



BroadNAS (Broadband Network Attached Storage)

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REVISION HISTORY

<i>Revision</i>	<i>Date</i>	<i>Change Description</i>
94780-UM100-R	01/13/04	Initial release.

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TABLE OF CONTENTS

Section 1: PC Configuration	1
Introduction	1
The Hardware	1
Hardware Overview	1
Connectors	2
Front Panel Features	3
Authentication Button.....	5
Installation	6
Installation Procedure	7
Section 2: Web Configuration	11
Introduction	11
The Configuration Pages	11
Basic	12
File Access.....	14
Disk Management.....	15
Networking.....	17
Administration	19

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Section 1: PC Configuration

INTRODUCTION

The BroadNAS is a powerful, feature-rich device that allows disk storage to be put onto a home and SOHO network. The BroadNAS is by far the most advanced and flexible way to use digital storage in the home. Some BroadNAS features are:

- PCs can read and write files to the BroadNAS by way of wired or wireless networks.
- Different PCs can share the same files on a single BroadNAS.
- Local PC files can be backed up to a BroadNAS.

Even more importantly for the future, many other digital devices, such as set-top TV boxes, digital cameras, camcorders, digital audio players, and so on, are able to access the storage on the BroadNAS without being encumbered by having to go through a PC.

The name BroadNAS comes from the two roots of *broad* and *NAS*. The *broad* comes from broadband, meaning that huge amounts of digital data are available. In broadband, there are huge amounts of data being transferred to and from the home. In BroadNAS, there are huge amounts of data being stored and distributed throughout the home. The *NAS* is an acronym for Network Attached Storage, meaning the storage (disks) is attached to the network itself instead of being limited to a particular computer.

THE HARDWARE

HARDWARE OVERVIEW

The BroadNAS hardware is a box. Disks are put into the box, and the power and network connect to the box.

Depending on the model, BroadNAS may have any one of the following:

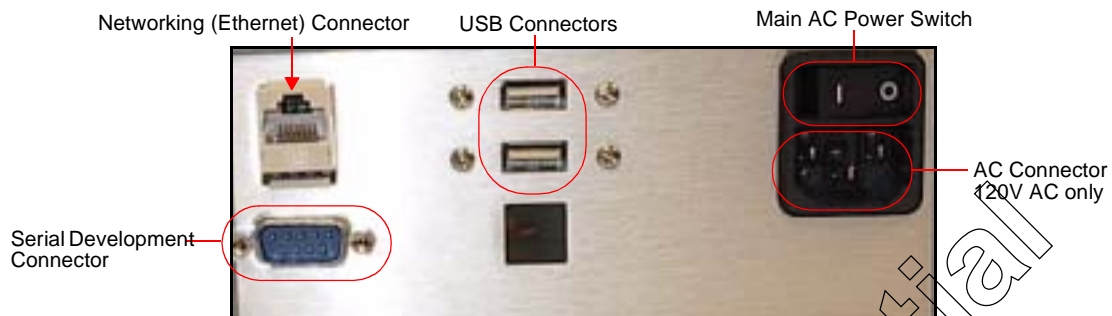
- Two-to-four or more quick-removable disk sleds.
- Disks built in and not easily added or removed.
- In addition to standard wired networking, some BroadNAS models also have wireless networking built in.

The model received with this document is a two-disk model with quick-removable sleds. In addition, it has:

- One wired network (Ethernet) connector
- Two USB 1.1 connectors to allow expansion through USB disks
- One power connector
- Several status lights
- A couple of controls on the box
- Some variants have wireless networking

Connectors

The connectors are on the back of the box, along with the main hard power shutoff switch.



Networking Connector

The Networking connector is a standard computer networking connector, also known as either a Fast Ethernet port or 10/100BASE-T port. The networking connector is the main connection between BroadNAS and the home network. The cable to connect here is not supplied with the BroadNAS but can be purchased at most computer supply stores.

USB Connectors

The USB connectors can be used to connect additional disks using the USB protocol, which is a flexible way to quickly or temporarily add disks (such as temporarily store data while upgrading one of the internal IDE disks). The data access is not as fast as for IDE disks, and the disks are generally more expensive than IDE disks of the same capacity. Some versions of the BroadNAS also support connecting a USB printer to one of these connectors, making the BroadNAS act as a print server, and accept printing requests from PCs on the network, saving the files to be printed on the BroadNAS disks until the printer has completed the process. USB cables are not provided with the BroadNAS, and many users may never need them because they do not use a USB disk or printer. If a USB device is to be connected, a cable can be obtained from the same source as the USB disk or printer or purchased at a computer supply store or website.

Main AC Power Switch

The Main AC power switch is used to completely cut off power to the BroadNAS. There are two power controls on the BroadNAS—a soft power control on the front and a hard power control on the back. The soft control on the front should be used for most purposes, since it gives the BroadNAS a chance to save in-flight data and shut down properly. The switch on the back is available as a backup in case something, which the soft power switch cannot fix, goes seriously wrong with the BroadNAS.

