NAS-1000

Disk Server

User's Guide

PLANET
Networking & Communication

FCC Information

The Federal Communication Commission Radio Frequency Interference Statement includes the following paragraph:

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

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio / TV technician for help.

The user should not modify or change this equipment without written approval from company name. Modification could void authority to use this equipment.

For the safety reason, people should not work in a situation which RF Exposure limits are exceeded. To prevent the situation happening, people who work with the antenna should be aware of the following rules:

1. Install the antenna in a location where a distance of 6.5 cm from the antenna may be maintained.
2. While installing the antenna in the location, please do not turn on the power of wireless card.
3. While the device is working, please do not contact the antenna.

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CE Mark Warning

This is a Class A product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

About This Manual

Disk Server User's Manual is published by Planet Technology Corp. in 1999. This Revision is issued in Dec. 1999.

Revision

Disk Server user's Manual

Table of Contents

About your Disk Server

Congratulations on the purchase of your new Disk Server. The Disk Server will allow multiple LAN users to share data stored on the Disk Server. Both Apple Macintosh and Windows users are supported.

Disk Server Features

- *Easy LAN Installation (10/100BaseTX).* An 10BaseT/100Base TX auto-sensing LAN connection eliminates the need to set DIP switches.
- *Supports Windows and Macintosh.* Clients can be either Microsoft Windows PCs (Windows 95, 98, NT4.0), or Apple Macintoshes.
- *Built-in Print Server.* LAN users - both Windows and Mac - can share the printer attached to the Disk Server.
- *No Client Software.* Neither file storage nor printer sharing require any software to be installed on either Windows or Macintosh clients.
- *File Management using OS tools.* Once your PC has access to the Disk Server, you can manage your folders and files using the familiar tools provided by your operating system. For example, Windows users will see the Disk Server as an additional drive in *Windows Explorer* and *My Computer*.
- *DHCP Server Support.* A DHCP (**D**ynamic **H**ost **C**onfiguration **P**rotocol) **Server** provides a dynamic IP address to PCs and other devices upon request. The requesting devices are called DCHP **Clients**.

  The Disk Server can act as either a **DHCP Server** OR a **DHCP Client**.
- *Multi Segment LAN Support.* If you have a Router, PCs on other LAN segments can also use the Disk Server.
- *Easy Setup.* A *Quickset* Windows program is provided to allow speedy configuration of the Disk Server
- *Full Administrator Control.* The LAN Administrator can control Disk Server usage by the following means:
  - ❑ **Users**: Each LAN user has their own password to control access to the Disk Server. The LAN Administrator can also limit the amount of Disk Storage used by a user.
  - ❑ **Groups**: Users are organized into user Groups. A user can belong to many Groups.
  - ❑ **Shares**: A "Share" is a folder (directory) on the Disk Server which a User Group can access. Only the Disk Server Administrator can create Shares. (Users can create folders within the Share.)
  - ❑ **Access Rights**: Access to a Share can be "Read-Only" or "Read-Write". The Administrator can also prevent all User Groups from accessing a Share. To reduce administration effort, access to Shares is set by Group, not by individual user.
- *Remote Management.* The Disk Server can be managed from a workstation anywhere on the LAN, using a WEB browser.

Package Contents

The following items should be included:
- The Disk Server Unit.
- Power Adapter.
- Category 5 UTP network cable with RJ45 connectors.
- CD-ROM, containing this User Manual and the Disk Server Utility program for Windows 95/98/NT4.0.
- Printed User Manual (condensed version).

If any of the above items are damaged or missing, please contact your dealer as soon as possible.

System Requirements

- Ethernet Network employing 10BaseT or 100BaseTX.
- TCP/IP protocol.

The following client PCs are supported:
- PC using Windows 95/98 or later.
- PC using Windows NT4.0 or later.
- Apple Macintosh with AppleShare and system 7.5 or later.

