window.
2. Click the **SmartSYNC** icon.
3. Click the **Restore** button.
4. Click the folder whose contents you want to restore.
5. Click the arrow icons to expand the tree and narrow your choices.
6. Click an option button.
  - Restore to original folder -- The backup files overwrite the files on your PC



- 
- Restore to a specific folder -- No files are overwritten on your PC
7. If you chose **Restore to a specific folder**, do one of the following actions.
    - Type the name of an existing folder in the field provided.
    - Type the name of a new folder in the field provided.
    - Click the Folder icon -- Opens the My Documents folder.
    - Click a folder you want to use for a target, then click the **Open** button.
  8. Click the **Restore** button.
  9. Click the **Yes** button in the confirmation box.

The restoration begins immediately.

The amount of time required depends on the size and number of files being restored.

## 4.2.7 Viewing the Backup Event Log

Backup events report on backups, schedules, and file transfers.

Events are reported by date, time, severity (information or error) and description.

To view Backup Event Log:

1. Go to the Main Window.
2. Click the **SmartSYNC** icon.
3. Click the **Event Log** button.
4. Optional. Set the Event Filter dropdown menu to display.
  - All events
  - Information events only

- 
- Error events only
5. Optional. Click the arrow on the **Date/Time** header to reverse the chronological order.



#### Note

For NAS system events, see “Viewing the System Event Log” on page 129.

### 4.2.8 Saving the Event Log

This function saves a copy of the Backup Event Log as a text file onto your PC.

The text file records the events displayed in the Event Log window.

Set the Event Filter dropdown menu to display:

- All events
- Information events only
- Error events only

Click the arrow on the **Date/Time** header to reverse the chronological order.

#### ***Saving the Backup Event Log***

To save a copy of the Backup Event Log as a text file:

1. Go to the Main Window.
2. Click the **SmartSYNC** icon.
3. Click the **Event Log** button.
4. Click the **Save** button.
5. Optional. Change the file name or save to a different location.
6. Click the **Save** button in the Save dialog box.

---

## 4.2.9 Clearing the Event Log



### Note

Before you clear the Backup Event Log, consider saving a copy for future reference.

To clear the Backup Event Log:

1. Go to the Main Window.
2. Click the **SmartSYNC** icon.
3. Click the **Event Log** button.
4. Click the **Clear All** button.
5. Click the **Yes** button in the confirmation box.

### 4.2.10 Setting the Port

By using port setting, the public services like a WWW server or an FTP server, and others running on your private network may become accessible from the Internet.

To set the Port:

1. Go to the Main Window.
2. Click the **SmartSYNC** icon.
3. Click the **Setting** button.
4. Type the Port number in the field provided.  
The default number is 873.
5. Click the **OK** button.  
The setting begins immediately.
6. Click the **OK** button in the confirmation box.

---

## 4.3 Managing Share Folders

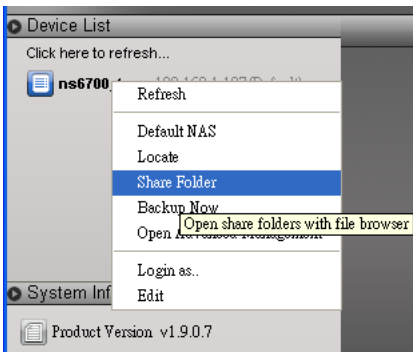
### 4.3.1 Opening a Share Folder

This feature opens share folders in the file browser.

#### **Device List**

To open a share folder from the Device List:

1. Right-click the system in the Device List whose share folders you want to open.
2. Click **Share Folders**.



All share folders open in your PC's file browser.

#### **Main Window**

To open a share folder from the Main Window:

1. Click the **Share Folder** icon.
2. Double-click the folder in the Share Folder List that you want to open.

The share folder opens in your PC's file browser.

#### **Tray Icon**

To open a share folder from Tray Icon:

1. Right-click the **ShareCenterNAVI** icon in the application tray.

- 
2. Choose **Share Folder** in the popup menu.

All share folders open in your PC's file browser.

### 4.3.2 Viewing a List of Share Folders

To view a list of Share Folders:

1. Go to the Main Window.
2. Click the **Share Folder** icon.
3. Click the **Share Folder List** button.

The Share Folder List appears.

4. Double-click the individual share folder to view its contents.

### 4.3.3 Mounting a Share Folder / Creating a Network Drive

To mount a share folder or create a network drive (Windows):

1. Go to the Main Window.
2. Click the **Share Folder** icon.
3. Click the **Mount Share Folder** button.
4. Click the share folder you want to mount or make a network drive.  
The folder name is highlighted.
5. Choose a device name (drive letter) from the dropdown menu.