AC Connector

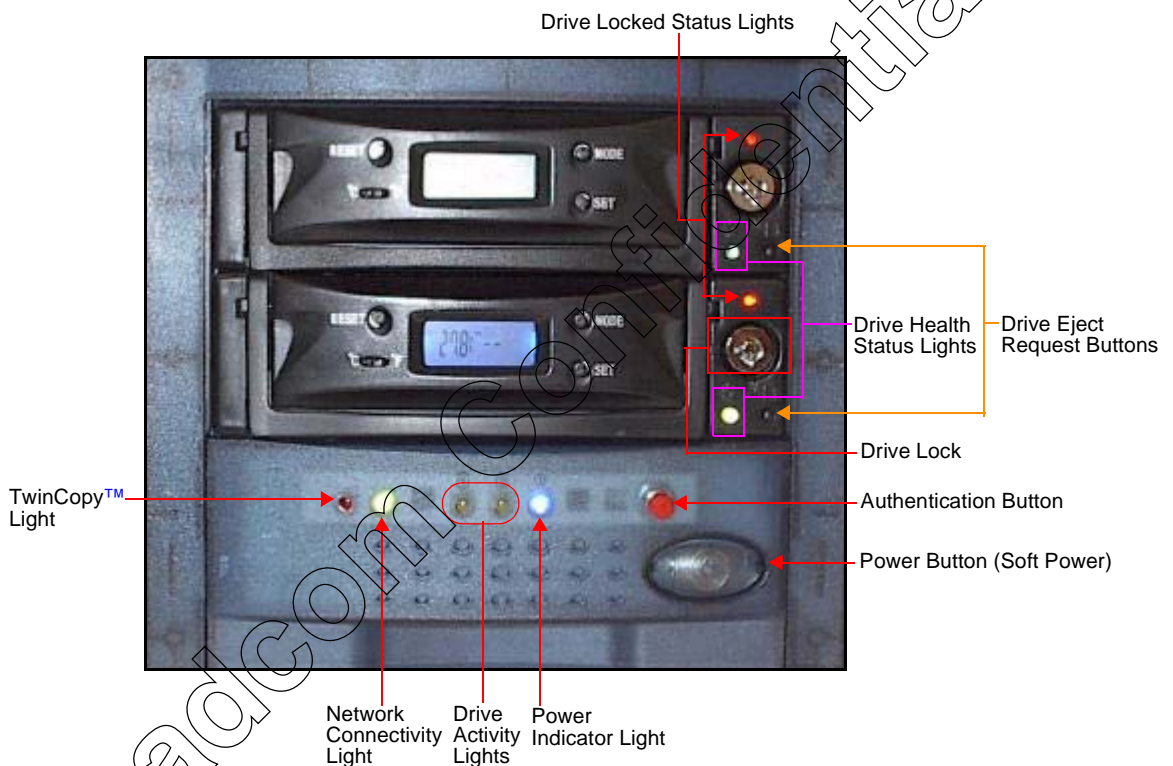
The AC connector is an industry-standard 120V connector. The supplied power cord or a compatible cord can be used to connect to a wall outlet or to an Uninterruptible Power Supply (UPS). A home UPS is probably a good investment for BroadNAS owners because it provides additional protection against damage to data due to power interruptions or surges. Typically, a single UPS can supply power to both a PC and a BroadNAS, because a BroadNAS is more efficient and uses much less power than a PC.

Serial Development Connector

The Serial Development connector is only intended for development and debugging of BroadNAS hardware and software and not intended to be used for a production product. There should not be a connector on the outside of any production BroadNAS products.

Front Panel Features

The front panel of the BroadNAS has the indicator lights, removable drive trays, and buttons for user interaction. Much more information and control are available through the web configuration interface, but the front panel still provides a useful additional interface.



Drive Locked Status Light

There is one red Drive Locked Status light for each disk. If the light is on, the corresponding disk is locked into the system by the software and should not be removed until it is unlocked and the light goes out.



Note: Some high-end BroadNAS models have devices to physically prevent the disk from being removed when the software considers the disk to be locked, but the word *locked* in this sense is not the same. In these models, the disk is physically prevented from being removed exactly when the drive locked status light is on or when a user physically uses the key to lock a drive in place.

Drive Health Status Light

There is one green Drive Health Status light for each disk. This light indicates any problems with the disk that have been detected by the BroadNAS. If the BroadNAS detects a disk in the corresponding slot and the BroadNAS considers the disk to be free from errors, the light is constantly on. If the BroadNAS believes that there is a problem with the disk, but it is still at least partly functional, the light blinks. A blinking light should be considered as an important warning that the disk should be replaced, even if it seems to be working. In addition to other methods, the BroadNAS uses a technology called SMART (Self-Monitoring Analysis and Reporting Technology) to keep tabs on the health of disks and try to detect when a disk is starting to have problems before any data is lost.



Note: No technology can predict all failures and disks can fail without the BroadNAS having detected the coming problem in some cases. BroadNAS, however, improves system reliability by detecting the kinds of problems that occur most of the time.

Drive Activity Lights

There are Drive Activity lights on the lower part of the front panel, one for each disk slot. Each light is on only while the corresponding disk is actually being written or read, so these lights tend to fluctuate depending on how heavily the BroadNAS is being used.

Drive Eject Request Buttons

For each disk slot, there is also one Drive Eject Request button that supports hot-swapping of disks. That means that if there is more than one disk in the system, one of the disks can be replaced without interrupting the use of the other one. This allows seamless upgrades of disks containing data protected by TwinCopy technology. When TwinCopy is not being used, the data on the disk ceases to be available when the disk is removed, but other disks in the system continue to function and be available without interruption.

