



Verbatim PowerBay™ NAS Array

Version 2.00

User Manual



Table of Contents

Product Overview	2
<i>About this User Guide</i>	<i>2</i>
<i>Introduction</i>	<i>2</i>
<i>Package Contents</i>	<i>2</i>
<i>System Requirements</i>	<i>2</i>
<i>Features and Benefits.....</i>	<i>3</i>
<i>Hardware Overview</i>	<i>4</i>
Installation	6
<i>Before You Begin</i>	<i>6</i>
<i>Default Settings</i>	<i>6</i>
<i>Factory Reset Button</i>	<i>7</i>
<i>Basic Installation</i>	<i>7</i>
<i>Hardware Setup</i>	<i>7</i>
<i>Software Setup.....</i>	<i>8</i>
<i>Magical Finder - Network Setup Utility</i>	<i>8</i>
<i>Acronis Backup Software</i>	<i>10</i>
Web Configuration	10
<i>Wizard Pages</i>	<i>11</i>
<i>Home.....</i>	<i>12</i>
<i>Device Information.....</i>	<i>12</i>
<i>Networks</i>	<i>13</i>
<i>LAN Port.....</i>	<i>13</i>
<i>EXT Port.....</i>	<i>14</i>
<i>Basic Setup</i>	<i>14</i>
<i>Date and Time.....</i>	<i>15</i>
<i>Device Settings</i>	<i>15</i>
<i>Language Settings</i>	<i>17</i>
<i>Advanced Setup</i>	<i>17</i>
<i>Users.....</i>	<i>18</i>
<i>Groups</i>	<i>19</i>
<i>Shared Folders Settings.....</i>	<i>19</i>
<i>Quotas</i>	<i>20</i>
<i>FTP Server.....</i>	<i>20</i>
<i>NFS Server</i>	<i>21</i>
<i>Rsync Server.....</i>	<i>22</i>
<i>AFP</i>	<i>23</i>
<i>LLTD</i>	<i>23</i>
<i>Disk Management.....</i>	<i>24</i>
<i>Disk Status</i>	<i>24</i>

Table of Contents

<i>Disk Configuration</i>	<i>25</i>
<i>Array Mirroring to eSATA Drive.....</i>	<i>26</i>
<i>Array Encryption.....</i>	<i>27</i>
<i>Disk Configuration (Steps).....</i>	<i>29</i>
<i>Disk Utilities</i>	<i>31</i>
<i>Power Management</i>	<i>31</i>
<i>Download/Backup</i>	<i>32</i>
<i>FTP/HTTP</i>	<i>32</i>
<i>Schedule Status</i>	<i>33</i>
<i>USB/eSATA Backup</i>	<i>34</i>
<i>Schedule LAN Backup</i>	<i>34</i>
<i>Real Time LAN Backup</i>	<i>36</i>
<i>Maintenance.....</i>	<i>38</i>
<i>Password.....</i>	<i>38</i>
<i>System</i>	<i>39</i>
<i>Firmware</i>	<i>40</i>
<i>E-Mail Settings</i>	<i>41</i>
<i>E-Mail Alerts.....</i>	<i>42</i>
<i>System Status.....</i>	<i>42</i>
<i>Information</i>	<i>42</i>
<i>Help Menu</i>	<i>43</i>
Getting Help	44
Knowledge Base.....	44
<i>Sharing files using Windows</i>	<i>44</i>
<i>Run Dialogue</i>	<i>44</i>
<i>Browse Network Neighborhood.....</i>	<i>44</i>
<i>Search Dialogue.....</i>	<i>44</i>
<i>Browse My Computer.....</i>	<i>45</i>
<i>Sharing files using Mac OS X</i>	<i>45</i>
<i>Sharing files using Linux</i>	<i>45</i>
<i>USB Print Server Installation</i>	<i>46</i>
<i>Hot-Swap Function</i>	<i>48</i>
<i>What is RAID?.....</i>	<i>49</i>
Technical Specifications.....	50
Limited Warranty Terms.....	51
Rights	52
GNU General Public License	52
FCC Compliance	55

Product Overview

About this User Guide

This user guide describes the functionality of the Verbatim PowerBay™ Network Attached Storage (NAS) array product. The guide provides the information you will need to install and configure the product based on your specific network environment and storage needs. To obtain further product information, firmware updates, and useful articles, please check our web site regularly at www.verbatim.com/support.

Introduction

The Verbatim PowerBay NAS array provides four disk cartridges configurable in various RAID levels for superior performance and data redundancy. The PowerBay NAS array enables you to share documents, files, and digital media with everyone on the home or office network. Remotely accessing files through the Internet is also possible with the built-in FTP server. Whether you are allowing access locally or over the Internet, keep data safe by giving access rights only to specific users or groups.

When configuring the PowerBay NAS array, you can create users and groups and assign them to folders with either read or read/write permissions. This is ideal for an office environment with employee-specific sensitive data or for the home network. The PowerBay NAS array will be available to any computer (PC, MAC, or Linux-based) on your network, without the need to install any software on the computer.

Package Contents

- Verbatim PowerBay 4-Bay NAS array
- CAT-6 Network Cable
- CD-ROM containing software and documentation.
- Front Panel Lock Key
- AC Power Cord
- User Manual

System Requirements

For best results, the following system requirements are recommended:

- Computer with:
 - 1GHz Processor / 512 MB RAM /
 - 200MB available space / DVD-ROM Drive
- Current web browser, such as Internet Explorer, Mozilla Firefox or Safari
- Gigabit Ethernet router or switch
- Windows XP, Windows Vista, Windows 7, Mac OS X 10.2 or higher, or Linux



Product Overview

Features and Benefits

The Verbatim PowerBay NAS array supports 4 hard drive cartridges and includes the product features listed below:

Hardware

- Embedded four internal SATA II 3.5" HDD interface
- 1.2 GHz Marvel processor
- Hot swappable HDD cartridges

Connectivity

- Equipped two 10/100/1000Mbps Full-duplex auto-MDIX Gigabit Ethernet ports
- One eSATA for backup or mirror to an eSATA device
- One USB 2.0 for connecting an external USB storage device
- One USB 2.0 for connecting a USB printer or USB UPS monitor

File System

- EXT2/3 Internal hard drive format
- FAT32 (R/W) and NTFS (Read Only) for eSATA device
- FAT32 (R/W) and NTFS (Read Only) for USB device

Network File Protocols

- CIFS/SMB for Windows
- NFSv2/v3 for Linux and UNIX
- AFP3.1 for Macintosh
- FTP/HTTP for download Network Service Protocols
- DHCP Client
- SMB (Samba)
- SMTP
- NTP

File Sharing

- Supports up to 128 Users and 10 Groups
- 32 Public Folders
- Max concurrent connections: 128 (Samba) / 10 (FTP)
- Share folder level permission
- User share folder quota control
- Users can be assigned to multiple groups

RAID

- RAID 0, 1 + spare, 5, 5 + spare, 6

System Management

- Supports Magical Finder Network Utility (included)
- Active Directory Support for Windows Server 2003/2008
- LLTD for Vista 32/64
- Supports configuration file save/load
- Email alerts
- Scheduled Power On/Off
- Wake On LAN
- Automatic Power Recovery
- Unicode Character/Text Support
- Print Server
- UPS Monitoring via USB Port
- 256 bit AES Encryption
- Key Lock
- Kensington Slot

Backup

- Real Time Data Mirroring via eSATA port
- Real Time LAN Backup to another PowerBay NAS
- Scheduled LAN Backup (replication via rsync)
- Scheduled Backup from PC to NAS
- Acronis OEM Backup Software (included)
- Supports Apple Time Machine

HDD Management

- S.M.A.R.T. Check
- Disk Check
- Reformat Disk
- Power Saving (Disk idle, spin down)
- System Status

Product Overview

Hardware Overview

Front View



COMPONENT	DESCRIPTION
1. Power Button	<ul style="list-style-type: none">• Press to power on.• Press and hold for more than 5 seconds to power off.
2. Function Button	<p>USB One-Touch-Copy function is available when a USB storage device is connected to the PowerBay NAS array.</p> <ul style="list-style-type: none">• Press momentarily to initiate file copy from external USB storage device to the PowerBay NAS array.• Press and hold for more than 3 seconds to safely dismount the external USB device. <p>Alarm Buzzer feature is available during alarm conditions.</p> <ul style="list-style-type: none">• When alarm buzzer is sounding, press button to cancel alarm.
3. USB Connector	<ul style="list-style-type: none">• One USB 2.0 (Type A) connector: USB Host port for connecting an external USB storage device.• Supports USB backup (copy files from attached USB drive to NAS array)• Provides additional storage as a shared volume on the LAN (default name "USBDisk_1")• Supports USB Unlock Key for use with disk encryption• Power: 5V/500mA max
4. Cartridge Key Lock	<ul style="list-style-type: none">• Turn key counterclockwise to the Lock position to lock all cartridges in place.• Turn key clockwise to the Unlock position to unlock all cartridges.
5. Power LED	<p>The power button contains a colored LED to indicate power status.</p> <ul style="list-style-type: none">• Solid Green = Device is Powered On• Solid Red = Device is in Standby Mode with AC power applied
6. Status LED	<ul style="list-style-type: none">• Solid Green = Device operational status is Normal• Blinking Green = Device is starting up or shutting down• Solid Red = Device Error
7. Cartridge Lock	<ul style="list-style-type: none">• Slide locking button to the left to lock each cartridge.• Slide locking button to the right to unlock each cartridge.
8. Cartridge LED	<p>Each HDD cartridge locking button contains a colored LED to indicate disk status:</p> <ul style="list-style-type: none">• Solid Blue = Disk Ready• Blinking Blue = Data Access Activity• Blinking Red = Disk Error• Solid Red = When all 4 cartridge LEDs are red indicates Locked Encrypted Volume

Product Overview

Rear Panel (Connections)



COMPONENT	DESCRIPTION
9. eSATA connector	<ul style="list-style-type: none">• One SATA-II (eSATA) connector for connecting external storage device.• Supports eSATA backup (copy files from attached eSATA drive to NAS array)• Provides additional storage as a shared volume on the LAN (default name "eSATA_1")• Supports mirror function between NAS array and attached eSATA drive
10. USB Connector	<p>USB Host Port. One USB 2.0 (Type A) connector; Power: 5V/500mA max. Used for connecting</p> <ul style="list-style-type: none">• USB Printer; or• USB UPS Monitor. If the attached UPS detects a power failure, an automatic shutdown of the NAS array will be initiated by use of this feature. Compatible with the following UPS equipment:<ul style="list-style-type: none">- APC BACK-UPS ES BE500TW- Powerware PW-3105- Tripp-Lite SMART550USB- Phoenixtec A-500Plus
11. RJ-45 Connectors	<p>Two Gigabit Ethernet ports.</p> <ul style="list-style-type: none">• Port 1 (LAN): For connecting the PowerBay NAS array to LAN. This port supports Wake-On-LAN function.• Port 2 (EXT): For real time backup to another PowerBay NAS array
12. Reset Button	<ul style="list-style-type: none">• Press and hold for more than 5 seconds to reset configuration to factory default settings
13. Cooling Fans	<ul style="list-style-type: none">• Exhaust ports for two cooling fans are provided.
14. AC Power Connector	<ul style="list-style-type: none">• For AC power cord

Installation

This section will walk you through the installation process. Placement of the device is very important. Do not place the device in an enclosed area such as a closet or cabinet.

Before You Begin

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



Note: Capacity depends on model. 1 MB = 1,000,000 bytes / 1 GB = 1,000,000,000 bytes / 1 TB = 1,000,000,000,000 bytes. Some capacity used for pre-loaded software, formatting and other functions, and thus is not available for data storage. As a result, and due to differing calculation methods, your operating systems may report as fewer megabytes/ gigabytes/ terabytes.

Default Settings

The default values for the PowerBay NAS array are as follows:

- User Name is 'admin'
- Password is blank
- LAN IP Address is 192.168.0.32
- LAN Subnet Mask is 255.255.255.0

Installation

Factory Reset Button

The device can be reset to the original factory default settings by using a ballpoint or paperclip to gently push down the reset button in the following sequence:

1. Ensure the device is powered on.
2. Press and hold the reset button for approximately 5 seconds.
3. The factory reset process should take around 1 to 2 minutes.

Remember that this will wipe out any settings stored in flash memory including user account information and LAN IP settings.

Basic Installation

Hardware Setup

This section provides unpacking and installation information for the PowerBay NAS array. Open the shipping carton for the PowerBay NAS array and carefully unpack its contents.

1. Ensure that a hard drive cartridge is inserted into each of the four mounting racks and that the cartridge locking buttons are in the left (locked) position.
2. Connect the supplied Ethernet cable to the LAN port located at the back of the device. Connect the other end of this cable to your network, either via a switch/router or via direct connection to your computer for configuration.
3. Connect the supplied power cord to the rear of the PowerBay NAS array and to an AC power receptacle.
4. Press the Power button on the front of the PowerBay NAS array. The green status LED will begin to flash to indicate that the unit has initiated the power-on sequence.
5. Wait for the PowerBay NAS array to boot up and to auto-configure its connection on the network. Depending on your particular LAN configuration and settings, this may take several minutes. The following protocols will be followed during auto-configuration:
 - a. DHCP client is enabled by default. Therefore, your router or other LAN equipment that is providing the DHCP service will automatically assign an IP address to the PowerBay NAS array and complete the network connection.
 - b. If no DHCP server is available on your network, then the PowerBay NAS array will take its default IP address of 192.168.0.32.
6. After successfully connecting to your network you will be able to discover the PowerBay NAS array on your network. Its default name is "PowerBay".
7. Before you can see any PowerBay NAS array shared folders, you must first set up user accounts or at a minimum must assign read/write privileges for the default folder named Volume_1. This process is explained further below. Once this is done, you will be able to discover shared folders in network workgroup named "Workgroup". In Windows go to My Network Places / Entire Network / Microsoft Windows Network / Workgroup, or in Mac OS X navigate to Go / Network.

Installation

To set up other user accounts and to configure other basic system settings, you should continue setup using the web-based administration tool described in the next section.

Once the PowerBay NAS array is connected to your network and has been configured for your network environment, it can be accessed from any computer within the same subnet on your LAN. Furthermore, more advanced users may choose to configure name servers (such as WIN servers or DNS servers) in order to access the PowerBay NAS array from a different subnet.

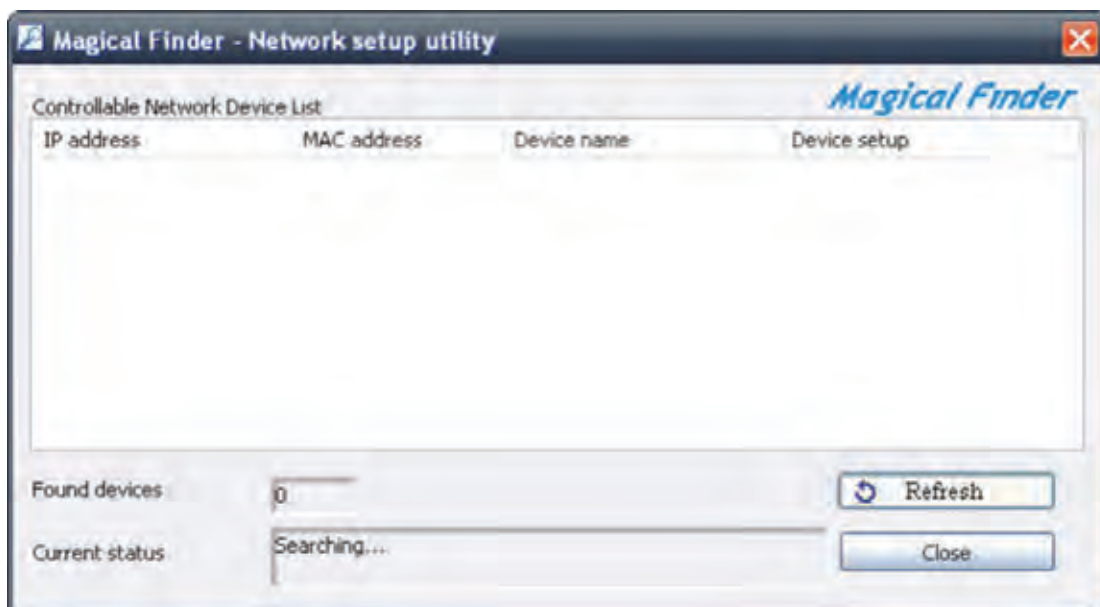
Software Setup

The included CD-ROM contains copies of the User Guide, as well as two software applications: 1) MagicalFinder, and 2) Acronis backup software.