6. Click the **Mount** button.

The share folder appears on your PC as a mounted or network drive.

### 4.3.4 Un-mounting a Share Folder / Disconnecting a Network Drive

To un-mount a share folder or disconnect a network drive (Windows):

1. Go to the Main Window.

- 
2. Click the **Share Folder** icon.
  3. Click the **Mount Share Folder** button.
  4. Click the share folder you want to un-mount or delete as a network drive.

The folder name is highlighted.

5. Click the **Un-Mount** button.
6. Click the **Yes** button in the confirmation box.

The share folder is un-mounted or disconnected but the link remains.

### 4.3.5 Setting up a Share Folder for Time Machine

Time Machine is a backup utility included with Mac OS X 10.5 “Leopard” or higher.

Before you begin, be sure your Mac is running and connected to the same network as the NAS system.

#### ***In ShareCenterNAVI***

To set up a NAS system folder for Time Machine backups:

1. Go to the Main Window.
2. Click the **Share Folder** icon.
3. Click the **Mount Share Folder** button.
4. Click the share folder you want to use for Time Machine backups.
5. Check the **Support TimeMachine** box.
6. Click the **Mount** button.

A message appears, “This folder has been set to a network drive.”

---

### ***On the Mac, Time Machine NOT configured***

Follow this procedure if you have not set up Time Machine.

To set up the Mac for backups with NAS system:

1. On the desktop, go to the Dock and click the **Time Machine** icon.  
A popup message informs you that no storage location is set up.
2. In the popup message, click the **Set Up Time Machine** button.
3. In the Time Machine dialog box, click the **Choose Backup Disk...** button.
4. In the list of external drives, choose the share folder that you mounted on the NAS system and click the **Use for Backup** button.
5. In the Name and Password dialog box, enter your user name and password for NAS system, then click the **Connect** button.

### ***On the Mac, Time Machine Configured***

Follow this procedure if you currently have a Time Machine configuration.

To set up the Mac for backups with NAS system:

1. On the desktop, go to the Dock and click the **Time Machine** icon.
2. In the Time Machine dialog box, click the **Change Disk...** button.
3. In the list of external drives, choose the share folder that you mounted on the NAS system and click the **Use for Backup** button.
4. In the Name and Password dialog box, enter your user name and password for NAS system, then click the **Connect** button.

---

## 4.4 Making Management Settings

### 4.4.1 Configuring a NAS System

The Setup Wizard has two modes:

- One Click Setup – Loads a collection of default settings. Recommended for most users.
- Advanced Setup – Enables you to make your own settings. Recommended for advanced users.

#### Caution



If you restore to the original folders on your PC, the restore function overwrites the files in those folders.

Be careful which files you restore and where on your PC you direct the backup files.

#### One Click Setup

To configure your NAS system using One Click Setup:

1. Go to the Main Window.
2. Click the **Setup Wizard** icon.
3. Click the **One Click Setup** button.
4. Click the **OK** button to continue.
5. Click the **Yes** button in the confirmation box.

The NAS reboots. Then your RAID volume is ready.



---

## ***Advanced Setup***

To configure your NAS system using Advanced Setup:

1. Go to the Main Window.
2. Click the **Setup Wizard** icon.
3. Click the **Advanced Setup** button.
4. Choose **Automatic** (DHCP) or **Manual** network settings.
5. If you chose **Manual** settings, type entries for each of the following parameters in the fields provided.

- Computer (NAS system) Name
- IP Address
- Subnet Mask
- Gateway
- Primary and Secondary DNS – optional

Click the **Next** button to continue.

6. Choose the following values from their respective dropdown menus.

- Timezone
- Year
- Month
- Day
- Time in Hours, Minutes, and Seconds

Click the **Next** button to continue.

7. Choose Automatic or Manual RAID Volume creation.

---

8. If you chose Manual, choose the type of RAID Volume you want.

- Maximum Capacity and performance - RAID 0, using all physical drives
- Data Protection - RAID 5, using all physical drives

Click the **Next** button to continue.

9. Choose a network drive letter from the dropdown menu.

The drive is mapped as a network drive on your PC.

The list begins with Z and goes in reverse alphabetical order.

Click the **Next** button to continue.

10. Review your parameters.

- To make changes, click the Previous button.
- To accept the parameters and configure your NAS system, click the OK button.

11. Click the **Yes** button in the confirmation box.

The NAS reboots. Your RAID volume is ready.