If a disk is to be removed while the BroadNAS is running, the Drive Eject Request button should be pressed once to cause the software to cleanly shut down its accesses to the disk and then electrically disconnect the disk. The software then extinguishes the drive locked status light. When this light turns off, it is safe to remove the disk. After removing the old disk and putting in the new one, push the button a second time to inform the BroadNAS that the new disk has been inserted and is ready to use. At that point, the software electrically re-connects that disk slot and starts using the disk. The drive locked status light and drive health status light turn back on if all goes well to indicate that the new disk is locked in place and in good health.

Drive Lock

The Drive Lock is the one final control that the BroadNAS has for each disk slot, which is a physical lock that requires a physical key provided with the BroadNAS. Using this lock helps avoid accidental disk removals and discourages those without the key from removing disks.



Note: There are additional buttons and displays on the disk sleds themselves that are specific to the sleds and not directly connected to the BroadNAS. For details, refer to the documentation provided with each sled.

The sleds are acquired from third parties, and there are a number of variants of these sleds. The variants range from plain, inexpensive sleds with no external controls or displays to sophisticated sleds with temperature measurements, alarms, and detailed LCD displays.

Authentication Button

The Authentication button is used as a security measure to deny some degree of access to those who cannot prove physical access to the BroadNAS. The main idea here is that the primary security threat to a typical home BroadNAS is over the network from anonymous hackers, not from anyone inside the home. Passwords are good for protecting against intruders, but may have some disadvantages.

Example: A typical BroadNAS user might need to access the configuration interface only about once a year, making a password hard to remember. This could make the user have to call tech support or use an obvious password like *password* or *BroadNAS*, which would make the system easy prey to anyone on the network connecting to the BroadNAS. As a supplement or alternative, the user can choose to allow configuration access only to those who can press the button to prove they are in the house.



Note: This kind of physical authentication is not a replacement for passwords, and is another option that can be used with or instead of passwords, as the user chooses. It also helps avoid the initial setup security problem of deciding what the password should be when the system arrives. If it is the same for every BroadNAS or the system is not protected by a password until the user explicitly sets one, systems are vulnerable until the users explicitly configure them. This is a particular problem for a BroadNAS since all configuration is done over the network, unlike a PC where the initial configuration can be required to be done at the keyboard of that PC and not over the network.

Soft Power Button

The Soft Power button on the front of the box is a cleaner way to shut down power than the Hard Power switch on the back. For details, see [“Main AC Power Switch” on page 2](#).

Power Indicator Light

The Power Indicator light shows whether or not the BroadNAS is turned on. If the light is on, then the system is turned on.

Network Connectivity Light

The Network Connectivity light indicates whether or not there is a good physical connection to the network. If the light is not on, then the BroadNAS is unable to communicate on the network port at all. This typically means that a cable is either not connected, or connected to a device that is turned off or not working correctly.



Note: If the light is on, that does not necessarily mean that all is right with the network—it just means that the basic communication link is connected. The light might be on even if the BroadNAS cannot successfully serve files, such as if its network configuration is not compatible with that of the network to which it is connected.

TwinCopy™ Light

The final interface on the front panel is the TwinCopy light. TwinCopy is an advanced technology that allows some or all of the shares on the BroadNAS to have their data copied onto two or more disks, so the data is not lost if one disk fails. The copying is taken care of entirely by the BroadNAS and is nearly invisible when turned on, so the TwinCopy light is provided to indicate that it is functioning properly. If at least one share is protected by TwinCopy technology and one of the shares protected by TwinCopy technology is fully protected, then the TwinCopy light is constantly on. If all the TwinCopy shares are running with the right number of good disks, but at least one of them is in the process of an online rebuild, the light blinks. An online rebuild happens whenever the two copies of a TwinCopy share get out of sync. This can happen if one disk died and has been replaced, or if one disk was accidentally removed while the share was in use, the share continued to function, and later the original disk was put back. When an online rebuild is going on, the BroadNAS is busy copying and checking data to get the two copies back in sync. The shares are fully available during all of this—the BroadNAS works on putting things back in sync when it has time between jobs it does for external file read and write requests. After some time, the online rebuild finishes, and the two copies are back in sync and stay that way unless something else goes wrong. At that point, the TwinCopy light comes back on constantly. The flashing TwinCopy light should be taken as a warning that the system is restoring the copy but is not done, so the data in the TwinCopy shares is more vulnerable than usual. If the disk with the good copy of the data fails before the other copy is synched up, data could be lost. But while it is a sign of danger, the flashing TwinCopy light is also a sign of things being put back in order. If there is a problem that cannot be put back in order, the light does not come on at all. The TwinCopy light goes out if any disk used in a TwinCopy share dies, has errors, or is removed. This does not indicate that data is lost, but that it is no longer as well protected as before, and the problem disk should be replaced, so that full TwinCopy protection can be restored.

INSTALLATION

BroadNAS does not come with any pre-installed disks, so at least one disk must be installed before connecting BroadNAS. One or two disk drives can be installed in BroadNAS. There are three main types of disk drives available:

- IDE/ATA
- SCSI
- SATA

The disks used in BroadNAS must be IDE/ATA disks—SCSI and other disks are not compatible. Most disk drives sold are IDE drives, and they tend to be the least expensive. IDE drives can be purchased at most computer supply stores or online. Ask the seller to confirm that it is an IDE drive. When the disk(s) is ready, begin the installation procedure.