Magical Finder - Network Setup Utility

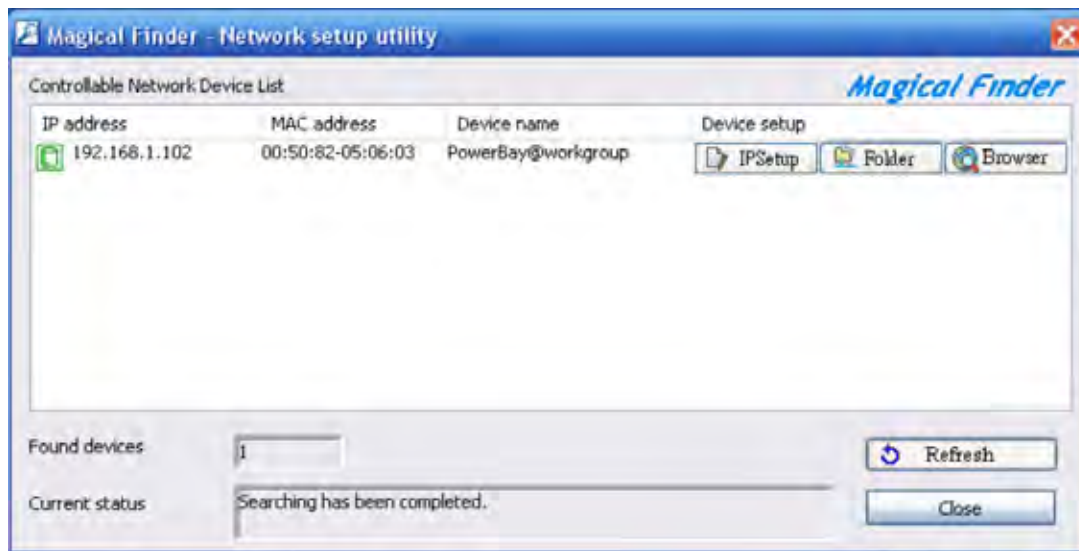
When first powered on, during the initial boot sequence, the PowerBay NAS array will wait to be assigned an IP address via DHCP. If it does not receive a DHCP assigned IP address, by default it will have a self-assigned IP address of 192.168.0.32.

If your router assigns addresses automatically, your router's manual will describe how to view the DHCP Lease List so you can see your drive's assigned IP address. Alternatively, you can find your drive's IP address using the included Magical Finder utility that is provided on the product CD. If you are unfamiliar with the operation of your router, you may find it easier to use the Magical Finder.



1. Open the Magical Finder Utility and allow it to search for the PowerBay NAS array.

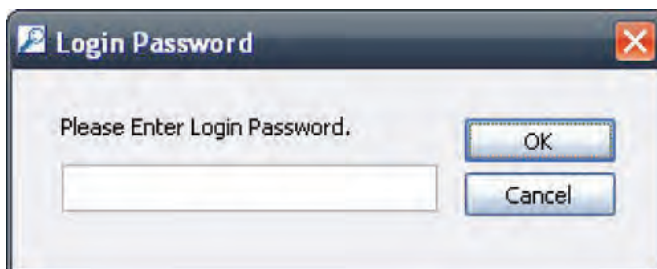
Installation



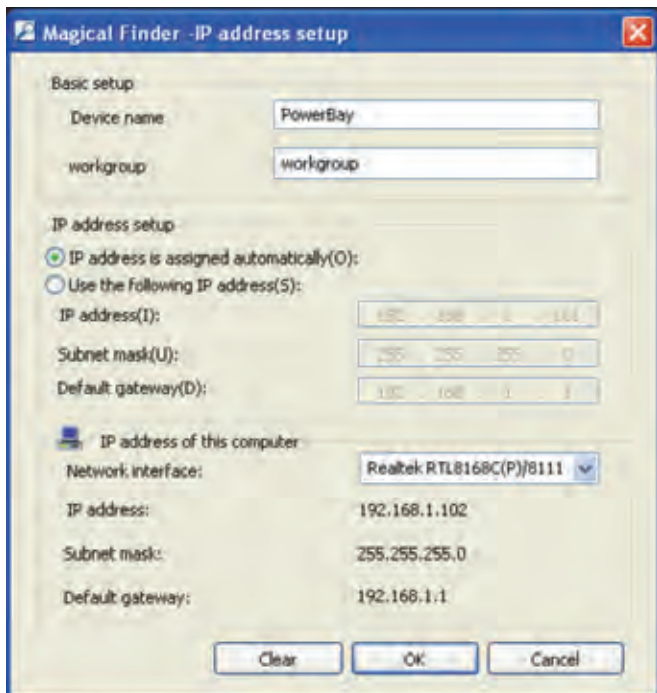
2. After finding the PowerBay NAS array, the utility will list the device's IP address, MAC address and Device Name. (If the device is not listed on the initial scan you can press the Refresh button to initiate a Re-Scan)

You have three options:

- IP Setup Button: To enter the IP Address Setup.
- Folder Button: To open Windows Explorer to \\PowerBay.
- Browser Button: To link to the device web configuration.



3. After clicking the IP Setup Button you'll be prompted to enter the password (The default password is blank) and click OK.



4. Here you can change:
Device Name - Network name of the PowerBay NAS array.
Workgroup - Workgroup name of your network.
IP Address Setup - Edit the IP to fit your network.
Network Interface - Your network adapter.

After the changes you can click OK to apply the changes.

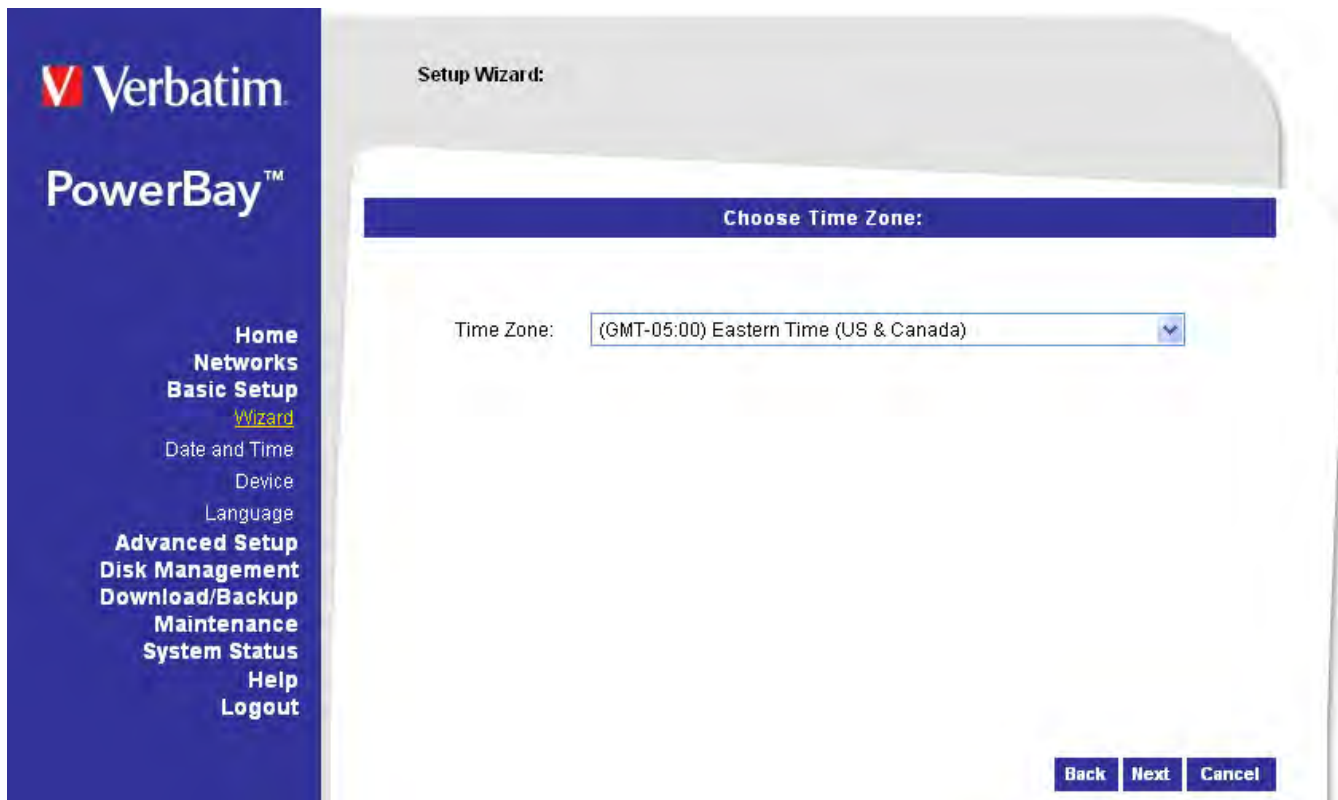
Installation

Acronis Backup Software

Acronis backup software is included on CD-ROM. To install this application on one of your client Windows computers, open the Acronis folder on the CD and then double click the setup file to start installation. The Acronis installation window will appear. Follow the setup wizard to install the software. To backup files to your PowerBay NAS array using Acronis, you must first assign a drive letter to your destination folder.

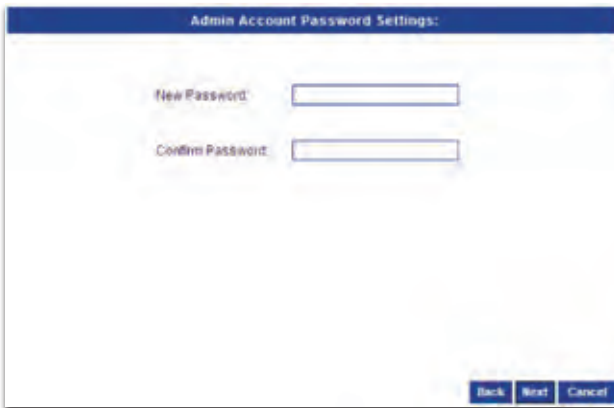
Web Configuration

The PowerBay NAS array has a web based configuration tool. You can access the configuration tool by selecting the Browser Button of the Magical Finder as described above, or by opening your browser and entering the PowerBay NAS array IP address. The configuration tool includes a setup Wizard that allows you to quickly configure some of the basic device settings. Click "Wizard" to start the Wizard setup.



Web Configuration

Wizard Pages



Admin Account Password Settings:

New Password:

Confirm Password:

Back Next Cancel

1. When initiating the Wizard, the user will always be prompted to re-enter the login user name and password as a security measure. Do so and click the next button.



Choose Time Zone:

Time Zone: (GMT+08:00) Beijing, Chongqing, Hong Kong, Taipei

Back Next Cancel

2. In this window the user can change the time zone configuration of the device.



Select LAN Port Network Connection Type:

☐ DHCP Client
☒ Static IP

IP Address: 192.168.88.34
Subnet Mask: 255.255.255.0
Gateway IP Address: 192.168.88.1
DNS1: 10.75.60.2
DNS2:

Back Next Cancel

3. In this window the user can change the IP configuration of the LAN Port of the device. You can choose:

- DHCP Client - Allows an IP to be assigned to the device automatically (this option requires a DHCP Server in your network).
- Static IP - Allows you to assign an IP address to the device manually.



Select EXT Port Network Connection Type:

☒ DHCP Client
☐ Static IP

IP Address: 10.75.60.2
Subnet Mask: 255.255.255.0
Gateway IP Address: 10.75.60.2
DNS1: 10.75.60.2
DNS2:

Back Next Cancel

4. In this window the user can change the IP configuration of the EXT Port of the device. You can choose:

- DHCP Client - Allows an IP to be assigned to the device automatically (this option requires a DHCP Server in your network).
- Static IP - Allows you to assign an IP address to the device manually.



Set Additional Information:

Network Type: ☒ Workgroup ☐ Active Directory

Workgroup:

Name:

Description:

Back Next Cancel

5. In this window you can configure the Workgroup settings for your device. If you have Active Directory configured in your network you can choose the Active Directory option to setup those settings.



Set Additional Information:

Network Type: ☐ Workgroup ☒ Active Directory

User Name:

Password:

DNS1:

DNS2:

Name:

Workgroup:

Realm Name:

AD Server Name:

Back Next Cancel

6. In this window you can configure the Active Directory settings for your device.

Wizard Pages



7. In this window you can complete your setup. Click the Save Button to save your settings.

Home - Section

Device Information - Page

The Device information page allows you to view basic information about the setup of the device. Here you can see the current settings for Device Name, Description, LAN Port IP Address, EXT Port IP Address, Firmware Version, Date, Time, RAID Level, and HDD information.

Device Information:		
Device Name:	PowerBay	
Description:	Verbatim 4-bay NAS	
LAN Port IP Address:	192.168.1.100	
EXT Port IP Address:	192.168.1.32	
Firmware Version:	1.00b25	
Date:	09/10/2009	
Time:	09:04:43	
RAID Level:	RAID 5	
HDD Unused Space:	Volume_1	1.47 TB

Web Configuration

Networks - Section

The Local Area Network settings for the device can be configured on the LAN Port page.

Verbatim
PowerBay™

Home
Networks
LAN Port
EXT Port
Basic Setup
Advanced Setup
Disk Management
Download/Backup
Maintenance
System Status
Help
Logout

LAN Port Network Settings:

LAN Port Network Settings:

☐ DHCP Client
☒ Static IP

IP Address: 192.168.69.34
Subnet Mask: 255.255.255.0
Gateway IP Address: 192.168.69.1
DNS1: 10.75.60.2
DNS2:

MTU Settings:

Status: ☐ Enable ☒ Disable

Save Cancel

LAN Port - Page

DHCP Client:

Selecting DHCP Client will cause the device to obtain an IP address from the local DHCP server.

Static IP:

Selecting Static IP requires you to assign the IP information for the device manually.

MTU:

The default MTU (maximum transmission unit) is 1500 bytes. If your network supports Jumbo Frames you can specify larger frame sizes (in the range of 3000-9000) by first selecting Enable in the MTU Settings dialogue.

LAN Port Network Settings:

LAN Port Network Settings:

☐ DHCP Client
☒ Static IP

IP Address: 192.168.69.34
Subnet Mask: 255.255.255.0
Gateway IP Address: 192.168.69.1
DNS1: 10.75.60.2
DNS2:

MTU Settings:

Status: ☐ Enable ☒ Disable

Save Cancel

Web Configuration

EXT Port - Page

The Local Area Network settings for the device's EXT Port can be configured on the EXT Port page.