---

## 4.4.2 Locating the NAS system

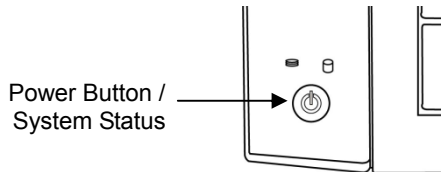
This feature helps you to physically locate a NAS system.

To locate a NAS system:

1. Go to the Main Window.
2. Right-click the system in the Device List that you want to locate.
3. Choose the Locate NAS item.

For a period of one minute:

- The buzzer sounds a repeating signal of two short beeps.
- The Power Button/Status LED blinks.



---

### 4.4.3 Wake-on-LAN

This feature allows you to turn on or wake up the NAS system by locate a NAS system.

To wake up a NAS system:

1. Go to the Main Window.
2. Right-click the system in the Device List that you want to wake up.
3. Choose the **Locate NAS** option.

It takes about a minute to boot the NAS system. When fully booted:

- The System Status LED turns blue.
- The buzzer beeps one time.

### 4.4.4 Choosing a Default NAS System

This feature sets the default NAS system (NAS system) for the Main Window and ShareCenterNAVI tray icon. A default NAS activates several important functions, including:

- Share Folder -- Opening a Share Folder
- Backup Now -- Performing an Immediate Backup
- Open Advanced Management -- Starting the Advanced Storage Manager
- Event Notice -- Enabling Event Notification

If you do not choose a default NAS, ShareCenterNAVI sets the default NAS after you first log on.

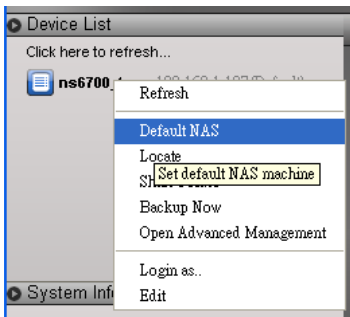
---

## Setting the default NAS

To set a default NAS:

1. Go to the Main Window.
2. Right-click the system in the Device List that you want to make the default.
3. Choose the **Default NAS** option.

The default NAS is highlighted in the Device List.



### 4.4.5 Viewing the System Event Log

NAS events report functions and status of the NAS system. The Event Log displays the 20 most recent events.

Events are reported by date, time, severity (information or warning) and description.

To view the NAS system is Event Log:

1. Go to the Main Window.
2. Click the **Smart SYNC** icon.
3. Click the **Event Log** button.

Click the arrow on the **Date/Time** header to reverse the chronological order.

---

#### 4.4.6 Installing Plug-ins

1. Go to the Main Window.
2. Click the **NAS Management** icon.
3. Click the **Configure Plugin** button.

The newly added plug-in appears in the list. Its Service Status is OFF.

4. Click the plug-in to choose it.

The plug-in's name is highlighted.

5. Click the **Enable** button.

After a moment, the Service Status changes to ON.

The plug-in is now installed NAS system.



#### Warning

Do not disconnect the power or shut down the NAS system while the plug-in installation is running!

#### 4.4.7 Viewing a List of Plug-ins

To view a list of installed plug-ins:

1. Go to the Main Window.
2. Click the **NAS Management** icon.
3. Click the **Configuration Plug-in** button.

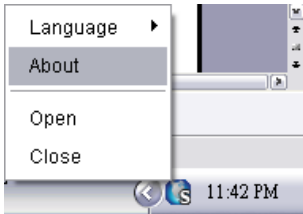
Currently installed plug-ins appear in the Configuration Plug-in list.

---

## 4.4.8 Viewing Plug-in Version Numbers

To view plug-in version numbers in Windows:

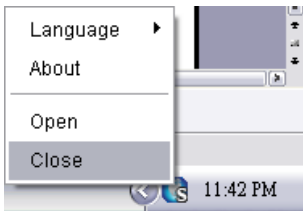
1. Right-click the ShareCenterNAVI icon in the application tray.



2. Choose **About** from the popup menu.

The About window appears. The About window includes a list of installed plug-ins and their version numbers.

3. When you are done with the About window, click the **Close** button.



## 4.4.9 Enabling and Disabling Plug-ins

### *Enabling Plug-ins*

You must add a plug-in to NAS system before you can use this function.

To enable a plug-in:

1. Go to the Main Window.
2. Click the **NAS Management** icon.
3. Click the **Configuration Plug-in** button.
4. Click the Plug-in you want to enable.

The plug-in is highlighted.

- 
5. Click the **Enable** button.

After a moment, the Service Status changes to ON.

The plug-in is now enabled on NAS system.

### ***Disabling Plug-ins***

Disabling a plug-in saves memory space and processing time on the NAS system. If you do not use a feature, consider disabling its plug-in.