WARNING: Do not connect the power or any other cables before installing your first disk or disks. If you have already connected any cables, disconnect them now.

INSTALLATION PROCEDURE

The following procedure describes how to remove the drive sled and insert the drive by connecting the IDE and power cables:

- 1 Lift the drive handle and slowly pull out the drive sled. If the drive bay is locked, use the provided key to unlock it before attempting to remove a drive sled.



WARNING: Trying to remove the drive while it is locked results in damage to the drive sled.



As the handle is lifted to 90 degrees, the drive unseats itself from the internal connector. The drive should slide easily from the docking tray.

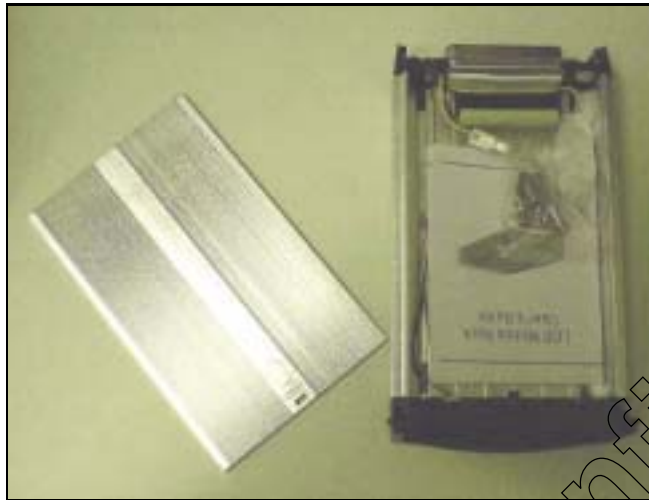
- 2 Place the drive sled on an even surface.



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- 3 Open the case by pressing the release tab on the front of the drive sled, and slide the cover in the direction of the arrow.

Components of the drive sled assembly are the top cover, drive sled, installation manual, screws, and a set of keys. The keys are used to physically lock the drive into the sled and deter the accidental removal of the drive while it is in use. The screws are used to secure the drive into the drive sled.



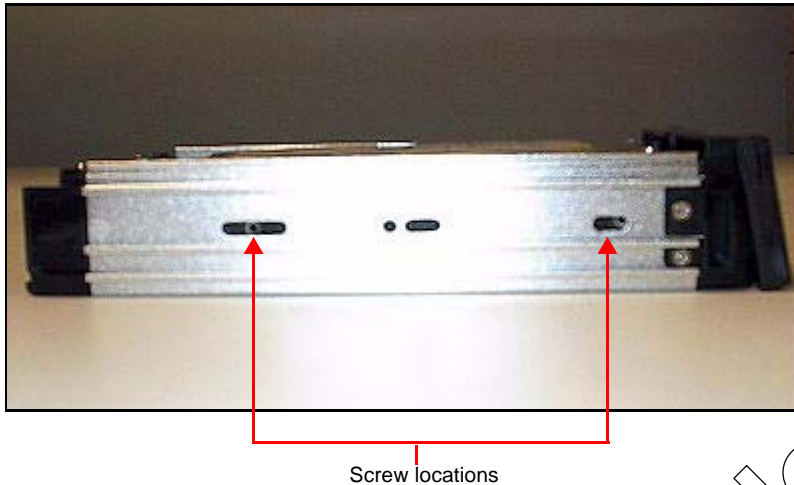
- 4 Connect the IDE and power cables.

IDE Cable

Power Cable



- 5 Gently insert the drive into the drive sled. Care must be taken not to damage the IDE cable during this operation.



- 6 When the drive has been inserted, secure the drive with four screws (two on each side).



- 7 Place the top cover back on the drive sled. Ensure that when the top cover is attached, the front catch is engaged to ensure that the cover stays in place while being handled.
- 8 Replace the drive sled into its housing in the BroadNAS. Gently slide the sled into the slot until it meets firm resistance and push the handle down. Pushing the handle down should pull the sled a bit farther into the housing and lock it into place. If pushing the handle down does not pull the sled farther back, it has not latched—pull the handle back up, push the drive farther in, and try again.
- 9 When the handle is firmly locked in place, the installation is complete. Do not optionally lock the drive into place using the provided key.

Section 2: Web Configuration

INTRODUCTION

This section describes the Web configuration process of BroadNAS. To get to the configuration pages, perform the following steps:

- 1 Connect the BroadNAS Ethernet port to a DHCP server Ethernet port and turn on Power.
- 2 On any Windows machine on the same network, go to *Network Neighborhood* -> *Workgroup*. You will see BroadNAS as one of the peer machines.
 - a. If you do not see BroadNAS under *Workgroup*, open an explorer window and type \\BroadNAS in the address bar. This should show all the shares on BroadNAS. This step can take up to 1 minute. If you get an error, wait and try one more time.
 - b. If [Step a](#) does not work, reboot your windows machine and try the above steps again. You should be able to see the BroadNAS.
- 3 To configure the BroadNAS, please go into *config* share and double-click on *Configuration.html*.

This will open your Web Browser on the BroadNAS configuration page. If you have physical authentication on, make sure that you press the physical authentication button on the BroadNAS.
- 4 The configuration process requires a user name and password. The default user name is blank (i.e., do not type anything for user name). The default password is *nasoc*.