Connections and Components

All connections and switches are on the rear panel. Please take a few minutes to familiarize yourself with your new Disk Server.
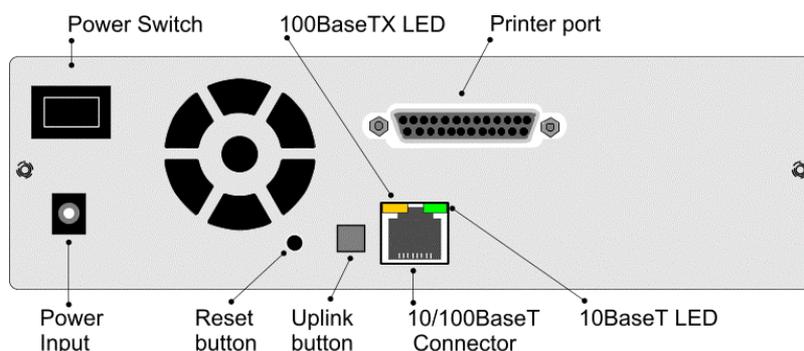

Figure 1: Disk Server Rear Panel

Power Switch	This is a spring-loaded "Soft Switch". If Off, press once to turn On. If On, press once to start the Disk **Shutdown** sequence. During *Shutdown*, the *Ready* LEDs will blink.
Power Input	Connect the supplied power adapter here.
Reset Button (IP/Password)	If the Disk Server's IP Address or password is lost, press and release this button. The Disk Server will beep once to indicate the reset has occurred. The Disk Server password will be cleared, and its IP Address set to the default value of 192.168.0.2, with a Network Mask of 255.255.255.0 You can then connect to the Disk Server and set the correct IP Address and password.
Uplink Button	If connecting directly to a PC or iMac via Ethernet, depress this button. For normal operation (connecting to a hub), this button should be UP.
10/100BaseTX connector	Use this to connect the Disk Server to your 10BaseT or 100BaseTX hub.
100BaseTX LED indicator (amber)	This will be ON if the 10/100BaseTX connector is using 100BaseTX.
10BaseT LED indicator (green)	This will be ON if the 10/100BaseTX connector is using 10BaseT.

LEDs (Front Panel)

Ready	Normally ON. This blinks during Startup or Shutdown, and turns OFF after the shutdown is completed.
Error (Amber)	Normally OFF. However, it will be On during the power-on self test. Once the self-test is completed, it will turn OFF. If it stays ON, there is a hardware error. During a software upgrade, both the **Ready** and **Error** LEDs will blink.
Disk Full	Normally OFF. Blinking indicates the disk is 98% full. ON indicates the disk is completely full.
Disk	Flashes during normal operation, when the Hard Disk is accessed.
LAN	Flashes during normal operation, when data is transmitted or received via the LAN.

Buzzer

The buzzer will beep as follows:

1 Beep	Reset button or power switch is pressed.
2 Beeps Repeated every 5 seconds for 1 minute.	Disk Server is a DHCP client, but no DHCP Server responded to the DHCP client request.
3 Beeps Repeated every 15 seconds for 3 minutes,	Hard disk usage exceeds 98%.
5 Beeps Repeated every 15 seconds for 3 minutes.	Disk Server is overheating; automatic shutdown will be performed 3 minutes after 1st beep.

Installation and Setup

Requirements

- Ethernet Network employing 10BaseT or 100BaseTX.
- TCP/IP protocol.

Installation

1.   Connect Network Cable

Use the RJ45 socket to connect the Disk Server to your Hub. The Disk Server will auto-configure for 10BaseT or 100BaseTX, and full or half duplex.

2.   Connect Printer

Use a standard printer cable to connect the Disk Server's parallel port to the printer.

3.   **Connect Power**

Use the supplied power cord to connect the Disk Server to a power outlet, and power ON using the power switch on the rear.

4.   Check the boot process

❑ During the self-test (2 or 3 seconds), ALL of the LEDs will be ON.

❑ Then, while the Disk Server is booting, the **Ready**, **Error**, and **Disk Full** LEDs will be ON.

❑ Once the boot process is completed, the **Ready** LED should be ON and the **Error** LED should be OFF.

❑ If the **Error** LED stays On, there is a hardware problem. Repeated beeps also indicate a failure to boot correctly.