To disable a plug-in:

1. Go to the Main Window.
2. Click the **NAS Management** icon.
3. Click the **Configuration Plug-in** button.
4. Click the Plug-in you want to disable.

The plug-in is highlighted.

5. Click the **Disable** button.

After a moment, the Service Status changes to OFF.

The plug-in is now disabled.

### **4.4.10 Removing Plug-ins**

There are two reasons to remove a plug-in:

- To replace the old plug-in with a new one.
- You know that you will never use the plug-in.

### ***Removing Plug-ins***

To remove a plug-in:

1. Go to the Main Window.
2. Click the **NAS Management** icon.
3. Click the **Configuration Plugin** button.
4. Click the Plug-in you want to remove.



---

The plug-in is highlighted.

5. Click the **Remove** button.
6. Click the **Yes** button in the confirmation box.

The plug-in is removed from ShareCenterNAVI.

#### **4.4.11 Rebooting the NAS System**

Normally you only need to reboot the NAS system is after a firmware upgrade or a plug-in installation.

During the reboot, none of your folders are accessible from your networked PCs.

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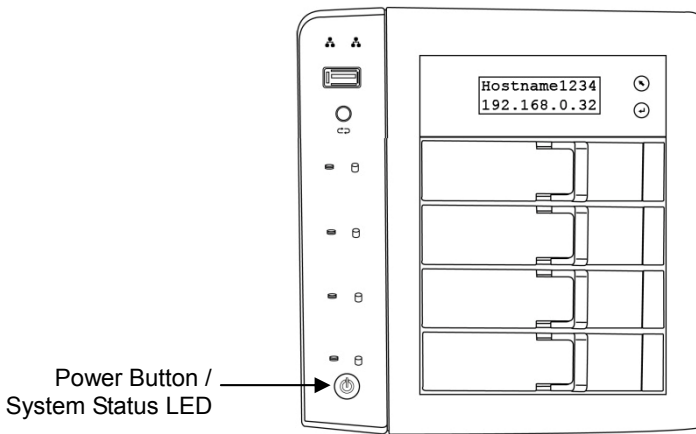
To reboot the NAS system:

1. Go to the Main Window.
2. Click the **NAS Management** icon.
3. Click the **Shutdown** button.
4. Click the **Restart** option.
5. Click the **OK** button.

The reboot runs automatically.

When the NAS system is fully booted:

- The system status LED turns blue
- The buzzer beeps one time (if the buzzer is enabled)



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## 4.4.12 Shutting Down the NAS system

The only time you need to shut down the NAS system is to replace the cooling fan or the power supply.

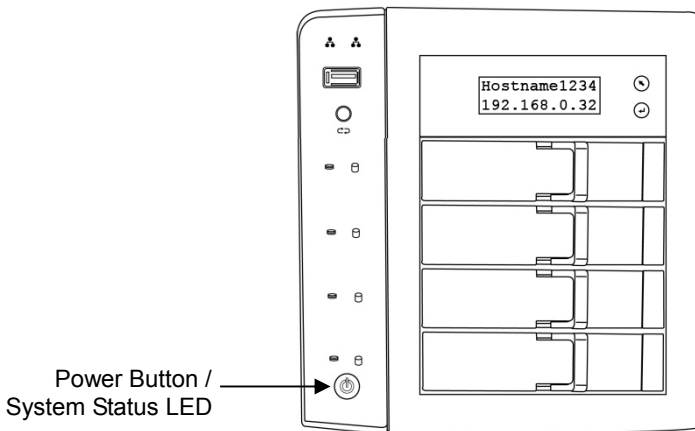
During and after the shutdown, none of your folders are accessible from your networked PCs.

To shut down the NAS system:

1. Go to the Main Window.
2. Click the **NAS Management** icon.
3. Click the **Shutdown** button.
4. Click the **Shutdown** option.
5. Click the **OK** button.

The shutdown runs automatically.

The system status LED turns red, and then goes dark.



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# Chapter 5: Licensing and Support

## ***GNU General Public License***

This product includes copyrighted third-party software licensed under the terms of the GNU General Public License. Please see the GNU General Public License ("GPL") for the exact terms and conditions of this license at <http://www.gnu.org>.

Subject to GPL, you may re-use, re-distribute and modify the GPL source code. Note that with respect solely to the GPL Software, no warranty is provided and we do not offer direct support for the distribution.

## ***Technical Support***

If you experience problems with setup or use of your DNS-1250-04 or DNS-1250-06 NAS system, please contact technical support before attempting to return the product.

D-Link support web site: <http://www.dlink.com>