DHCP Client:

Selecting DHCP Client will cause the device to obtain an IP address from the local DHCP server.

Static IP:

Selecting Static IP requires you to assign the IP information for the device manually.

MTU:

The default MTU (maximum transmission unit) is 1500 bytes. If your network supports Jumbo Frames you can specify larger frame sizes (in the range of 3000-9000) by first selecting Enable in the MTU Settings dialogue.

The screenshot shows the 'EXT Port Network Settings' window. It has two main sections: 'DHCP Client' and 'MTU Settings'. In the 'DHCP Client' section, the 'DHCP Client' radio button is selected. Below it are input fields for 'IP Address' (10.75.60.2), 'Subnet Mask' (255.255.255.0), 'Gateway IP Address' (10.75.60.2), 'DNS1' (10.75.60.2), and 'DNS2' (empty). The 'MTU Settings' section has a 'Status' label and two radio buttons: 'Enable' (unselected) and 'Disable' (selected). At the bottom right are 'Save' and 'Cancel' buttons.

Basic Setup - Section

The Time and Date of the device's internal clock can be set manually or be set automatically from the client computer or using an NTP Server.

The screenshot shows the 'Device Time Settings' page in the Verbatim PowerBay Basic Setup Wizard. The left sidebar contains a navigation menu with 'Home', 'Networks', 'Basic Setup' (selected), 'Wizard', 'Date and Time', 'Device', 'Language', 'Advanced Setup', 'Disk Management', 'Download/Backup', 'Maintenance', 'System Status', 'Help', and 'Logout'. The main content area shows the current time and date: 'Current Time: 12:59:55 12/08/2009' and 'Current Time Zone: (GMT-05:00) Eastern Time (US & Canada)'. Below this is the 'Time Zone Settings' section with a dropdown menu showing '(GMT-05:00) Eastern Time (US & Canada)'. The 'TimeSettings' section has three radio buttons: 'Set from Computer' (unselected), 'Set Manually' (unselected), and 'Set from NTP Server' (selected). The 'Set Manually' section has input fields for 'Month' (12), 'Day' (8), and 'Year' (2008). The 'Set from NTP Server' section has a text input field and a 'Select NTP Server' dropdown menu. The dropdown menu is open, showing a list of NTP servers: 'ntp.isi.mfeed.ad.jp', 'time-a.nist.gov', 'time-b.nist.gov', 'time.nist.gov', 'swisstime.ethz.ch', 'ntp0.fau.de', 'clock.cuhk.edu.hk', and 'ntp.es.myu.OZAU'. At the bottom right are 'Save' and 'Cancel' buttons.

Web Configuration

Date and Time - Page

Time Zone:

Choose the Time Zone of where you are located from the drop-down menu.

Set from Computer:

To set the internal clock of the PowerBay NAS array to the same time as the client computer, select Set from Computer and hit Save.

Set the Date

and Time Manually:

To set the date and time manually, select Set Manually, and fill in the date and time using the drop-down menus. Press Save to save the new settings.

NTP Server:

Tick the Enable NTP Server checkbox to enable NTP. Network Time Protocol (NTP) synchronizes the device with an Internet time server. Type the URL of the NTP Server in the NTP Server checkbox or use the drop-down menu to choose one of the default time servers listed for your convenience. Press Save to save the new settings.

Device Settings - Page

The device settings page allows you to configure the Workgroup or Active Directory settings of your network on the device.

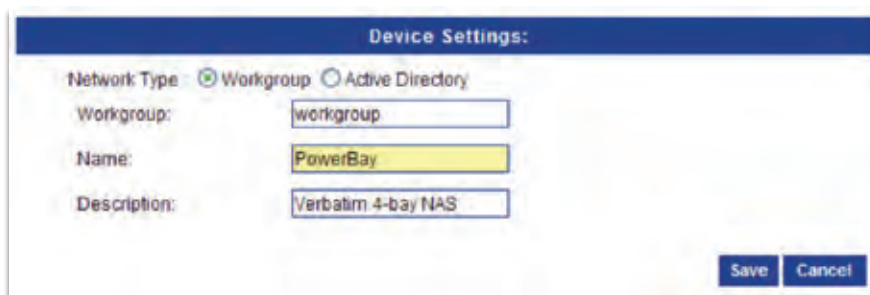
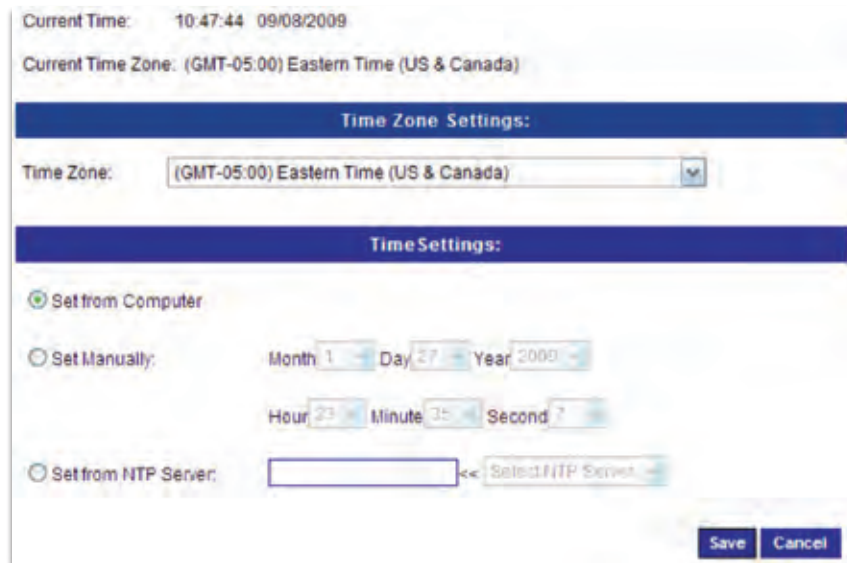
If your network is configured as a Workgroup, click the Workgroup radio button. Configure the parameters as described below:

Workgroup:

The Workgroup is used by Microsoft Windows Network to organize available network groups within the same network.

Name:

The unique Name appears for other network services including shared libraries on iTunes and other media players. The name can be used to access your device from a web browser instead of using an IP address, for example, <http://powerbay>. By default the device name is "PowerBay".



Web Configuration

Description:

This field assigns a device description to help identify the device in the workgroup. If your network is configured in an Active Directory, make sure the following conditions are true:

1. Ensure that the Time and Date is synchronized between the device and the Windows Active Directory server. The device and Active Directory server will only tolerate a maximum time difference of 5 minutes.
2. Ensure that you can get the IP address of the 2008 AD server from the DNS server. The DNS1 and DNS2 settings are the same as the LAN Setup. Please make sure this is working properly.

To configure the PowerBay NAS array to use Active Directory, click the Active Directory radio button and configure the parameters as described below:

User Name:

Input the user name of an account setup on the Active Directory that requires access to the resources on the device.

Password:

Input the password of the chosen Active Directory user account.

Name:

Input a Domain Name Service (DNS) name for the PowerBay NAS array.

If the device connecting to the PowerBay NAS array is a browser or logon server this will be the name that these services are advertised by.

Workgroup:

Enter your Workgroup name here. The workgroup name should be the same as the computers on the network. Devices using the same workgroup will have additional file sharing methods available.

Realm Name:

Input the FQDN (Fully Qualified Domain Name) of the Active Directory Domain in this field. This option specifies the Kerberos realm to use.

AD Server Name:

Input the name of the Active Directory Server in this field. When the Windows user attempts to access the device at login time, the device will connect to the 2008 AD Server and attempt to authenticate the given user with the given password.

The screenshot shows a 'Device Settings' window with a blue header. Below the header, there are two radio buttons for 'Network Type': 'Workgroup' (unselected) and 'Active Directory' (selected). Below these are several text input fields: 'User Name:', 'Password:', 'DNS1:' (containing '10.25.60.2'), 'DNS2:', 'Name:' (containing 'PowerBay'), 'Workgroup:', 'Realm Name:', and 'AD Server Name:'. At the bottom right, there are three buttons: 'Back', 'Next', and 'Cancel'.

Web Configuration

Language Settings - Page

The web based configuration tool for the PowerBay NAS array is configured at the factory to use English as its user interface language. The language settings page allows you to select a different user interface language.

Select Language:

To use a different user interface language select an available option from the pull-down list. Click 'Save' to apply the new language selection.



Advanced Setup - Section

The PowerBay NAS array keeps track of data stored by its network users by managing the data's destination folder (also referred to herein as a "shared folder" or simply a "share"). Furthermore, the PowerBay NAS array must keep track of who may read from, and write to, each folder. It does this by setting up user accounts and groups. A group is a collection of specific user accounts. When you assign access privileges to a new share you have the option of either making assignments for individual user accounts, or for an entire group of users at once by referring to the group's name.

The default factory settings provide for no default user accounts or default groups. Though there is one default folder (named Volume_1), this folder has no default access privileges and so will not be accessible at first. The simplest way to make the Volume_1 folder accessible is to use the web configuration tool (Advanced Setup / Shared Folders) to define the Volume_1 folder privileges as "Allow everybody read and write."

The Users/Groups menu is used to create and manage user and group accounts. These are used for user access and read/write privileges for specified folders on the network drive (using the Network Access menu) or to setup FTP access and privileges. When the device is connected to a Workgroup up to 128 users and 10 groups can be created. When the device is connected to an Active Directory a combined total of 10000 users and groups can be displayed. By default, all users have read and write access to all newly created folders, but access rules can be created in the Network Access menu.

Advanced Setup - Section

The screenshot shows the Verbatim PowerBay web configuration interface. On the left is a blue sidebar with a navigation menu. The main content area is titled 'Users:' and contains two sections: 'Create A User:' and 'User List:'.

Verbatim PowerBay™

Navigation Menu:

- Home
- Networks
- Basic Setup
- Advanced Setup
- Users**
- Groups
- Shared Folders
- Quotas
- FTP Server
- NFS Server
- Rsync Server
- AFP Server
- LLTD
- Disk Management
- Download/Backup
- Maintenance
- System Status
- Help
- Logout

Create A User:

User Name:

Groups:

Add Groups:

Groups:

Password:

Confirm Password:

Note: Password must have between 5 and 20 characters.

Add a User

User List:

No. User Name Group Name

Y: Modify Delete 0 Users

Users - Page

User Creation:

This section contains required attributes for a new user, including group, user name and password. Select User and enter a user name, password and then click Add.

User List:

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

To modify a user to the selected group, click the user and then click the modify button. To remove a user from the group, click the user and then click the remove button.

This screenshot shows the same 'Users' section as the previous one, but with data entered. The 'Groups' field in the 'Create A User' section now contains 'group1' and 'group2'. The 'User List' section shows a table with 4 users.

Create A User:

User Name:

Groups:

Add Groups:

Groups:

Password:

Confirm Password:

Add a User

User List:

No. User Name Group Name

Y: Modify Delete 4 Users

1	user1	group1
2	user2	group1
3	user3	group2
4	user4	group2

Web Configuration

Groups - Page

Create new groups that users can be assigned to and assign hard drive space quotas for groups.

Group Creation:

This section contains required attributes for managing groups. To create a new group enter the Group Name, select the specific Users you want to be members of the group, and then click Add a Group.

No.	Group Name	User Name
1	group1	user1,user2
2	group2	user3,user4

Group List:

This section displays the list of existing groups. To modify a group, click the group and then click the Modify button. To remove a group, click the group and then click the Delete button.

Shared Folders Settings - Page

Create shared folders for users and groups on the local network.

User/Groups:

Select the users or groups and assign Read Only or Read/Write permissions to them.

Folder:

Select the folder to assign to the nominated users/groups and click on the Add a Shared Folder button.

Share	Path	Read Only	Read/Write
Volume_1	Volume_1		All Users

Shared Folder List:

This section displays a list of existing Shared Folders. To modify a share's attributes, click the share and then click the Modify button. To remove a share, click the share and then click the Delete button.

Web Configuration

Quotas - Page

This section allows you to assign a quota to a group or user to limit the amount of storage they are allocated.

By default, users and groups do not have a quota.

Disk Quota Status:

This option enables or disables disk quota option.

The screenshot shows the 'Disk Quota Settings' web page. At the top, there's a 'Quota Status' section with radio buttons for 'Enable' and 'Disable', where 'Disable' is selected. Below this is the 'User Quota Settings' section, which contains a table with columns 'No.', 'User Name', and 'Volume_1'. The table lists four users: user1, user2, user3, and user4, all with 'Unlimited' quotas. To the right of the table are links for 'Volume Locked', 'Modify', and 'Y'. Below the table is the 'Shared Folders Quota Settings' section, which has a table with columns 'No.', 'Share Path', and 'Quota Setting'. It lists 'Volume_1' with an 'Unlimited' quota. To the right are links for 'Volume Locked', 'Modify', and 'Y'. At the bottom right are 'Save' and 'Cancel' buttons.

User Quota Settings:

This section will list the existing users and you can modify the each user's quota here. Note that the default value is Unlimited.

Shared Folder Quota Settings:

This section allows you modify the quota for a specific shared folder.

FTP Server - Page

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

FTP Server:

This option allows the user to enable and disable the use of the FTP Server on the device.

Max User:

Sets the maximum number of users that can connect to the FTP Server at once.

The screenshot shows the 'FTP Server Settings' web page. It has several configuration options: 'FTP Server' with 'Enable' and 'Disable' radio buttons (Enable is selected); 'Max User' with a dropdown menu set to '10'; 'Idle Time' with a dropdown menu set to '05' and the unit 'Minutes'; 'Port' with a text box set to '21' and a note '(1025 to 3688, 3690 to 49999, 65501 to 65535, default: 21)'; 'Flow Control' with 'Unlimited' selected and a text box for 'x 10 KB/s'; and 'Client Language' with a dropdown menu set to 'Unicode'. At the bottom right are 'Save' and 'Cancel' buttons.

Idle Time:

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

Port:

Sets the FTP port number. The default is port 21. In order to use FXP (File Exchange Protocol) for server-to-server data transfer, please make sure to change the port from 21 to some other port as listed in the Port section of the web UI.

Web Configuration

Also, please make sure to open the corresponding port on your router and forward that port from your router to the PowerBay NAS array.

Flow Control:
Allows you to limit the amount of bandwidth available for each user.

Client Language:
Most standard FTP clients like Windows FTP, only support Western European code-page when transferring files. Support has been added for non standard FTP clients that are capable of supporting these character sets.

NFS Server - Page

This section allows you to enable the built-in NFS server to share your folders by NFS.

NFS Server Allowed:
Enable or disable the NFS Server.

Host:
Enter an IP address of NFS clients, the fully qualified domain name, netgroups or IP networks. This field also supports wildcards.

Folder:
The folder you want to export to NFS clients.

Root Squash NFS Client:
Map requests from User ID/Group ID 0 to the anonymous User ID/Group ID.

List:
This section lists information about the configured NFS clients. It includes Allowed Hosts, Paths, Root Squash, and Read/Write permissions.

NFS Server:			
NFS Server:	<input checked="" type="radio"/> Enable <input type="radio"/> Disable	<button>Start NFS</button>	
Allowed Host:	<input type="text"/>		
Folder:	<input type="text" value="RW : Volume_1"/>		
Root Squash:	<input type="text" value="Root Squash"/>		
NFS Client List:			
Allowed Host	Path	Root Squash	Read/Write
<div> : Volume Locked : Delete</div>			
		<div><button>Save</button> <button>Cancel</button></div>	

Web Configuration

Rsync Server - Page

This section allows you to set up your Rsync Server.