Disk Server Setup using Windows

- For basic operation, only the following setup is required.
- For the full range of options available to the Network Administrator, refer to *Chapter 3 - Administration*.

Installation

1.   Insert the supplied CD-ROM into the drive of your Windows 95/98/NT4.0.0 system.

2.   If the SETUP program does not start automatically, run SETUP.EXE in the root directory.

3.   Follow the prompts to install the *Disk Server Utility*.

Using the Disk Server Utility

1.   Start the program. For the default installation, use *Start - Programs - Disk Server - Disk Server Utility*.

2.   The screen will look like the example below. The left section displays a list of all Disk Servers. The right section displays data about the currently-selected Disk Server. (If no Disk Servers are listed, see the *Troubleshooting* section.)
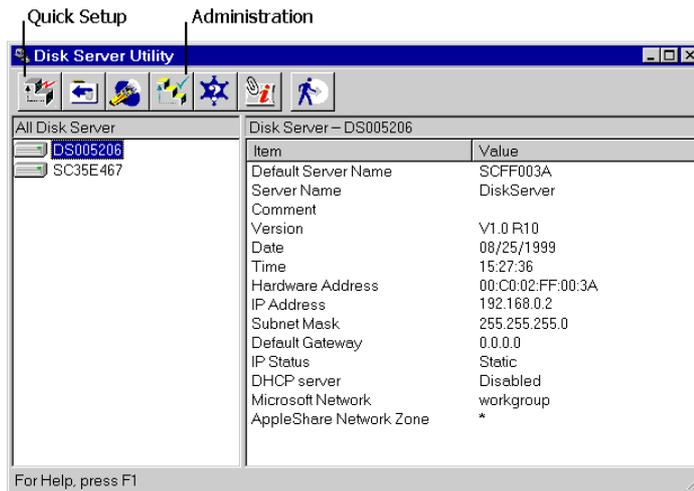
Figure 2: Disk Server Utility

3. Ensure that the desired Disk Server is selected, then click the *Quick Setup* icon.

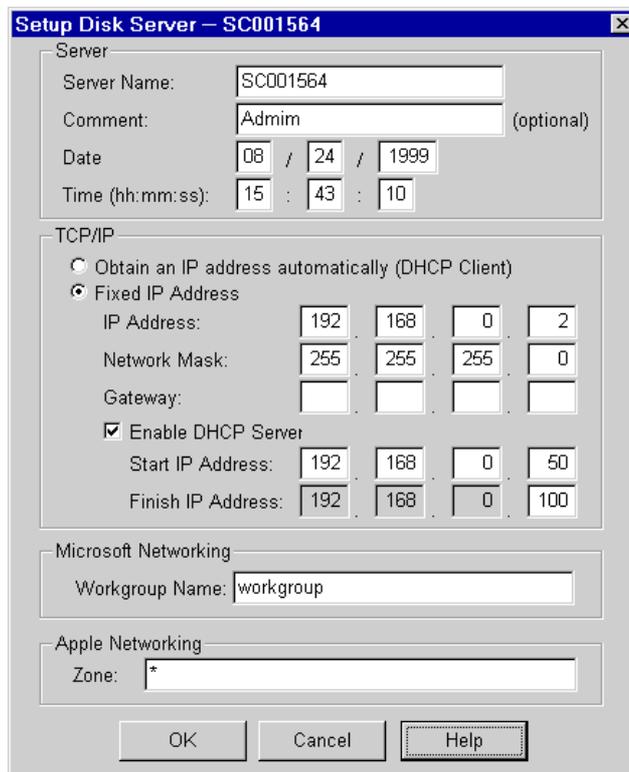4. The *Setup* screen will be displayed, as shown below.