Now you are ready to configure your BroadNAS box.

THE CONFIGURATION PAGES

There are five main BroadNAS maintenance pages (six if the BroadNAS includes the Wireless LAN hardware). The five main pages are:

- **Basic**—The Basic page gives access to the most basic configurations of the BroadNAS. This is the first page that will be displayed when the BroadNAS is connected (see ["Basic" on page 12](#)).
- **File Access**—The File Access page gives access to configuration details relating to how files are made available through the BroadNAS (see ["File Access" on page 14](#)).
- **Disk Management**—The Disk Management page allows the user to configure how disk space is to be configured, including setting up mirroring (see ["Disk Management" on page 15](#)).
- **Networking**—The Networking page gives access to details of Ethernet networking (see ["Networking" on page 17](#)).
- **Administration**—The Administration page gives access to some administrative details, including the ability to upgrade the version of the firmware running on the BroadNAS (see ["Administration" on page 19](#)).

On BroadNAS boxes that support it, the Wireless page gives access to the details of the Wireless LAN interface.

These main pages are always accessible via a row of buttons across the top of each page in this web interface. Some of these main pages have subpages that can be accessed for special purposes.

Example: The Disk Management page has a Create Pool subpage that is used when the user decides to create a new disk pool.

BASIC

The Basic page gives access to two basic areas of functionality: time and web interface security.



The BroadNAS keeps track of the date and time and uses this information for time stamps on files it keeps as well as for administrative purposes such as error and connection logging. The BroadNAS clock runs in real time and has a small battery to keep the clock running even while the power to the BroadNAS is turned off. So, once the date and time have been set, they will stay correct for some time.



Note: In the current Beta version of the software, saving time between reboots is not supported, though the hardware is there. A future release will include this support.

The Basic page shows the current date and time as the BroadNAS knows it and as the PC running the web browser knows it. This gives some idea whether the BroadNAS time is correct. It also has a button to allow the BroadNAS time to be set manually. This button brings up another page that allows the user to set any date and time from 1970 through 2030. Alternatively, a different button on the Basic page sets the BroadNAS time to match the time on the PC running the web browser. Since PCs typically have the correct time set already, this is a simple way to set the BroadNAS to the correct date and time.

The BroadNAS is also capable of getting and maintaining the date and time from the network. BroadNAS boxes that are on networks connected to the Internet should usually be set up to do this. This kind of network time synchronization is done through an international standard called NTP for Network Time Protocol. This can be set up on the Networking page (see [“Networking” on page 17](#)), where there are three slots for NTP Servers.

These three slots give the IP addresses of the machines that the BroadNAS should use to determine the current date and time. The defaults are 192.5.41.40, 192.5.41.41, and 133.100.9.2. The first two of these are servers run by the United States Naval Observatory as a public service to provide the precise time over the Internet. The third is a similar time server in Japan. These are generally good choices for time servers, though those in large corporate or academic networks might have more local time servers available.

The final time-related setting is the time zone on the Basic page. With this setting, you can select any time zone in the world.



Note: In the current Beta version of the software, only US time zones can be set through this interface. Though the underlying software has full support for all world time zones, the web pages just don't support the full range of choices yet.

The other kind of functionality in the Basic page is web interface security. Here the administration user name and password may be set. If the user name and password are both left blank, this kind of password security for the BroadNAS is disabled. If either is non-blank, however, whenever a web browser connects to the web interface, this user name and password must be typed, or access will be denied. Once they have been typed, the web browser remembers them and continues to use them, so the user name and password only need to be typed once. Once the web browser is closed, though, and a new browser opened, the user name and password need to be entered again. The default user name is blank and password is *nasoc*.

There is also an option to enable the Security Button to protect web access. If this option is enabled, then web access will be denied until the user presses the security button on the front of the BroadNAS. This verifies that only users who are physically located with access to the BroadNAS will be able to get to the configuration interface—it will be immune from purely network-based attacks. Once the button has been pressed, the user has two minutes to connect to the web configuration interface through a browser. Once the connection is made, the web configuration interface is bound to the machine that is connected to it—all other connections will be refused. If the user wants to connect from another machine, the button must be pressed again, then the other machine establishes a connection. Connections will be denied from the first machine. If the BroadNAS is rebooted, the security button must be pressed again to allow a web connection.



Note: The security button causes a particular machine to be allowed access, not a particular browser window, so if others have access to the same machine, they will also be able to access the BroadNAS until the BroadNAS is rebooted, or until the security button is used to make a connection from another machine.

The security button and password security mechanisms are complementary. For maximum security, both should be used. If maximum security is not needed, either one or the other of the security mechanisms may be used on its own. It is not recommended that both security mechanisms be disabled except on a private network with absolutely no connection to the Internet or anyplace else where potential security threats may exist.

FILE ACCESS

The File Access page deals with shares. A share is a directory that can be mounted on one or more PCs and filled with as many subdirectories and files as desired, up to the limit of the space in the disk pool in which that share exists. A pool is a set of disk space that can contain one or more shares. See [“Disk Management” on page 15](#) for information about creating and managing disk pools. If more than one share is in the same pool, then any space taken up by one share is space that isn't available for the other shares in that pool, and if any one share fills up the space, no files can be written to any of the shares in that pool until some files are deleted. Shares in other pools, however, will continue functioning normally.