Rsync Server:

Enable or disable the Rsync Server.

User Name:

Enter the User Name allowed to connect to this Rsync Server.

Password:

Enter the Password used for the user to connect to the Rsync Server.

Folder:

Select the directory available to the Rsync Server.

Sub-Folder:

Enter the name of sub directory. It will be created under "Folder."

Shared Name:

Enter the shared name for the Folder.

Rsync Shared Folder List:

This section lists the existing shared folders in the Rsync folder.

The screenshot displays the 'Rsync Server' configuration page. It is divided into three main sections. The top section, 'Rsync Server:', contains radio buttons for 'Enable' (selected) and 'Disable', followed by input fields for 'User Name', 'Password', and 'Confirm Password', and 'Save' and 'Cancel' buttons. The middle section, 'Rsync Shared Folder Settings:', includes a 'Folder:' dropdown menu (set to 'Volume_1'), a 'Sub Folder:' input field (containing 'RsyncServer/20090127-234004'), a 'Shared Name:' input field, and an 'Add' button. The bottom section, 'Rsync Shared Folder List:', features a table with columns for 'Shared Folder' and 'Shared Name', and icons for 'Volume Locked', 'Modify', and 'Delete'.

Web Configuration

AFP - Page

Apple Filing Protocol (AFP) provides file services for Mac OS X and original Mac OS. This implementation is compatible with AFP 3.1, which was introduced in Mac OS X Server version 10.2.

AFP:
Select Enable or Disable to turn AFP on or off. It is disabled by default.

Once Enabled is checked, related protocol parameters must be selected.

Mac Codepages:
Select a codepage which is used by your Mac OS 9. If your environment only has Mac OS X, you can ignore this setting.

Time Machine:
Enable or disable the Time Machine service. If it is enabled, you must enter a login password and the amount of storage (in gigabytes) that you want to allocate for this service.

AppleTalk:
Enable or disable AppleTalk. AppleTalk allows the PowerBay NAS array to be discovered by Net Browser on Mac OS 9.

LLTD - Page

Link Layer Topology Discovery (LLTD) allows the PowerBay NAS array to be discovered by Windows Vista's network map. (Note: Enabling LLTD may cause decreased network performance. If you are experiencing decreased network performance try disabling LLTD.)

LLTD:
Select Enable or Disable to turn LLTD on or off.

The image displays three sequential screenshots of a web configuration interface. The first screenshot, titled 'AFP Server Settings:', shows the 'AFP Server' option set to 'Disable' and the 'Mac Codepages(for Mac OS 9):' dropdown menu set to 'MacRoman'. The second screenshot, also titled 'AFP Server Settings:', shows the 'AFP Server' option set to 'Enable' and the 'Mac Codepages' dropdown menu open, displaying a list of codepages including MacRoman, MacCentralEurope, MacChineseSimple, MacChineseTraditional, MacCyrillic, MacGreek, MacHebrew, MacKorean, MacJapanese, and MacTurkish. The third screenshot, titled 'Time Machine:', shows the 'Time Machine' option set to 'Enable', the 'User Name' field set to 'Timemachine', the 'Password' field empty, and the 'Size' field set to '0' GB. Below the 'Size' field is a note: 'Note: Password must have between 5 and 20 characters.' and 'GB (Available Size: 1.47 TB)'. The fourth screenshot, titled 'AppleTalk:', shows the 'AppleTalk' option set to 'Enable'.


The image displays a screenshot of the 'LLTD Settings:' page. It shows the 'LLTD:' option set to 'Enable'. There are 'Save' and 'Cancel' buttons at the bottom right.

Web Configuration

Disk Management - Section

Disk Status - Page

This page displays the status of all of installed disk cartridges of the PowerBay NAS array, as well as any attached USB or eSATA drives.



- Home
- Networks
- Basic Setup
- Advanced Setup
- Disk Management
 - Disk Status
- Disk Configuration
- Disk Utilities
- Power Management
- Download/Backup
- Maintenance
- System Status
- Help
- Logout

Disk Status:

RAID Information:	
RAID Level:	RAID 5
Disks:	1, 2, 3, 4
Status:	Normal
Encryption:	Disabled
Total Hard Drive Capacity:	1.47 TB
Used Space:	72.88 MB
Unused Space:	1.47 TB

Physical Drive Information:	
Drive Name:	Disk 1
Vendor:	SAMSUNG
Fw Rev:	1AA01113
Model:	HD502IJ
Total Hard Drive Capacity:	500.11 GB
Drive Name:	Disk 2
Vendor:	SAMSUNG
Fw Rev:	1AA01113
Model:	HD502IJ
Total Hard Drive Capacity:	500.11 GB
Drive Name:	Disk 3
Vendor:	SAMSUNG
Fw Rev:	1AA01113
Model:	HD502IJ
Total Hard Drive Capacity:	500.11 GB
Drive Name:	Disk 4
Vendor:	SAMSUNG
Fw Rev:	1AA01113
Model:	HD502IJ
Total Hard Drive Capacity:	500.11 GB

Web Configuration

Disk Configuration - Page

The PowerBay NAS array supports five RAID methods of disk configuration. They are RAID 0, RAID 1 with spare, RAID 5, RAID 5 with spare and RAID 6. When choosing to use RAID with spare the spare disk's icon will change its color to green.

Each of the RAID modes may be further configured to include full disk data encryption. RAID modes 0, 5, and 6 may be further configured to included array mirroring to an attached eSATA drive.

The screenshot shows the 'Disk Configuration' web interface. At the top, it says 'Disk Configuration:'. Below this, there is a table with the following columns: RAID setting, Level, Status, Encryption, Capacity, Disks, Spare, and Failed. The table shows a RAID 5 configuration with a status of 'Normal', encryption disabled, a capacity of 1.47 TB, and disks 1, 2, 3, and 4. A 'Reconfigure' button is located to the right of the table. Below the table, there is an 'eSATA setting:' section with a 'Status' of 'Disconnected' and a 'Capacity' field. At the bottom, there are three buttons: 'Mirror', 'Unmirror', and 'Restore'.

RAID setting:	Level	Status	Encryption	Capacity	Disks	Spare	Failed
RAID 5	Normal	Disabled	1.47 TB	1, 2, 3, 4			

Reconfigure

eSATA setting:
Status: Disconnected
Capacity:

Mirror Unmirror Restore

Warning: Changing RAID mode will delete all data on the disks. Do not change the RAID configuration unless you have first saved all of the data from the device to another storage location.

RAID 0:

RAID 0 (also called Striping) distributes data across all disks in a way which can improve throughput, while retaining full capacity. However, RAID 0 provides no fault tolerance so in case of possible failure of any disk, all data will be lost. Available capacity is the combined capacity of all four disk cartridges.

RAID 1 with Spare:

RAID 1 (also called Mirroring) stores a duplicate set of data onto at least one other disk so that if one disk fails all data can be recovered from the other disk. The PowerBay NAS array implements RAID 1 in a way that provides for even more redundancy, resulting in maximum fault tolerance. It does this by (a) using two drives as mirrors instead of just one and (b) using the fourth drive as a spare. The spare drive will automatically rebuild as a fresh mirror whenever a failure of one of the other three drives is detected. Available capacity is equal to that of only one disk cartridge.

The screenshot shows the 'PowerBay - Configure' web interface. At the top, it says 'PowerBay - Configure'. Below this, there is a 'New RAID Level:' section with five radio button options: 'Maximum capacity and performance - RAID 0', 'Maximum security - RAID 1 with spare', 'Mix capacity and security - RAID 5' (which is selected), 'Mix capacity and security - RAID 5 with spare', and 'Double security - RAID 6'. Below the radio buttons, there is a diagram of a four-bay disk array. Each bay contains a disk icon labeled '500.11 GB'. To the right of the array is an 'eSATA Drive' icon. Below the diagram, there is a 'File system:' section with two radio button options: 'ext2' and 'ext3' (which is selected). Below this is an 'Encryption:' section with two radio button options: 'Enable' and 'Disable' (which is selected). At the bottom right, there are 'OK' and 'Cancel' buttons.

New RAID Level:

- ☐ Maximum capacity and performance - RAID 0
- ☐ Maximum security - RAID 1 with spare
- ☒ Mix capacity and security - RAID 5
- ☐ Mix capacity and security - RAID 5 with spare
- ☐ Double security - RAID 6

File system: ☒ ext2 ☒ ext3

Encryption: ☐ Enable ☒ Disable

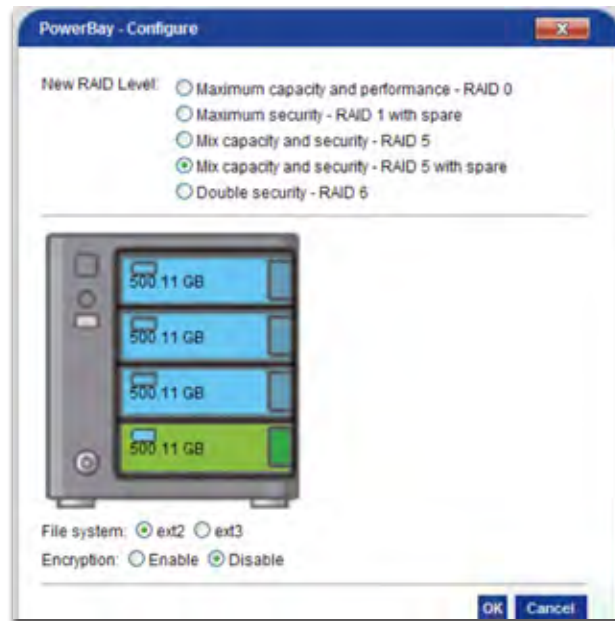
OK Cancel

Web Configuration

RAID 5:

RAID 5 (Striping with distributed parity) combines three or more disks in a way that protects data against loss of any one disk. The storage capacity of the array is reduced by one disk. The PowerBay NAS array implements RAID 5 in one of two ways:

- 1) Select "RAID 5" to build a 4-disk array. Available capacity will be equal to that of three disk cartridges.
- 2) Select "RAID 5 with Spare" to build a 3-disk array. The fourth disk is used as a spare. The spare drive will automatically rebuild to complete a healthy 3-disk array whenever a failure of one of the other three drives is detected. Available capacity is equal to that of two disk cartridges.



RAID 6:

RAID 6 (Striping with distributed dual parity) combines all four disks in a way that protects data against loss of any two disks. In the event of a single disk failure, the use of dual parity allows for time to rebuild the array safely without the data being at risk if an additional drive fails before the rebuild is complete. Available capacity is equal to that of two disk cartridges.

Array Mirroring to eSATA Drive

The full data of the PowerBay NAS array can be continuously copied to an attached eSATA drive. If a catastrophic failure of the NAS array occurs, the full data can be restored from the eSATA drive once the NAS array has been repaired or replaced. Array mirroring to eSATA is supported only in RAID modes 0, 5, and 6 and is NOT supported in RAID 1 with Spare or in RAID 5 with Spare. The capacity of the eSATA drive must be at least as large as the capacity of the NAS array.

If you want to use this function, please enable it during the first time you configure the array.

When the mirror function is in use, the Disk Configuration page will show the status of the mirror system and will present action buttons to temporarily disable the mirror function ("Unmirror" Button) and to restore data from the eSATA drive to the NAS ("Restore" Button).

Web Configuration

Warning: When using the eSATA mirroring function, you MUST attach and power up the eSATA drive BEFORE you power up the PowerBay NAS array. This power-up sequence must be followed EACH TIME you power cycle the PowerBay NAS array. If you power up the PowerBay NAS array first, and later attach and power up the eSATA drive, the eSATA drive will not be recognized as a mirror device, so the eSATA drive will no longer be synchronized to the NAS data.

Array Encryption

The PowerBay NAS array supports 256-bit Advanced Encryption Standard (AES) full disk encryption. Encryption may be enabled for any RAID mode. If eSATA mirroring is enabled, then data copied to the eSATA drive will also be encrypted.

If you want to use this function, please enable it during the first time you configure the array.

Once the drive has been configured using encryption, the full array can thereafter be LOCKED or UNLOCKED using a password key. When the array is LOCKED, it will not show up on the LAN as a shared volume and users cannot access it for storage. All four cartridge LED's will remain red while the array is LOCKED. For convenience, several methods are provided to UNLOCK a LOCKED array:

1. Enter the NAS user interface and press UNLOCK on the Disk Configuration page. You will be prompted to enter the password key string.
2. Insert a USB Key device into the front USB port of the PowerBay NAS array. This Key device may be either a flash drive or a hard drive and must have been previously configured with the key file using the 'Store Key in USB Drive' procedure. Once the array is unlocked, the USB Key device may be removed.
3. Enter the NAS user interface and load the key file from a computer on the LAN using the 'Load' function on the Key Management page. This key file must have been previously stored onto the computer using the 'Save' function on the Key Management page. Alternatively, the key file might have been previously e-mailed to a user using the 'Mail' function on the Key Management page.

NOTICE: When encryption is enabled, data transfer rates may be reduced.

Web Configuration

Enable / Disable Encryption:

During disk configuration, select Enable or Disable. If Enable is selected, you will be prompted to enter a password key string. Also, you may optionally select one of two additional encryption options.

Password Key:

Enter a password key string of 6-10 characters. Safeguard this string so as not to lose it.

Auto Unlock During System Reboot:

Check the Auto Unlock box if you want the NAS always to power up in the UNLOCKED state. Use the feature with caution, since anyone who can access the PowerBay NAS array to power it off and back on can unlock a locked array.

The 'PowerBay - Configure' window displays RAID configuration options. Under 'New RAID Level', there are five radio buttons: 'Maximum capacity and performance - RAID 0', 'Maximum security - RAID 1 with spare', 'Mix capacity and security - RAID 5' (which is selected), 'Mix capacity and security - RAID 5 with spare', and 'Double security - RAID 6'. Below this is a visual representation of a RAID 5 array with four 500.11 GB disks and one eSATA disk. At the bottom, there are options for 'File system' (ext2 or ext3), 'Encryption' (Enable or Disable, with 'Enable' selected), a 'Key' field (6-20 characters), a 'Confirm key' field (6-20 characters), and two checkboxes: 'Auto unlock during system bootup' and 'Store key in USB drive'. 'OK' and 'Cancel' buttons are at the bottom right.

Store Key in USB Drive:

If you want to use a USB storage device to unlock a locked array, insert a USB Flash Drive or USB Hard Drive in the front USB port and check this box. An encrypted key file will be written to the USB device during configuration. A USB key device created in this way can later be used to UNLOCK a LOCKED array. The USB key cannot be copied although multiple USB keys may be created from the Key Management page.

Managing the Encrypted Drive:

Once the NAS array has been encrypted, the Disk Configuration page will show three additional buttons.

'Lock' will LOCK the array.

You will be prompted to enter the password key string to continue. A locked array will not show up on the LAN as a shared volume.

'Unlock' will UNLOCK the array. You will be prompted to enter the password key string to continue.

'Key Management' will present options for managing the password key.

'Reconfigure' will still allow you to reconfigure the array, although now you will be prompted to enter the password key string before you can continue.

The 'Disk Configuration' window shows the current RAID settings in a table. Below the table are buttons for 'Lock', 'Unlock', 'Key management', and 'Reconfigure'. The eSATA settings section shows 'Status' as 'Disconnected' and 'Capacity' as empty. At the bottom right are 'Mirror', 'Unmirror', and 'Restore' buttons.