Figure 3: Setup Screen

5. Enter data on this screen as follows:

Server	
Server Name:	The *Default Name* is shown. Change this if you wish.
Comment:	Comments (e.g. Location of the Disk Server) are optional.
Date/Time	Ensure the date and time are correct
TCP/IP	
Obtain an IP Address automatically (DHCP Client)	If you have a DHCP or Bootp server on your LAN, you can enable this setting. The Disk Server will then obtain its IP Address from the DHCP or Bootp server. However, because this is a Server, it is preferable to use a **Fixed IP Address**. If your LAN does not have a DHCP server, then you **must** select **Fixed IP Address**.
Fixed IP Address:	Select this option to enter an IP Address. This option is required if you wish to use the DHCP Server function.
IP Address:	Enter a free IP Address from the address range used by PCs on your LAN. The default Disk Server value is 192.168.0.2
Network Mask:	Use the same value as PCs on your LAN. The default Disk Server value is 255.255.255.0
Gateway:	Use the same value as PCs on your LAN. If you don't have a router or Internet Gateway, leave this at the default value (blank).
Enable DHCP Server:	If checked, the Disk Server will provide an IP Address and related data to PCs on request. PCs will only make such as request if they are set to act as **DHCP clients**. (See *Windows Client Setup* and *Mac Client Setup* for details.)
Start IP Address:	The first value for the range of IP Addresses to be allocated by the DHCP Server.
Finish IP Address:	The last value for the range of IP Addresses to be allocated by the DHCP Server Ensure that the range is large enough for the number of DHCP clients (PCs and other devices making DHCP requests.)
Microsoft Networking	
Workgroup Name:	This name should match the *Workgroup* name used by PCs on your LAN.
Apple Networking	
Zone:	The default value is "*", giving all zones access to the Disk Server. If a zone name is shown, only Mac users in that zone can access the Disk Server

6. Click "OK" to save and exit. The Disk Server is now operational, with the following limitations.
   ❑ All Windows users will be given "Guest" access rights. This allows Printer usage, and access to the *public* folder.
   ❑ Macintosh users can only access Disk Server storage with the *guest* network logon, or by logging on as *admin* with no password. (The *admin* user has access rights to ALL folders.)
   ❑ Macintosh users can only access the printer if it is a LaserWriter or compatible.

7. To overcome these limitations, use the Browser-based *Administration* interface. This is invoked with the *Administration* icon on the Disk Server utility's main screen. See Chapter 3 for full details on using the Administration interface.

Disk Server Setup using Macintosh

If your PC is not running Windows 95/98/NT, you cannot use the SETUP program on the CD-ROM. Instead, you must connect to the Disk Server, and configure it, using your Web Browser. Your Web Browser must support JavaScript V1.1. The interface has been tested on the following Browsers:

- Netscape Navigator 4.04, 4.08, 4.5
- Internet Explorer 4.0
- Internet Explorer 5.0

Connecting to the Disk Server

1. Ensure your system has a compatible *IP Address* and *Network Mask (Subnet Mask)*. The Disk Server's default values are 192.168.0.2 for the IP Address, with a Network mask of 255.255.255.0. Your PC should use the same Network Mask, and an IP Address in the range 192.168.0.3 to 192.168.0.254.

   On the Macintosh, you can check using *Apple - Control Panel - TCP/IP*.
   (If this option does not exist, then TCP/IP has not been installed. Use your Apple system disk to install TCP/IP.)

2. Connect to the Disk Server using your Web Browser:
   - ❑ Start your Browser
   - ❑ In the *Address* box, enter the following:

     HTTP://ip_address/CGI_main/index.htm

     Where ip_address is the IP Address of the Disk Server, as in the following example:

     HTTP://192.168.0.2/CGI_main/index.htm

3. You will be prompted for a name and password.
   Enter *admin* for the name, and leave the password blank. Later, if you set a password for the *admin* user, you will be required to enter it here to gain access to the Disk Server.