Note: A disk pool must be created from the Disk Management page (see [“Disk Management” on page 15](#)) before a share may be created.



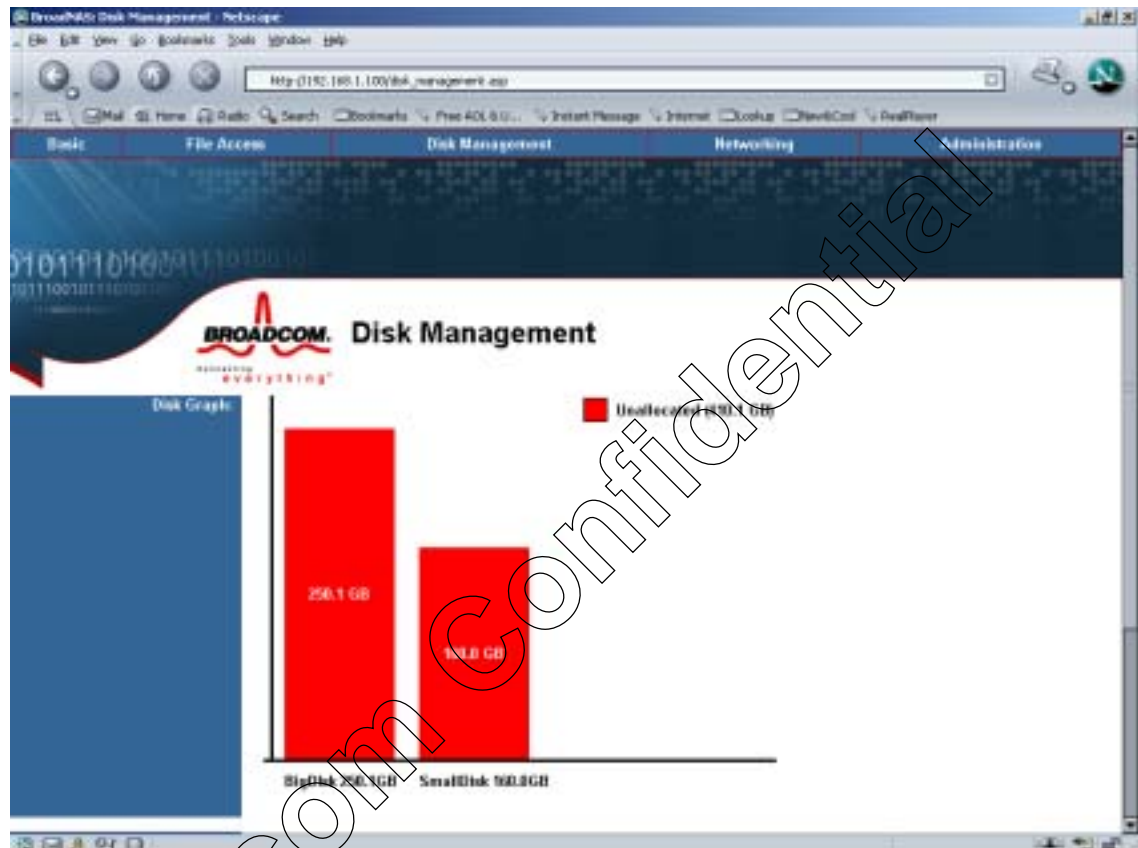
This page also allows details of the file sharing protocols to be changed. Shares can be exported through either CIFS for Windows-based PCs and Apple Macs or NFS for Linux and Unix machines.



Note: In the current Beta software release, the only file protocol options are to turn each CIFS and NFS on and off. A future release will add support for various detailed performance and security parameters of each protocol, parameters that can either be set for the whole system or be overridden on a share-by-share basis.

DISK MANAGEMENT

The Disk Management page shows what disks are connected to the BroadNAS (including both IDE and external USB disks) and how the space on those disks is allocated.



Before a disk may be used by the BroadNAS, it must be claimed. The process of claiming a disk marks it as being used by the BroadNAS and wipes out any pre-existing data on the disk.



WARNING: If a disk is taken from some other source, such as a PC, and added to the BroadNAS, it cannot be used by the BroadNAS without wiping out all the existing data on the disk.

Data written while the disk was on the PC cannot be exported from the BroadNAS. So care should be taken before the disk is claimed. The BroadNAS may be configured to automatically claim new blank disks that are attached to it and automatically use the new disks in certain ways.