RAID setting:						
Level	Status	Encryption	Capacity	Disks	Spare	Failed
RAID 5	Normal	Enabled, Unlocked	1.47 TB	1, 2, 3, 4		

eSATA setting:

Status	Capacity
Disconnected	

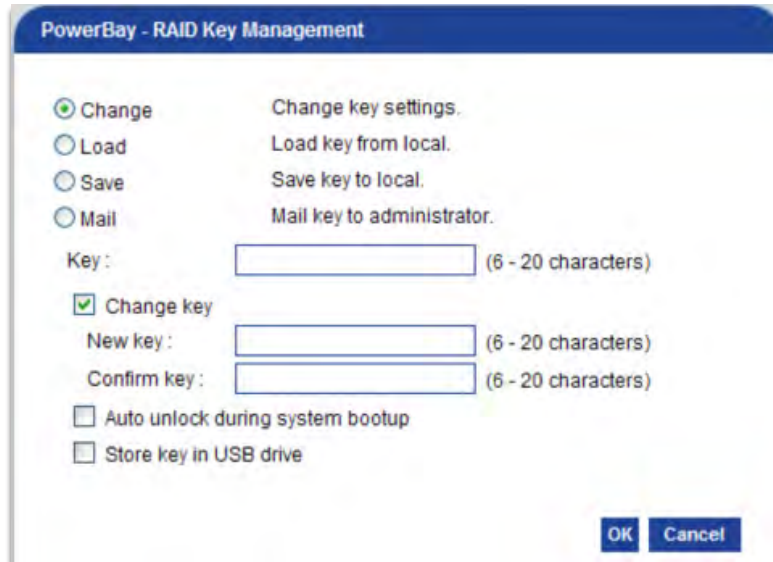
Web Configuration

Key Management:

Use this page to define how you want the password key to be used for unlocking the encrypted array.

‘Change’ allows you to enter a new password key.

‘Save’ and ‘Load’ allow you to store an encrypted key file “Volume_1.key” onto a computer on the LAN and later retrieve the file to UNLOCK a LOCKED array.



The 'PowerBay - RAID Key Management' dialog box contains the following elements:

- Four radio buttons for key management: 'Change' (selected), 'Load', 'Save', and 'Mail'. Each has a corresponding description: 'Change key settings.', 'Load key from local.', 'Save key to local.', and 'Mail key to administrator.'
- A 'Key:' text input field with a '(6 - 20 characters)' label.
- A checked checkbox labeled 'Change key'.
- A 'New key:' text input field with a '(6 - 20 characters)' label.
- A 'Confirm key:' text input field with a '(6 - 20 characters)' label.
- Two unchecked checkboxes: 'Auto unlock during system startup' and 'Store key in USB drive'.
- 'OK' and 'Cancel' buttons at the bottom right.

‘Mail’ allows the password key string to be e-mailed to all users whose e-mail addresses have been entered into the Receiver E-mail fields on the E-mail Settings page. If the administrator forgets the password key, the administrator can recover the key by mailing it to himself. This feature also means that anyone who discovers the administrator’s User Interface password can also easily discover the encryption key.

‘Auto Unlock’ and ‘USB Key’ options are offered again on this page. This gives you a chance to invoke these options after you have configured the array.

Disk Configuration - Page (Steps)

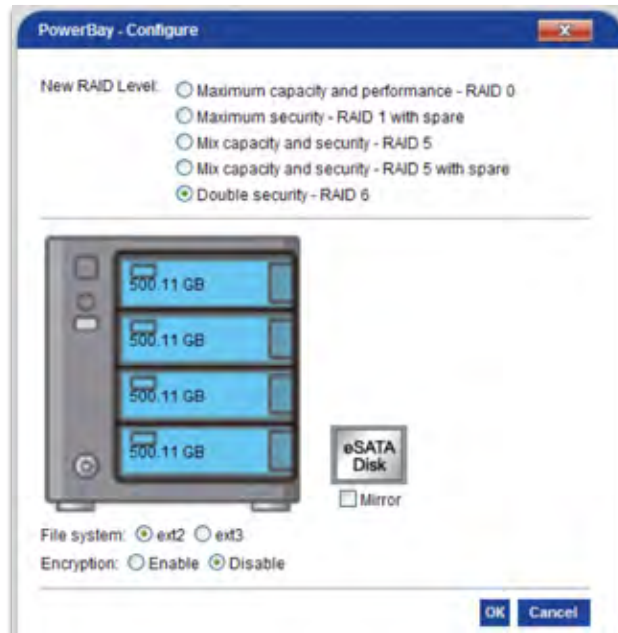
Here are the steps to configure all the hard drives (including an attached eSATA mirroring disk) to run on RAID 6.

Step 1:

Select the desired RAID configuration. In the example, we chose RAID 6.

Step 2:

Select the desired file system format. In the example, we chose ext2.



The 'PowerBay - Configure' dialog box contains the following elements:

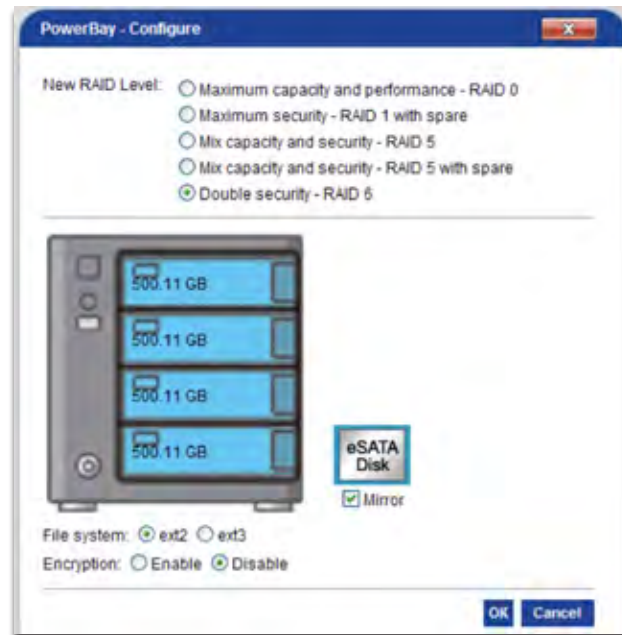
- A 'New RAID Level:' section with five radio buttons: 'Maximum capacity and performance - RAID 0', 'Maximum security - RAID 1 with spare', 'Mix capacity and security - RAID 5', 'Mix capacity and security - RAID 5 with spare', and 'Double security - RAID 6' (selected).
- A graphic of a RAID array with four 500.11 GB drives.
- An 'eSATA Disk' icon with an unchecked 'Mirror' checkbox.
- A 'File system:' section with 'ext2' (selected) and 'ext3' radio buttons.
- An 'Encryption:' section with 'Enable' and 'Disable' (selected) radio buttons.
- 'OK' and 'Cancel' buttons at the bottom right.

Web Configuration

Step 3:

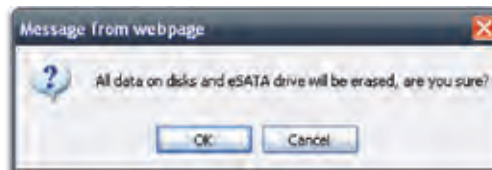
Decide whether you want to attach an external eSATA drive for dedicated use in saving a full duplicate of the data stored on your PowerBay NAS array. If you choose to use this eSATA Disk Mirror feature, check the Mirror option button located below the eSATA Disk icon in this dialogue. When the mirror feature is enabled, the eSATA Disk icon will have a blue frame around it. The eSATA Disk Mirror option is not available for the two RAID modes using a spare.

Click OK.



Step 4:

You will be warned that doing this configuration will erase all the data from your hard drives. Click OK (if you want to proceed).



Step 5:

The RAID configuration will start. Please wait for it to complete fully before proceeding.



The new RAID settings will now show on the Hard Disk Configuration page, including the change of the eSATA Disk's status to "Synchronized." If you select "Unmirror" but leave the external eSATA drive powered on and connected, the Status will change from "Synchronized" to "Connected." To restore all data from the external eSATA drive to the NAS, hit the "Restore" button. The external eSATA drive capacity must be at least as large as the currently configured NAS RAID array.



Web Configuration

Disk Utilities - Page

S.M.A.R.T. Test:

S.M.A.R.T. (Self-Monitoring, Analysis, and Reporting Technology) is a monitoring service that can diagnose the health status of a disk by analyzing certain disk attributes. The test results for each disk are shown at the right.

S.M.A.R.T Test:			
Slot	Manufacturer	Model	Result
1	SAMSUNG	HD502UJ	PASSED
2	SAMSUNG	HD502UJ	PASSED
3	SAMSUNG	HD502UJ	PASSED
4	SAMSUNG	HD502UJ	PASSED

Disk Tools:						
Level	Status	Encryption	Capacity	Disks	Spare	Failed
RAID 5	Normal	Disabled	1.47 TB	1, 2, 3, 4		

Scan Disk Reformat

Scan Disk:

Press the Scan Disk button to initiate a scan of all disks and attempt to detect and list any errors found. This process can take a long time to complete.

Reformat:

If you want to reformat the array using the currently selected RAID mode, you may press the Reformat button. You will be warned that reformatting will erase all the data from your hard drives. Click OK (if you want to proceed).

Power Management - Page

Enabling this feature will cause the hard disk drives to hibernate after the specified time of inactivity. The hard disk drives will wake-up when new activity is detected.

Power Management:

Enable or Disable power management.

Turn Off Hard Drives:

Select the amount of idle time allowed before the hard drives are shut

down. Remember that the device will stay powered on, only the hard drives lose power. They will regain power immediately after attempting to access them.

Power Management Settings:

Power Management: ☒ Enable ☐ Disable

Turn Off Hard Drives: After 5mins

Save Cancel

Click 'Save' when finished.

Web Configuration

Download/Backup - Section

Download files from a FTP server or web server or Backup shared files and folders from a computer or NAS.

The screenshot shows the Verbatim PowerBay web configuration interface. On the left is a blue sidebar with a navigation menu. The main content area is titled 'Download / Backup:' and contains two sections: 'Download Settings:' and 'Download List:'. The 'Download Settings:' section includes fields for 'Login Method' (Account/Anonymous), 'Type' (Folder), 'URL', 'Save To', 'Recurring Backup' (None), and 'When' (00:00:01 / 01 / 2009). There are also 'Test', 'Local', and 'Browse' buttons. The 'Download List:' section shows a table with columns for 'Status', 'Download Path', 'Save To', 'Volume Locked', 'Modify Time', and 'Delete'. At the bottom are 'Save' and 'Cancel' buttons.

Verbatim PowerBay™

Home
Networks
Basic Setup
Advanced Setup
Disk Management
Download/Backup
FTP/HTTP Download/B...
Download/Backup Status
USB/eSATA Backup
Schedule LAN Backup
Real Time LAN Backup
Maintenance
System Status
Help
Logout

Download / Backup:

Download Settings:

Login Method: ☐ Account ☒ Anonymous

Type: Folder

URL: Test Local

Save To: Browse

Recurring Backup: None

When: 00 : 00 : 01 / 01 / 2009

☐ Incremental Backup (Only for Local Backup)

Download List:

Status	Download Path	Save To	Volume Locked	Modify Time	Delete

Save Cancel

FTP/HTTP - Page

Login Method:

Enter the login information for an FTP site which contains the files you wish to schedule for download. If no password is required, choose 'Anonymous.'

If a password is required, choose 'Account' and provide the login name and password.

Type:

Select either 'File' or 'Folder' from the drop down list depending on what you plan to download. Choose File if downloading a specific file. Choose Folder if downloading all files in a specific folder.

This is a detailed view of the 'Download Settings' dialog box. It contains the same fields and controls as seen in the main screenshot, including the 'Login Method' (Account/Anonymous), 'Type' (Folder), 'URL', 'Save To', 'Recurring Backup' (None), and 'When' (00:00:01 / 01 / 2009) fields. There are also 'Test', 'Local', and 'Browse' buttons. The 'Download List' section shows a table with columns for 'Status', 'Download Path', 'Save To', 'Volume Locked', 'Modify Time', and 'Delete'. At the bottom are 'Save' and 'Cancel' buttons.

Download Settings:

Login Method: ☐ Account ☒ Anonymous

Type: Folder

URL: Test Local

Save To: Browse

Recurring Backup: None

When: 00 : 00 : 01 / 01 / 2009

☐ Incremental Backup (Only for Local Backup)

Download List:

Status	Download Path	Save To	Volume Locked	Modify Time	Delete

Save Cancel

Web Configuration

URL:

Enter the FTP, HTTP or Local site address for the scheduled download. Click on Test to verify access to the site address and file/folder. Click on Local to browse for a folder from the internal drives. If you have chosen 'File' from the above drop down list, you must specify the exact file in the URL path. This includes the file extension. (e.g. `http://example.com/test/testfile.txt`)

Save To:

Enter the specific destination within the internal drives for downloaded files or folders to be saved. Click 'Browse' to browse the internal drives.

Recurring Backup:

For backups that will be scheduled to happen at a regular time, select the desired interval (daily, weekly or monthly) and the time you want the backup to start.

When:

Select the date and time for the download to occur.

Incremental Backup:

This type of backup, if selected, will compare files of identical names on both source and destination folders. If the source file was modified later than the destination file, the source file will overwrite the existing (old) destination file. If the source file is the same as the destination file, no action will be taken.







Schedule List:

Pending or completed download events will be listed here. Current status is displayed for each event and there is an option to delete a download event at any time.

Schedule List:					
Status	%	Speed	Download Path	Save To	Time

Schedule Status - Page

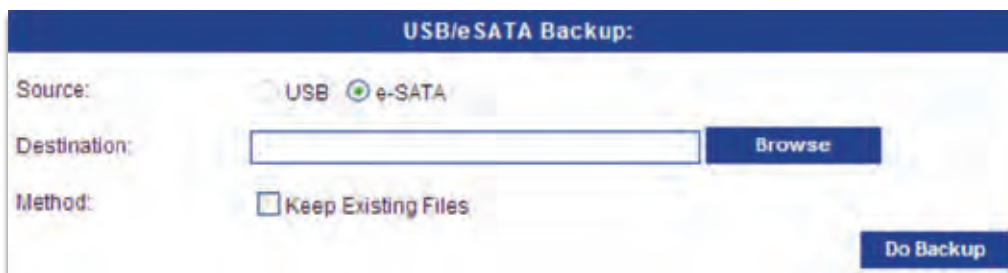
View the progress and status of currently scheduled downloads. Pending or completed download events will be listed here. Current download statistics, such as % completed and download speed, are displayed for each event. A refresh button is also provided to produce updated listings at any time.

	Download was successful.
	Download failed.
	Download has not yet occurred.
	Waiting.
	Link file.
	The file is downloading

Web Configuration

USB/eSATA Backup - Page

Back up data from an attached USB drive or an attached eSATA drive to NAS.



The screenshot shows a web configuration window titled "USB/eSATA Backup:". It contains three main sections: "Source:" with radio buttons for "USB" and "e-SATA" (the latter is selected); "Destination:" with a text input field and a "Browse" button; and "Method:" with a checkbox labeled "Keep Existing Files". A "Do Backup" button is located at the bottom right.

Source:

Choose the backup source, USB drive or eSATA drive.

Destination:

Specify the NAS destination folder either by entering the folder name directly or by browsing to the folder.

Method:

Check the box "Keep Existing Files" to keep your older backed up data. When this box is left unchecked, your older data will be overwritten.

Schedule LAN Backup - Page

This section allows you to use Rsync to backup files to/from another Rsync server.

Rsync Login Method:

Authentication method of server. Selecting "Account" requires you to specify a User Name and Password.