4. On the first screen, click the *Administration* button to continue. You will then see the main menu, as shown below.
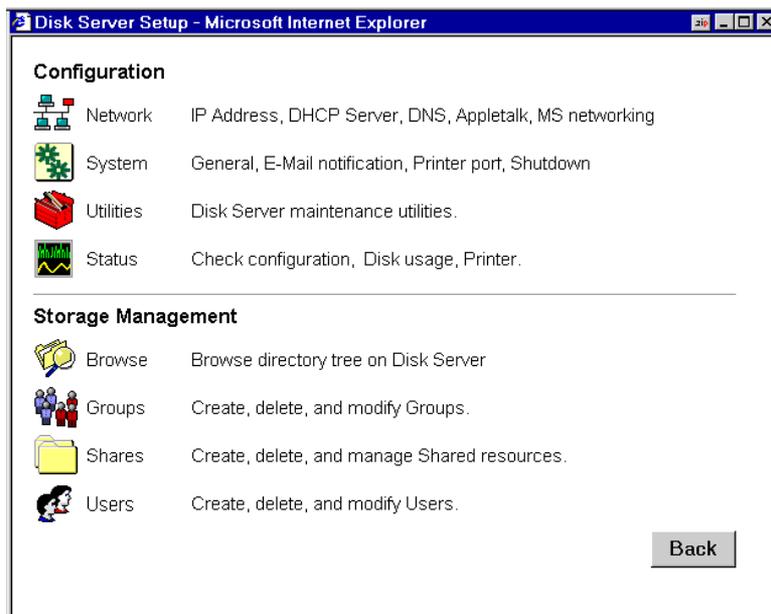

Figure 4: Web Interface - Main Menu

5.   Select **Network** and configure each tab.
      Use the on-line help as necessary.

6.   Select **System** and then the *Printer* tab.
      Ensure that the data on this screen is correct, or Macintosh users will not be able to use the printer connected to the Disk Server.

7.   Macintosh users can now access the Disk Server, provided they use the *Guest* button on the Network login, or login as *admin*.

   ❑   As *guest*, they will have access to the *public* share. The Disk Server Administrator can grant access to other shares by changing the access rights to the *everyone* group.

   ❑   The *admin* user has access rights to ALL folders. By default, the *admin* user has no password, but one can and should be assigned.

For further details on using the Web Administration interface, refer to *Chapter 3 - Administration*.

Administration

Overview

The Disk Server administrator can control Disk Server usage by creating and managing Users, Groups, and Shares.

- **Users**: Each user is identified by their *User Name* and *Password*. The Administrator can create Users, and also limit the amount of Disk Storage available to a user.
- **Groups**: Users are organized into user Groups. A user can belong to many Groups.
- **Shares**: A "Share" is a folder (directory) on the Disk Server which users can access. Only the Disk Server Administrator can create Shares. However, within a Share, users who have access to that Share can create other folders (directories) as well as files.
- **Access Rights**: Access to a share can be "Read-Only" or "Read-Write". To reduce administration workload, access to a Share is granted to a User Group, rather than to individual users.
  - ❑ A Share can be accessed by only 1 Group, but a Group can access many Shares.
  - ❑ The *admin* user, and any other users who are added to the *administrator* group, ALWAYS have Read/Write access to ALL shares and folders.
  - ❑ The *guest* user has Read/Write access to the *public* share. This can be changed, and access to additional shares can be granted, by changing the access rights for the *everyone* group.
    Users who do not have a *User Name* on the Disk Server are automatically given the *guest* login.

Note
AppleShare does NOT support "Read-only" access, so "Read-only" access will be treated as "Read-Write".

Web Interface

To create and manage these items, a Web-style interface is provided.

The Disk Server contains a HTTP server. This enables you to connect to it, and configure it, using a Web Browser. The Web Browser must support JavaScript V1.1 The interface has been tested on the following Browsers:

- Netscape Navigator 4.04, 4.08, 4.5
- Internet Explorer 4.0
- Internet Explorer 5.0

Connecting to the Disk Server

Windows Users

1. Start the Disk Server Utility, and select the desired Disk Server.

2. Click the *Administration* icon.

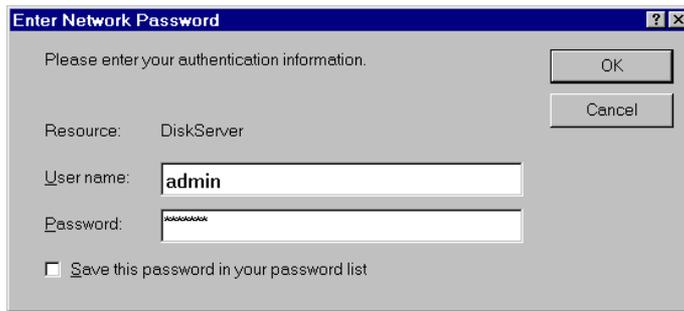3. You will be prompted for the password, as shown below

Figure 5: Password Prompt

Enter *admin* for the **User Name**. By default, there is no password, but if you have set a password for the *admin* user, enter it here.