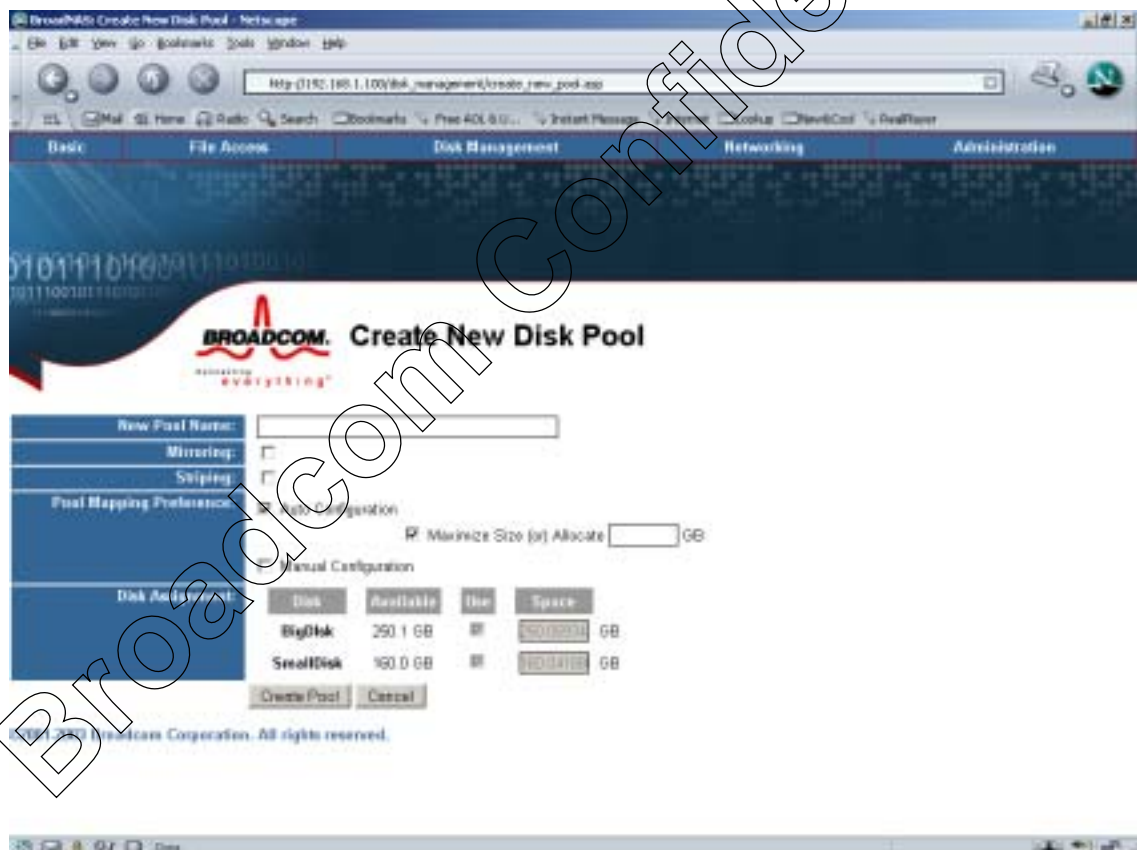


Note: This feature of automatically claiming newly attached disks is not available in the current Beta release of the software.

All claimed disks are shown in a graph that illustrates how the various pools are distributed among them. This information tells you the exact sizes of the various components of each pool and how they are spread across the disks. Information on the disks themselves, including health information, is also provided. The BroadNAS

uses the SMART protocol to query detailed information from each disk that supports it. Most modern hard disks support SMART to some degree or another. This allows the BroadNAS to discover that a disk is failing before any data is lost. If the information indicates any problem with a disk, it is recommended that the disk be replaced immediately.

The Disk Management page also has a button that allows new disk pools to be created. When this button is clicked, a new page is brought up that shows the disks available and allows the user to choose how to set up the new pool. The new pool may be mirrored, striped, or both, depending on how many disks are available. By default, the configuration interface will decide how big the pool will be and how to use the disks for that pool, to maximize the size of the pool. The user can override this by manually setting the new size, or the user can choose to manually determine exactly how much of each disk is mapped to each part of the new pool. If striping and/or mirroring are being used, there will be several columns of check boxes. Each disk may be assigned to at most one of these columns, and each column needs at least one disk assigned to it. The amount of each disk space to use for the column it is assigned to is entered at the right. If the value entered is too large, the interface will immediately correct it to the maximum value allowed for that disk. The total for each column must be the same; if the user manually configures things, it is up to the user to make sure the totals add up correctly.



To create a RAID 1 or mirrored pool, follow these steps:

- 1 Provide a name for the pool.
- 2 Check on Mirroring.
- 3 Check on Auto Configuration.

4 Specify the size of the pool that you want

To create a RAID 0 or striped pool, follow these steps:

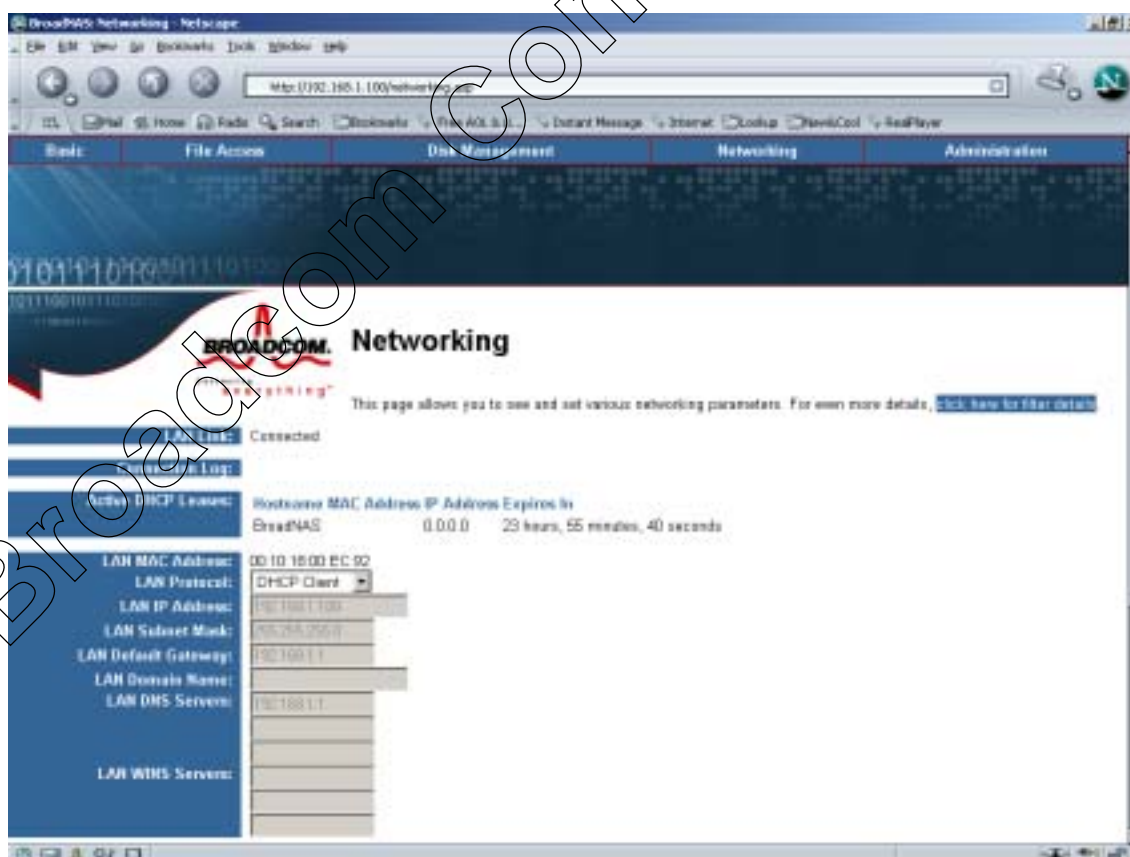
- 1 Provide a name for the pool.
- 2 Check on Striping.
- 3 Click on manual configuration.
- 4 For each disk, specify the disk space (RAID 0 requires that the space on each disk be the same).

To create a JBOD or raw pool, please follow these steps:

- 1 Provide a name for the pool.
- 2 Click on manual configuration.
- 3 For each disk, select whether you want to use that disk and also specify the disk space.

NETWORKING

The Networking page contains considerable details. Fortunately, in most cases the user will never have to change anything here. However, IP networking is complicated and under some circumstances, the user might have to set some of these parameters.



This page has some read-only information: the status of the connection (it should say connected if the machine is physically wired correctly and the machine on the other end of the connection is functioning properly), DHCP lease information (if this machine got its parameters through DHCP), and the Ethernet MAC address. All of this information can be useful in debugging network problems.

Most of the rest of the information depends on the setting of the LAN Protocol field. There are three choices: DHCP client, DHCP server, and static. The default choice is DHCP client. In this mode, the BroadNAS receives its networking configuration from the network itself. It simply sends out a request using the DHCP protocol (the widely used Internet standard) and receives its IP address, net mask, etc. from a server on the network. Most home gateways use the DHCP protocol to assign IP addresses and such, so when connected to a home gateway or router, or a corporate or academic LAN, this will simply work automatically. If this choice has been made, most of the other settings are grayed out to be read-only because they don't have to be set manually—they are either acquired automatically from the network or don't matter.

If the BroadNAS is being used on a small, isolated home network, there might not be a DHCP server out there to give networking parameters. In this case, the best choice is to set the BroadNAS itself to be the DHCP server. Then PCs that are connected to the same private network will automatically be given IP addresses and other information by the BroadNAS and will automatically be able to talk to the BroadNAS. Care should be taken, however, not to set the BroadNAS to be a DHCP server if there is another DHCP server on the network. If this option is taken, the user is allowed to manually set the IP address, net mask, etc. plus DHCP parameters—what IP address ranges to assign and how long each DHCP lease is valid. These are only of interest to experienced system administrators.

The final option is to set the LAN protocol to static. In this case, the user must manually set the IP address, net mask, etc., and must make sure that they are manually set on the PCs that will be connecting to the BroadNAS. This can be prone to errors, but in cases of unusual network setups it may be necessary and provides the most flexibility.

In addition, the Networking page provides the NTP servers (see the discussion about time in the section on the Basic page [see ["Basic" on page 121](#)]), a syslog IP address (for debugging help, this can be set to a machine running the syslog protocol—if you don't know what this is, don't worry about it, but if you do know or if someone provides you technical support, you may want to set this so that debugging information can be sent to the specified machine), and the ability to enable UPnP (another way to automatically discover networking information) or connection logging (an advanced feature for experienced system administrators—if you don't know what this is, ignore it).



Note: In this Beta release of the software, the UPnP feature is not supported.

ADMINISTRATION

The Administration page does two things: it tells you what version of the firmware you are running and allows you to upgrade it. Use the version information here when contacting technical support because it will help them determine which software you are running.



To upgrade your software, you must first download a new version of the software to your PC from technical support. Once you have done this, you can go to this page and click Browse. This will let you browse to the new software file. Select it and hit Upgrade. The upgrade process takes several minutes.



WARNING: Do not turn off your BroadNAS while the upgrade is in progress! You could end up with your machine in a wedged state, unable to boot and load a new version of the software. If that happens, please contact technical support for options.

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