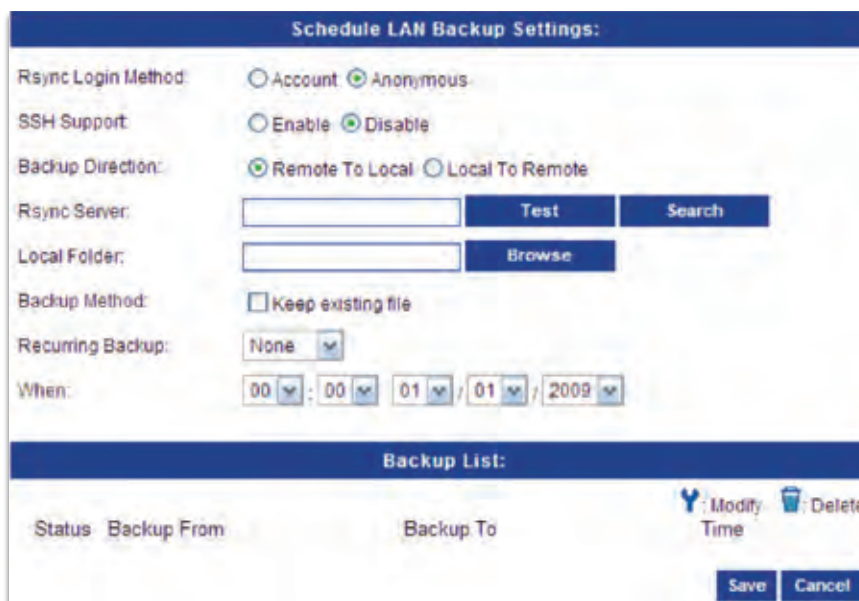
Remote Rsync

User Name:

Enter the user name that will be allowed to connect to the remote Rsync server.

Remote Rsync Password:

Remote Rsync User Name's password.



The screenshot shows a web configuration window titled "Schedule LAN Backup Settings:". It contains several settings: "Rsync Login Method" with radio buttons for "Account" and "Anonymous" (selected); "SSH Support" with radio buttons for "Enable" and "Disable" (selected); "Backup Direction:" with radio buttons for "Remote To Local" (selected) and "Local To Remote"; "Rsync Server:" with a text input field and "Test" and "Search" buttons; "Local Folder:" with a text input field and a "Browse" button; "Backup Method:" with a checkbox labeled "Keep existing file"; "Recurring Backup:" with a dropdown menu set to "None"; and "When:" with a date/time picker set to "00 : 00 / 01 / 2009". Below these settings is a "Backup List:" section with a table header showing "Status", "Backup From", and "Backup To". To the right of the table are icons for "Modify" and "Delete", and "Save" and "Cancel" buttons at the bottom right.

SSH Support:

Secure Shell or SSH is a protocol that allows data to be exchanged using a secure channel between two networked devices. Enable this option for remote transfers when you need a high degree of security.

Web Configuration

Remote SSH User Name:
The SSH user name that will be allowed to connect to the remote Rsync server.

Remote SSH Password:
Remote SSH User Name's password.

Backup Direction:
Copy data from the remote server to the PowerBay NAS array or from the PowerBay NAS array to the remote server.

Schedule LAN Backup Settings:

Rsync Login Method: ☐ Account ☒ Anonymous

SSH Support: ☐ Enable ☒ Disable

Backup Direction: ☒ Remote To Local ☐ Local To Remote

Rsync Server: **Test** **Search**

Local Folder: **Browse**

Backup Method: ☐ Keep existing file

Recurring Backup: **None** ▼

When: **00** : **00** / **01** / **2009**

Backup List:

Status	Backup From	Backup To
--------	-------------	-----------

Modify **Delete** **Save** **Cancel**

Rsync Server:
The URL of the Rsync server. Its format will be "xxx.xxx.xxx.xxx::sharedname".

Search:
If the user doesn't know the URL of the Rsync Server, you can click the Search button to search for the name of an existing Rsync Server running on another PowerBay NAS array on the network.

Local Folder:
The directory of the PowerBay NAS array that is used to save data or export to remote server.

Method:
Check the box "Keep Existing Files" to keep your older backed up data. When this box is left unchecked, your older data will be overwritten.

Recurring Backup:
Set the frequency for backups.

When:
Choose a time window for recurring backups to take place.

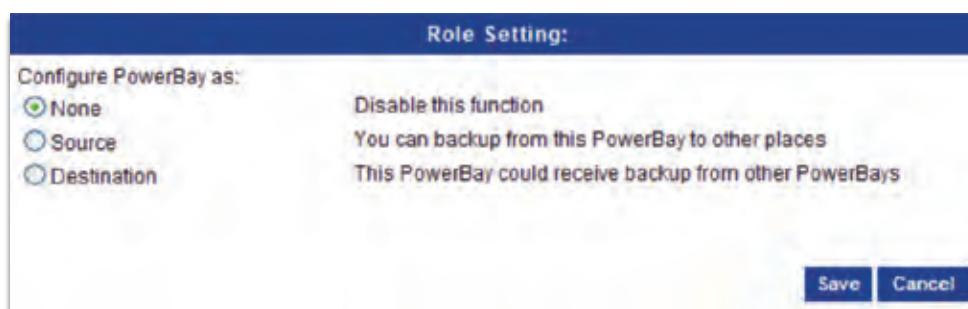
Backup List:
View the scheduled LAN backup status.

Web Configuration

Real Time LAN Backup - Page

Here you can configure the PowerBay NAS array to backup files in real time to Rsync. Any further changes to the files in the Source folder would reflect in the Destination folder in real time. There are two roles in which to configure the Real Time LAN Backup configuration.

1. Source: Where you can backup this PowerBay NAS array to another PowerBay NAS array that has the Rsync Server running.
2. Destination: Where you can backup another PowerBay NAS array to this PowerBay NAS array that has the Rsync Server running.



The 'Role Setting' dialog box has a title bar 'Role Setting:'. Below it, 'Configure PowerBay as:' is followed by three radio buttons: 'None' (selected), 'Source', and 'Destination'. To the right of these buttons are three lines of text: 'Disable this function', 'You can backup from this PowerBay to other places', and 'This PowerBay could receive backup from other PowerBays'. At the bottom right are 'Save' and 'Cancel' buttons.

Source Role:

In order to configure this PowerBay NAS array in the Source Role Rsync needs to be disabled on this PowerBay NAS array.

Create Task:

Check this box to create a backup task.

Source Folder:

The directory of the PowerBay NAS array used to save data or export to remote server.

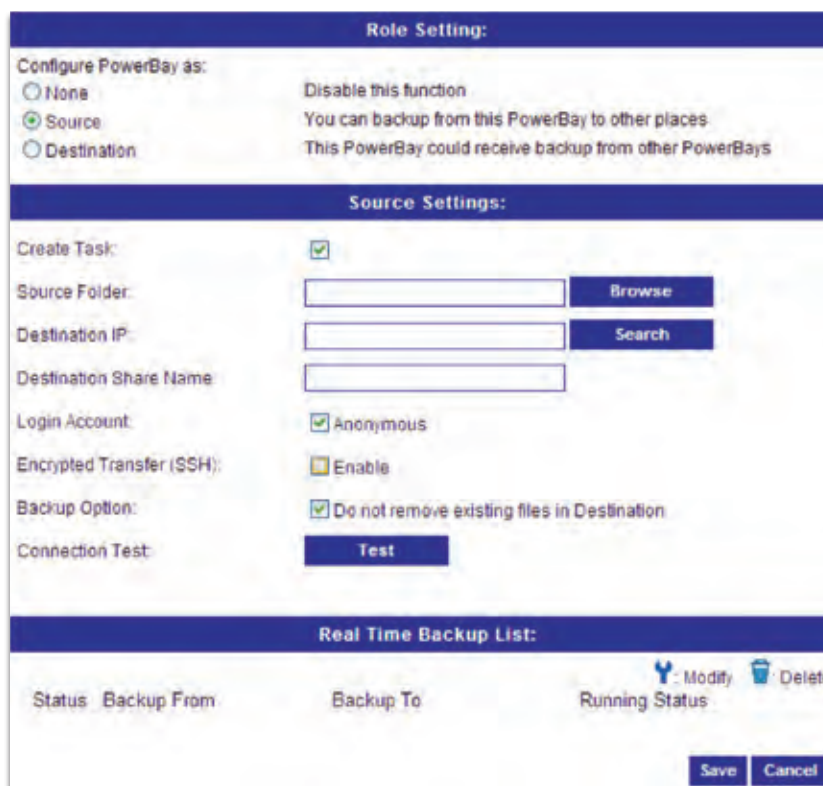
Destination IP:

The IP address of the remote Rsync server.

When you don't have the IP address of the remote Rsync server you can use the Search button to search for the remote Rsync server using its host name.

Destination Share-Name:

Enter the destination share name.



The 'Role Setting' dialog box is shown with the 'Source' role selected. Below the role settings is a section titled 'Source Settings:'. It contains several fields: 'Create Task' (checked), 'Source Folder' (with a 'Browse' button), 'Destination IP' (with a 'Search' button), 'Destination Share Name' (empty), 'Login Account' (set to 'Anonymous'), 'Encrypted Transfer (SSH)' (set to 'Enable'), 'Backup Option' (set to 'Do not remove existing files in Destination'), and 'Connection Test' (with a 'Test' button). At the bottom is a section titled 'Real Time Backup List:'. It has a table with columns 'Status', 'Backup From', 'Backup To', and 'Running Status'. There are 'Modify' and 'Delete' icons above the table. At the bottom right are 'Save' and 'Cancel' buttons.

Web Configuration

Login Account:

Check this box if you want to login anonymously. Uncheck this box if you want to manually configure the login account with a user name and password.

Name:

When using a login account, enter the name that will be used for the remote Rsync server.

Password:

When using a login account, enter the password that will be used to connect to the remote Rsync server.

Encrypted Transfer (SSH):

If the remote Rsync server supports SSH (Secure Shell) transfer, check this box to enable.

Name:

The name that will be used to encrypt the Rsync connection to the remote server.

Password:

The password that will be used to encrypt the Rsync connection to the remote server.

Backup Option:

Check this box if you want to retain the files in the remote server that do not exist in the Source Folder.

Backup List:

This section allows you to view and manage the real time backup tasks.

Destination Role:

In order to configure this PowerBay NAS array in the Destination Role, Rsync needs to be enabled on this PowerBay NAS array.

Role Setting:

Configure PowerBay as:

☐ None Disable this function

☐ Source You can backup from this PowerBay to other places

☒ Destination This PowerBay could receive backup from other PowerBays

Destination Settings:

☒ Rsync Server Ready

Save Cancel

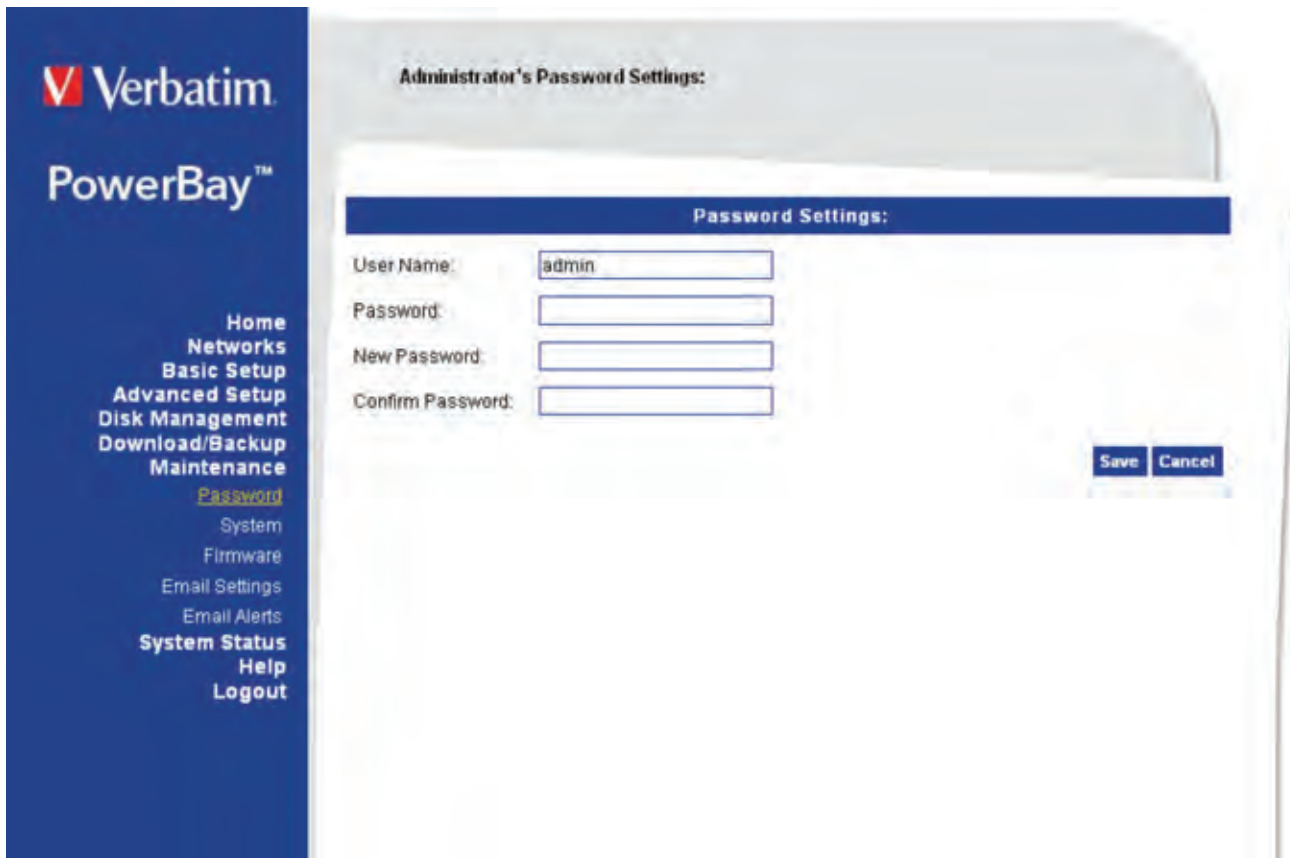
Rsync Server Ready:

When enabling the Destination Role, the PowerBay NAS array will only check if the Rsync Server is enabled and then reply if it is ready or not.

Web Configuration

Maintenance - Section

The Password menu allows you to set a password for the admin account. It is recommended to set an admin account password when first configuring the device.

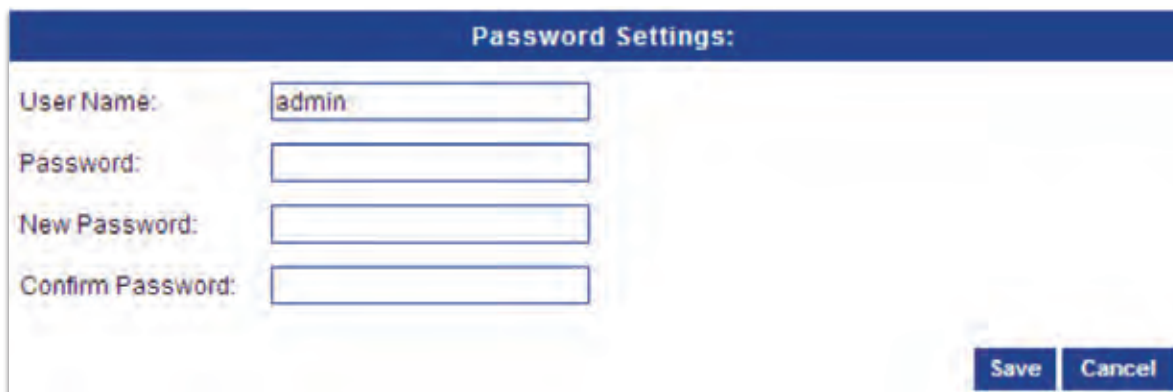


The screenshot shows the Verbatim PowerBay web configuration interface. On the left is a blue sidebar with the Verbatim logo and a menu of options: Home, Networks, Basic Setup, Advanced Setup, Disk Management, Download/Backup, Maintenance, Password (highlighted), System, Firmware, Email Settings, Email Alerts, System Status, Help, and Logout. The main content area is titled 'Administrator's Password Settings:'. Below this is a 'Password Settings:' section with four input fields: 'User Name:' (containing 'admin'), 'Password:', 'New Password:', and 'Confirm Password:'. At the bottom right of this section are 'Save' and 'Cancel' buttons.