4.   You will then see the Welcome screen. If you have multiple Disk Servers, you can use the *Connect* button to switch to another Disk Server.

5.   Click the *Administration* button to proceed to the **Main Menu**. See the next section for details.

Other Users

1.   Start your WEB browser

2.   In the *Address* box, enter the following:

        HTTP://ip_address/CGI_main/index.htm

    Where ip_address is the IP Address of the Disk Server, as in the following example:

        HTTP://192.168.0.2/CGI_main/index.htm

3.   You will be prompted for the password, as shown in *Figure 5: Password Prompt* above.

    Enter *admin* for the **User Name**. By default, there is no password for the *admin* user, but if you have set a password, you must enter it here.

4.   You will then see the first screen. If you have multiple Disk Servers, you can use the *Connect* button to switch to another Disk Server. Otherwise, click the *Administration* button to proceed to the **Main Menu**.

Main Menu

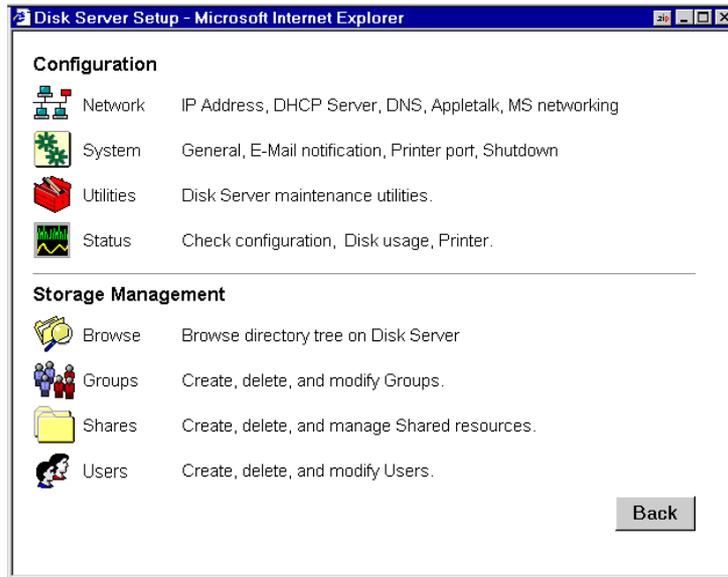The **Main Menu** screen looks like the example below:

Figure 6: Web Interface - Main Menu

The options on the main menu are divided into 2 groups:

- Configuration
- Storage Management

Configuration

1. Network

- ❑ **IP Address** - Set IP Address, Network mask (Subnet Mask), and Gateway.
- ❑ **DHCP** - Enable and configure the DHCP Server function.
- ❑ **DNS** - (DNS) Domain Name Server IP Addresses.
- ❑ **AppleTalk** - Set the AppleTalk *Zone*. The default value is "*", which allows access by all zones.
- ❑ **Microsoft** - Configure Microsoft networking; set *Workgroup Name* and *Code Page* (alphabet).

2. System

- ❑ **General** - Set the Disk Server name, date and time.
- ❑ **E -Mail** - Configure the Disk Server to send E-Mail messages when there is a problem.
- ❑ **Printer Port** - Configure the Printer. This is helpful but not essential for Windows users.
  It is essential for Macintosh users when the printer connected to the Disk Server is NOT a Laser-Writer or compatible.
- ❑ **Shutdown** - Shutdown the Disk Server, or create a shutdown schedule.

3. Utilities

These utilities are not required for normal operation.
- ❑ **Disk** - Check the disk for errors, similar to Scandisk.
- ❑ **Log** - Check the system log. This is provided only for troubleshooting.
- ❑ **Upgrade** - Upgrade the Disk Server software.

4. Status

- ❑ **Disk** - Check disk usage. This data is read-only.
- ❑ **Printer** - Check the printer status, and delete the current print job, or all print jobs.
- ❑ **System** - Check System status. This data is read-only.

Storage Management

Use these options to manage *Shares*, *Users*, *Groups*, and access to shares. See the later section **Managing Shares, Groups and Users** for details.

1. Browse

Browse the Shares and folders on the Disk Server. This allows you to see the relationship between *Shares* and folders on the hard disk, and to view the directory structure on the Disk Server.

2. Groups

View the current Groups, modify their access to Shares, and add or delete Users from any Group. Also create new Groups, or delete existing Groups.

3. Shares

Create, delete and modify Shares. A "Share" is a folder (directory) which Users can access. Access rights are set by Group rather than by individual user.

4. Users

View the list of existing users, and modify individual user data. Also create or delete individual users.

Note
▪ The *guest* and *admin* users cannot be deleted.
▪ The *admin* user cannot be or moved from its existing group "administrator".
▪ By default, the *admin* user has no password. Assigning a password is recommended.
▪ The *admin* user, and all other members of the *administrator* group, **always** has Read/Write access to **all** shares and folders.
▪ The properties for the *guest* user cannot be changed.

Managing Shares, Groups, and Users

This section has additional information to assist the Disk Server Administrator in managing and controlling access to the Disk Server.

Terminology

- A **Share** is a folder on the Disk Server which can be accessed by client PCs on the LAN.
- **Access rights** (Read-only or Read-Write) are granted to a **Group** (group of users), rather than to individual users.
- Each **Share** can only be accessed by a single **Group**.
- A **Group** can have access to many **Shares**.
- Each individual **User** can belong to many **Groups**.

Special Shares, Users and Groups

When delivered, the Disk Server will have the following shares, groups and users. These pre-defined objects cannot be deleted, and only limited modifications may be performed

Shares	
HDD1	• Root folder, provided so the Administrator can backup all data on the Disk Server by backing up the contents of this folder. • The *administrator* group ALWAYS has Read/Write access to this share.
public	• By default, the *everyone* group has Read/Write access to this folder. This may be changed. • This share can not be deleted.
Groups	
everyone	• This group cannot be deleted. • All users are members of this group, and cannot be removed from this group. • By default, this group has Read/Write access to the *public* share. This can not be changed, but access to other shares can be granted or revoked.
administrator	• This group ALWAYS has Read/Write access to ALL shares. • This group cannot be deleted. • The *admin* user cannot be removed from this group, but other users may be added or deleted.
Users	
admin	• This user cannot be deleted. • The *admin* user is a member of the *administrator* group, and therefore has Read/Write access to all shares. • By default, the *admin* user has no password, but a password can be assigned by the Disk Server Administrator. Assigning a password is recommended.
guest	• This user cannot be deleted. • The *guest* user is a member of the *everyone* group, and has the access permissions allocated to the *everyone* group. • The properties of the *guest* user can NOT be changed.

Nested Shares

The Disk Server allows a folder inside a share to be a share.

This allows "nesting" of shares to any depth, just like the folders on your hard disk. If you use this feature, you need to be aware of the following points:

• In Windows' *Network Neighborhood*, all shares are listed on the same level - the "nesting" is completely invisible.
• When a user accesses a share, they will see only folders, never shares. Users cannot tell whether or not a sub-folder is in fact a nested share.
• Anyone with access to the outer share automatically has the same access rights to any inner shares. You can NOT provide access to an outer share while preventing access to an inner share. So the most sensitive data must be kept in the **outermost** share, not the innermost share. This is illustrated below.

Share (folder)

secret (/secret)

    confidential (/secret/sensitive_data)

        published (/secret/sensitive_data/publish_data)

If have access, have same access rights to "published"

If have access, have same access rights to "confidential" and
"published"

Figure 7: Nested Shares

1. Multiple Access Rights

While access to a Share can be assigned to only one (1) Group, it is possible for more than one (1) Group
to access a Share if nested Shares are used.