Password - Page

Password:

Change the administrator's password. Enter the current password, then the new password. When entering a non-null password, you must enter a password of at least 5 characters in length. Type in the new password again and click 'Save' to put the change into effect.



This is a close-up of the 'Password Settings:' form. It contains four input fields: 'User Name:' with the value 'admin', 'Password:', 'New Password:', and 'Confirm Password:'. 'Save' and 'Cancel' buttons are located at the bottom right.

Web Configuration

System - Page

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

Restart:

Click 'Restart' to reboot the PowerBay NAS array.

Defaults:

Click 'Restore' to reset the PowerBay NAS array to factory default settings. Use the restore feature only if necessary since this will erase all previously saved settings on the unit. This process will not harm or change any data on the internal drives.

Shutdown:

Press the Shutdown button to initiate the power down sequence; this returns the unit to the standby power state.

Configuration Settings:

Save configuration settings by pressing the 'Save' button and then choosing a destination folder for the configuration file. The default name of the configuration file is CfgBackup.

To load previously saved configuration settings, 'Browse' to the configuration file and then press the 'Load' button.

Idle Time:

Enter a value for the System Inactivity Timer. If the administrator is idle for longer than the specified time, he/she will be logged out of the configuration area. Click 'Apply' when finished.

The screenshot displays the 'System' configuration page with several sections:

- Restart:** A 'System Restart' label and a 'Restart' button.
- Default Settings:** A 'Restore To Factory Default Settings.' label and a 'Restore' button.
- Shutdown:** A 'System shutdown.' label and a 'Shutdown' button.
- Configuration Settings:** 'Save Configuration Settings.' with a 'Save' button, and 'Load Configuration Settings.' with a text input field, a 'Browse...' button, and a 'Load' button.
- Idle Time:** 'Config Inactivity Timer' set to '10 (Minutes)' with an 'Apply' button.
- System Overheat Temperature:** A note about 1-minute shutdown at exceeded temperature, 'System Overheat Temperature' set to 'Fahrenheit' and '145 °F', with an 'Apply' button.
- Automatic Power Recovery:** 'Automatic Power Recovery' with 'Enable' (selected) and 'Disable' radio buttons, and an 'Apply' button.
- Schedule Power On/Off:** 'Schedule Power On/Off Mode' set to 'Period', 'Period' section with 'Schedule Power On/Off' set to 'Schedule On', 'Mode' set to 'disable', 'When' set to '00:00 / 01:01', and an 'Apply' button. Below are 'Status', 'Schedule On:', and 'Schedule Off:' labels.

Web Configuration

System Overheat Temperature:

Enter a value for the thermal monitor trip point. If the system temperature is exceeded for more than 1 minute, the system will be shut down automatically. Click 'Apply' when finished.

Automatic Power Recovery:

If this feature has been enabled and the electric power is cut off or the system cannot complete a normal power off, the system will power on automatically when power is restored. Click 'Apply' when finished.

Schedule Power On/Off:

You can set what time you want to shut down the PowerBay NAS array or to power on the PowerBay NAS array. Use 'Mode' to disable it or enable it.

When 'Schedule Power On/Off Mode' is set to 'Days of Week,' you can fill in the table presented to define on/off times for each day independently. Click 'Apply' when finished.

	Schedule On		Schedule Off	
SUN:	<input type="checkbox"/>	00:00	<input type="checkbox"/>	00:00
MON:	<input type="checkbox"/>	00:00	<input type="checkbox"/>	00:00
TUE:	<input type="checkbox"/>	00:00	<input type="checkbox"/>	00:00
WED:	<input type="checkbox"/>	00:00	<input type="checkbox"/>	00:00
THU:	<input type="checkbox"/>	00:00	<input type="checkbox"/>	00:00
FRI:	<input type="checkbox"/>	00:00	<input type="checkbox"/>	00:00
SAT:	<input type="checkbox"/>	00:00	<input type="checkbox"/>	00:00

Firmware - Page

The PowerBay NAS array Firmware menu allows you to install new firmware releases for the device.

Firmware:

You can upgrade the firmware of the device from this page. The firmware file you want to use must be saved

Current Firmware Version: 1.00b25

Firmware Date: 2009.09.04.1822

Upgrade File: Browse...

Upgrade Cancel

on the local hard drive of the computer you are working from. Click on 'Browse' to search the local hard drive for the firmware file to be used for the update. Click 'Upgrade' to begin the upgrade. Please wait a few minutes for the file to download fully and for the unit to return to the standby power state. You will then be prompted to pull out the power plug, to reinsert the power plug and then to power on the unit to complete the upgrade process.

Web Configuration

E-Mail Settings - Page

On the E-Mail settings page, you can configure the PowerBay NAS array to automatically prepare and send e-mails to alert you to certain operational conditions and drive status conditions.

Login Method:

Select 'Account' if your SMTP server requires authentication. Select 'anonymous' if it does not.

User Name:

If 'Account' is selected, enter the user name of your e-mail account.

Password:

If 'Account' is selected, enter the password for your e-mail account.

SMTP Server:

Enter the SMTP Server address. This will be your outgoing mail server address. If you are not sure what this is, contact the company that provides e-mail services for you.

Port Number:

Enter the port number used by your SMTP Server.

Sender E-Mail:

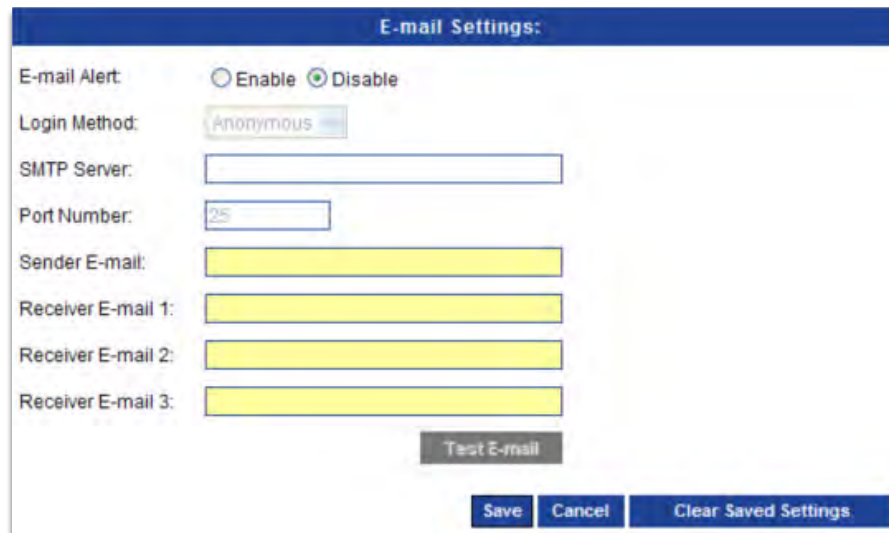
Enter the Sender's e-mail address. This is the address that the e-mail alerts will appear to be coming from.

Receiver E-Mails:

Enter up to three Receiver e-mail addresses. These are the addresses you want the e-mail alerts to be sent to.

Receiver e-mail 1 is assumed to be the Administrator and so this address is used for certain other Administrator functions, such as encryption key notification.

Click 'Save Settings' when finished. Pressing the "Test E-Mail" button will cause an e-mail message to be generated as a test.



The screenshot shows the 'E-mail Settings' web configuration page. At the top, there is a title bar 'E-mail Settings:'. Below it, the 'E-mail Alert' section has two radio buttons: 'Enable' and 'Disable', with 'Disable' selected. The 'Login Method' is set to 'Anonymous' in a dropdown menu. The 'SMTP Server' field is empty. The 'Port Number' field contains '25'. The 'Sender E-mail' field is empty. The 'Receiver E-mail 1', 'Receiver E-mail 2', and 'Receiver E-mail 3' fields are all empty. At the bottom right, there is a 'Test E-mail' button. At the very bottom, there are three buttons: 'Save', 'Cancel', and 'Clear Saved Settings'.

Web Configuration

E-Mail Alerts - Page

Send E-mail alerts for certain conditions or for drive space status updates.

Alert Types:

Select the information you want e-mailed to the recipient specified. The space status can be sent in intervals while the other items will only be sent when necessary.

Click 'Save Settings' when finished.

E-mail Alert Types:

☐ The Administrator's Password Has Been Changed

☐ Firmware Has Been Upgraded

☐ The Network IP Has Been Changed

☐ UPS Power is Lower

☐ Volume Activities

☐ Realtime Backup Activities

☐ System Temperature Has Exceeded 63°C / 145°F

Save

Cancel

Clear Saved Settings

System Status - Section

Information - Page

View a summary of System information here.

Verbatim
PowerBay™

[Home](#)
[Networks](#)
[Basic Setup](#)
[Advanced Setup](#)
[Disk Management](#)
[Download/Backup](#)
[Maintenance](#)
[System Status](#)
[System Status](#)
[Help](#)
[Logout](#)

System Information:

LAN Port Info:

IP Address: 192.168.1.100
Subnet Mask: 255.255.255.0
Gateway IP Address: 192.168.1.1
Mac Address: 00:50:82:05:06:03
DNS1: 192.168.1.1
DNS2:

EXT Port Info:

IP Address: 192.168.1.121
Subnet Mask: 255.255.255.0
Gateway IP Address: 192.168.1.1
Mac Address: 00:50:82:05:06:04
DNS1:
DNS2:

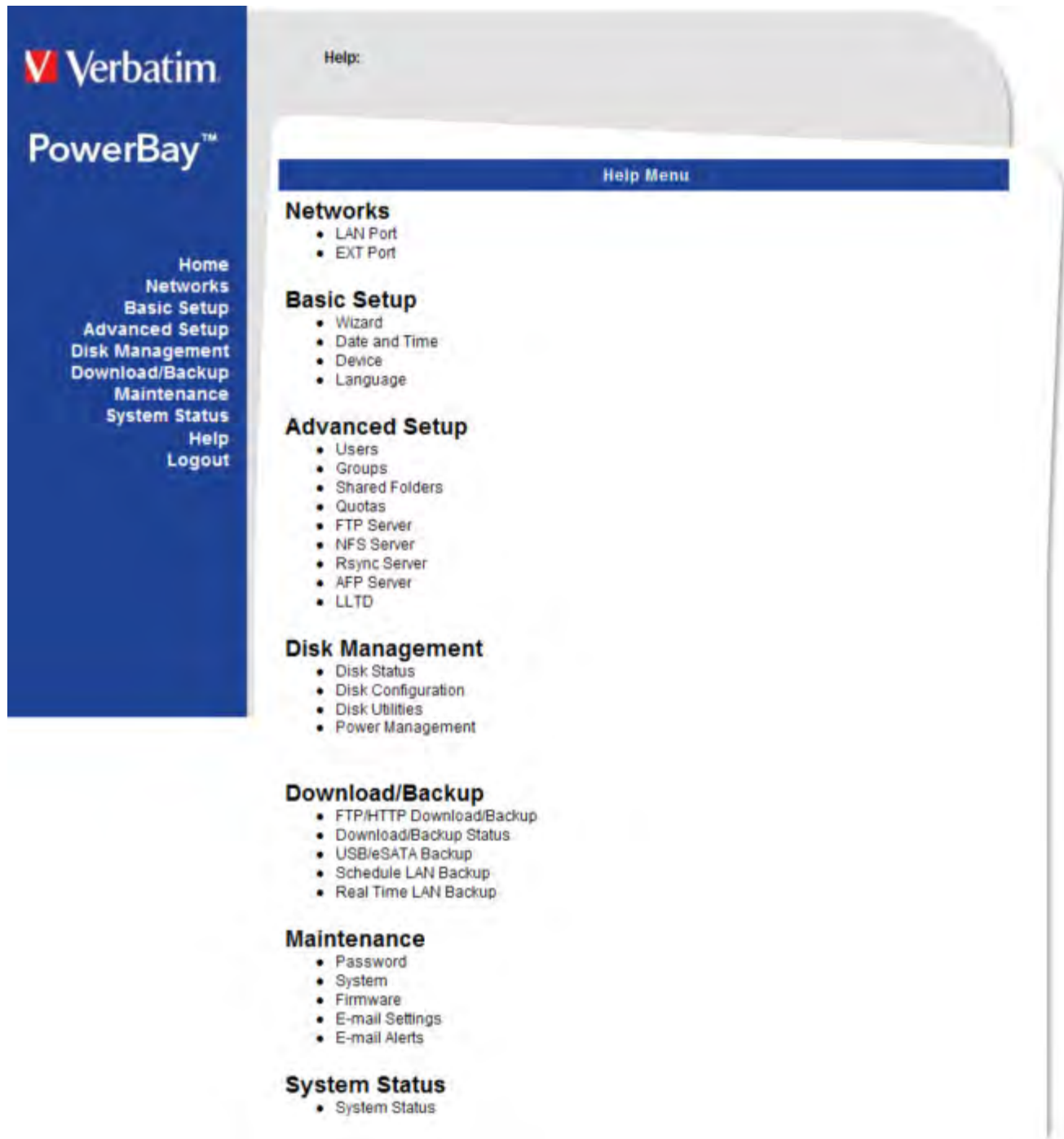
Device Info:

Workgroup: workgroup
Name: PowerBay
Description: Verbatim 4-bay NAS
System Temperature: 43°C/109°F

Web Configuration

Help Menu - Section

The PowerBay NAS array help page provides a menu of help topics explaining the features of the device.



Getting Help

If you are experiencing difficulty installing or using your Verbatim product, please visit the main Technical Support website at www.verbatim.com/support.

Knowledge Base

Sharing files using Windows

The PowerBay NAS array supports Microsoft Common Internet File System (CIFS), also known as Server Message Block (SMB) protocol. The SMB protocol is implemented on the PowerBay NAS array using the popular Samba software. Any PC running Windows 2000, Windows XP or Windows Vista can access shared files on the PowerBay NAS array. Once you can view the folder in My Computer or in Windows Explorer, you can drag and drop files to this folder like you can with any folder.

There are several alternative ways to view the NAS shared folders in Windows. For example, you can:

- Use the **Run** dialogue box accessed through the **Start** button in the system tray.
- Browse through the **Network Neighborhood**.
- Use the **Search** dialogue box accessed through the **Start** button or **File Browser**.
- Look through devices in **My Computer**.

Run Dialogue

To find the PowerBay NAS array using this method, select **Start** in the system tray and select **Run**. In the **Open:** field provided enter “\\” followed by the PowerBay NAS array’s IP and then press OK. If your IP has already been associated with the device name, then you may alternatively enter “\\PowerBay” and then press OK.

Browse Network Neighborhood

Open the **File Browser** and double-click on **Network Neighborhood** or **My Network Places**. Browse to **Workgroup** to find the PowerBay NAS array shared folders.

Search Dialogue

Select **Start** in the system tray and select **Search**. Use the **Search** dialogue to search for **Computers**. For the computer name to search for enter “powerbay” and then press **Search Now** to find the connected the PowerBay NAS array. Double-click the PowerBay NAS array entry to connect and view its shared folders.

Knowledge Base

Browse My Computer

Open **My Computer** and double-click on **My Network Places**. Browse to **Workgroup** to find the PowerBay NAS array shared folders.

Once you have located the attached shared folders of the PowerBay NAS array, you can map a drive letter to a folder. [You must assign a drive letter in order to save files to the PowerBay NAS array using the bundled backup software.] To do this, right-click on the folder and select “map network drive.” Fill out the dialogue box that Windows presents (input the logical drive letter and enter the path of a network share directory) and then select Finish. Now you can log in using the Samba User Account credentials that you created using the web configuration tool of the PowerBay NAS array. The PowerBay NAS array will show up in **My Computer** under **Network Drives**.

Sharing files using Mac OS X

A Mac running Mac OS X can access a connected PowerBay NAS array. Click on Go / Network to open the Network window. Existing shares will show after expanding the “Shared” list or by clicking on the PowerBay NAS array name in the list of attached devices.

To login to specific shares, you may need to double-click on “PowerBay” located in “Workgroup” to open the connection dialogue box. If prompted to “Select SMB/CIFS shared volume you want to connect to” use the pull-down menu to select one of the current shares. You will then be prompted to authenticate by entering your user name and password. For “user name” use the Mac OS “Short Name” that you used to create your account on the PowerBay NAS array.

After completing authentication your shared folder will appear on your desktop. You can now drag and drop files to this folder like you can for any folder.

Sharing files using Linux

If you are primarily sharing files across Linux or UNIX computers, you should configure the PowerBay NAS array to use NFS (Network File System) for file sharing instead of SMB. While your Operating System documentation will explain the details of NFS file sharing, the brief steps below will get you started.

- 1) Use the PowerBay NAS array web-based configuration tool to enable NFS by checking the Enable box at:

Advanced Setup / NFS Server

- 2) Use the web-based administration tool to create a new share and define the share’s NFS access properties using the settings for Allowed Host, Folder and Root Squash.

Knowledge Base

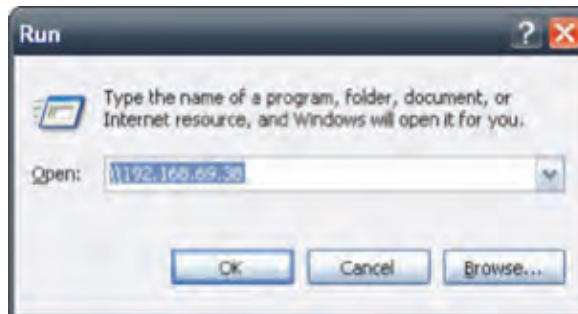
- 3) Log into the Linux PC as root.
- 4) Create a mount point, such as /mnt/nas by entering the mount command from your client computer. For example,

```
mount -t nfs <IP address of the PowerBay NAS array>:/shares/powerbay/powerbay/mnt/nas
```

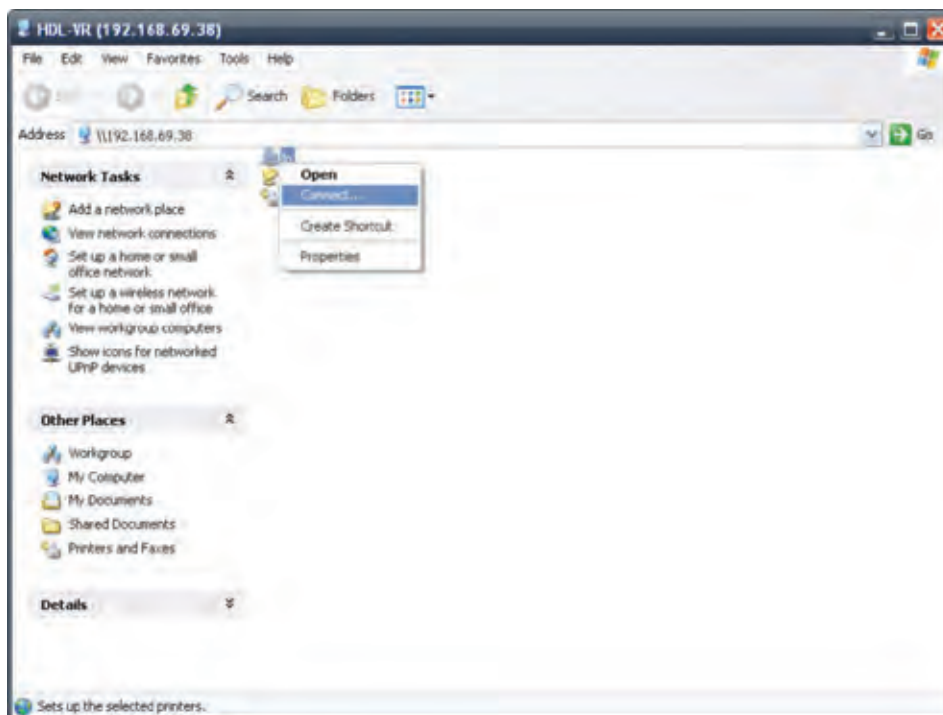
Now the folder Powerbay will be mounted to the directory /mnt/nas in the Linux system. Linux users with access privileges can now access files in this directory.

USB Print Server Installation

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

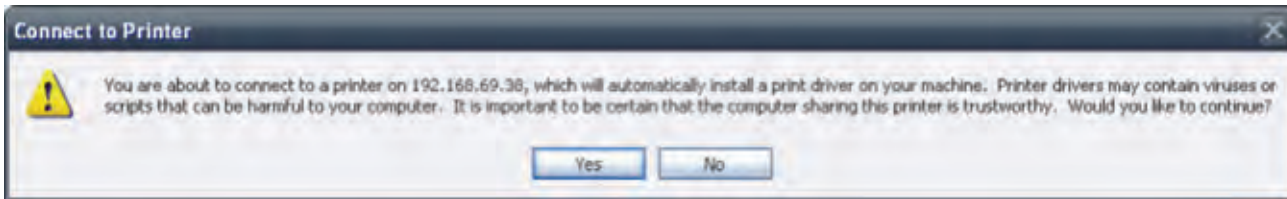


1. Go to Start > Run and enter the following command to access your PowerBay NAS array: \\xxx.xxx.xxx.xxx (where xxx.xxx.xxx.xxx is the IP address of your PowerBay NAS array). Click OK.



2. Next you'll see a printer already listed named 'lp'. Right click on the printer called 'lp' and choose the option 'Connect'.

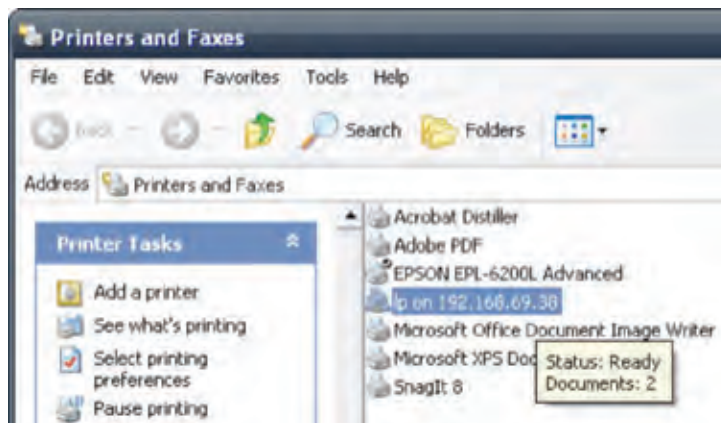
USB Print Server Installation



3. The next message will tell you that the printer will be installed on your computer automatically and that you will need to install the appropriate printer drivers for it. Click OK.



4. Locate and install the correct printer drivers for your printer. Click OK.



5. This will complete the print server setup procedure. You can view your newly added printer in your printer and fax window.

Knowledge Base

Hot-Swap Function

The PowerBay NAS array supports hot-swap drive trays. You can eject or insert hard drive cartridges when the PowerBay NAS array is operating.

However, if the hard drives are created in various levels of RAID, you cannot hot swap all the hard drives at the same time. Hot swapping all the hard drives will cause a loss of data, and the RAID volume will need to be re-created again. Different levels of RAID require various numbers of hard drives remaining in the PowerBay NAS array.

RAID 0: If any single hard drive is hot-swapped, the data will be lost and the array will be destroyed.

RAID 1: You can hot swap the hard drives as long as one of the drives in the 3-drive mirror array is still in the PowerBay NAS array. Removal of all hard drives will result in a loss of all data and volume will have crashed. You may always remove the spare drive provided that it has not yet been activated.

RAID 5: In a RAID 5 volume, it is only possible to hot swap 1 hard drive at a time without losing all data. This is because a RAID 5 volume can only tolerate the loss of 1 hard drive and still continue to work. After hot swapping a hard drive, the volume must first be rebuilt before another hard drive can be hot swapped, otherwise this will also result in a loss of all data and the RAID volume will have crashed. If you are configured for RAID 5 plus Spare, you may always remove the spare drive provided that it has not yet been activated.

RAID 6: In a RAID 6 volume, it is possible to hot swap any 2 hard drives at a time without losing data.

The hot-swap feature is only indicated by the LED behavior of the individual HDD LEDs. If the HDD is functioning normally, its LED will be solid blue. When you slide the HDD locking button to the right to prepare to swap the HDD, the HDD LED will go off. As soon as you insert the new HDD into the slot and slide the HDD locking button to the left, the blue light will appear again indicating that the HDD status is ready.

Please take note that removing a disk from the PowerBay NAS array and inserting it in another device is not advisable, even if it is another PowerBay NAS array. Taking such action may jeopardize the integrity of the data.

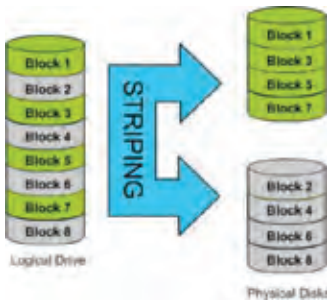
Knowledge Base

What is RAID?

RAID, short for Redundant Array of Independent Disks, is storage configuration that combines two or more disks for the purpose of providing fault tolerance and/or improving performance. There are several different configurations or levels of RAID, each providing a different method of sharing or distributing data among the drives.

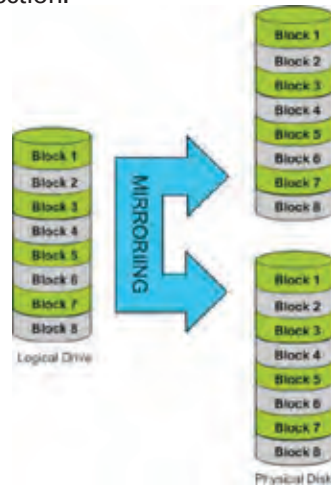
RAID 0

RAID 0 provides data striping, which spreads out blocks of data over all drives, but does not provide data redundancy. Although performance is improved, the lack of fault tolerance means that if one drive fails, all data in the array will be lost.



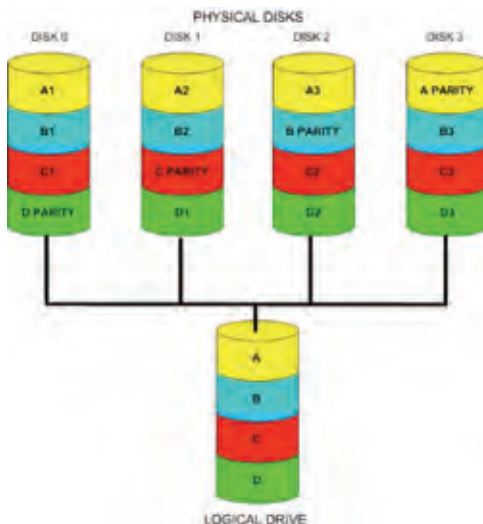
RAID 1

RAID 1 provides mirroring over multiple disks with the same read/write speed of a single disk. A RAID 1 array can only be as large as its smallest member disk. Because the data is stored on multiple disks, RAID 1 provides fault tolerance and protection.



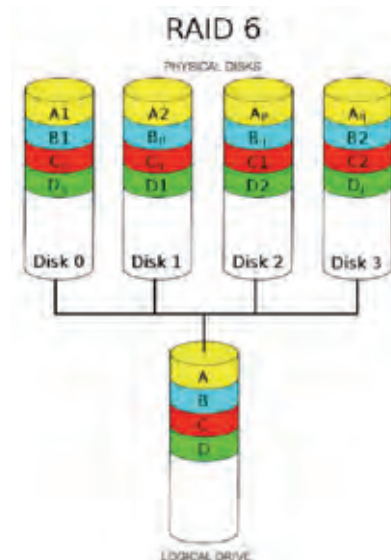
RAID 5

RAID 5 provides data striping with distributed parity, which stores information that can be used to reconstruct data. A RAID 5 array will be the size of all the combined disks capacity less the capacity of one disk. For example, if there are 4x 500GB disks in the array, the array capacity will be 1.5TB (3x500GB). RAID 5 allows the array to continue operating even if one of the disks fails. The diagram below indicates the operation of RAID 5:



RAID 6

RAID 6 is an extension of RAID 5. It adds an additional parity block by using block-level striping with two parity blocks distributed across all the member disks. RAID 6 allows the array to continue operating even if two of the disks fail. The diagram below indicates the operation of RAID 6:



Technical Specifications

PHYSICAL & ENVIRONMENTAL	
Feature	Detailed Description
Power Supply	<ul style="list-style-type: none">• SANSIN ATX Power Supply (SU-082RW)• AC Input: 100~240Vac/1.8~0.7A; 50~60Hz• DC Output: 12/5/3.3/5Vdc/4.5/10/4.5/1A (124W)
Operating Temperature	5 ~ 35°C
Storage Temperature	-20~60°C
Operating Humidity	10 ~ 85% non-condensing
Storage Humidity	5 ~ 95% non-condensing
MTBF	35°C, 5 years
RoHS	Complies with RoHS
Dimension	6.7in × 9.1in × 7.2in (including rubber feet)

SOFTWARE FEATURES	
Feature	Detailed Description
Network File Protocols	FTP, SMB, NFS, AFP
Standards	IEEE 802.3/u/ab
Network Service Protocols	DHCP Client, SMB (Samba), SMTP, NTP
Network Client Type	Windows 7, 2000, XP, Vista; Linux; Mac OS X 10.2 and higher
File System	Internal HDD: EXT2/EXT3 External USB Storage: FAT32 (Read/Write) or NTFS (Read Only) External eSATA device: FAT32 (Read/Write) or NTFS (Read Only)
File Sharing	<ul style="list-style-type: none">• Max User Accounts: 128• Max Groups: 10• Max Shared Folders: 32• Max Concurrent Connections: 128 (Samba) /10 (FTP)
User Interface	<ul style="list-style-type: none">• HTTP Web browser – Internet Explorer v6 or later; Mozilla Firefox; Safari• Magical Finder utility
HDD	<ul style="list-style-type: none">• HDD control and management via PC• Reformat Disk• Disk Check• S.M.A.R.T Check• 256-bit AES Disk Encryption
Two RESET modes	<ul style="list-style-type: none">• Reset by web configuration GUI button• Reset by rear panel reset button (press and hold more than 5 seconds)



Do not replace the battery with an incorrect type.
Please dispose of used batteries according to the instructions.

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