In the example above, if access to the shares "secret", "confidential", and "published" were assigned to the
groups "managers", "supervisors", and "staff" respectively, then all 3 groups would have access to the share
"published".

If an individual user were in 2 or more of these groups, they would receive the **Least Restrictive** access
permission.

Common Administrative Tasks

The following table lists the most common Administrative tasks.

Task	Method
Prevent changes to Disk Server configuration	Assign a password to the *Admin* user. Select *Users*, then select the *Admin* user, and click *Modify*.
Create Users	*Users* menu option. Click *New User*.
Edit User Details	*Users* menu option. Select the desired user, then click *Modify*.
Create Groups	*Groups* menu. Click *New Group*.
Change Group Membership	Either: • Select the Group on the *Groups* screen, and click *Members*. • OR, Select the User on the *Users* screen, and click *Groups*.
Create Shares	*Shares* menu option. Click *New Share*.
Set Access to Shares	*Groups* menu. Select the Group, then click the *Shares* button. On the *Group/Share Relationship* screen, you can select the Share(s) and the type of access for this Group.

File Management	Within any Share to which you have access, you can use Windows Explorer to perform file management. Users in the *Administrator* group can access any share, and can also access the share "HDD1", which is the root directory on the Disk Server. **Note**: You may sometimes see the following files, which have been generated by AppleTalk clients: .Apple Desktop .Apple Double Network Trash Folder **Do NOT delete these files**!
Backup data on the Disk Server	Use your backup program to backup any folder. To backup all files, users in the *Administrator* group can backup the HDD1 folder.
Shutdown the Disk Server *Ready* LED blinks during shutdown.	User either of the following methods: • Press the rear-mounted power switch ONCE. • Use the *System - Shutdown* menu option to perform a remote or scheduled shutdown.
Configure the Printer Port	**Windows Clients** The correct printer name should be entered on the *System - Printer* screen. This has no effect on operation, but helps uses identify the printer when they browse the network. **Macintosh Clients** See the following section.

Printer Setup for Macintosh

- If using a LaserWriter, no setup is required. Just follow the procedure in *Chapter 5 - Macintosh Client Setup*.

- If not using a LaserWriter, Mac clients must install the printer driver for the Disk Server's printer.

  Also, the *System - Printer Port* screen (below) must be correct. Select "Other" for *Printer connected to Disk Server* and ensure the *Printer Object Type* is correct. Check your printer's documentation to find the *Printer Object Type*.

  Once this is done, the procedure in *Chapter 5 - Macintosh Client Setup* can be performed.
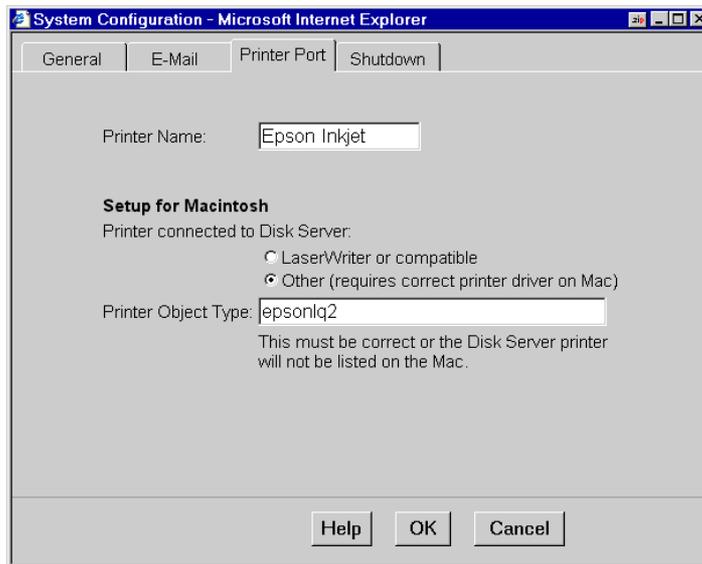
Figure 8: System - Printer tab

Windows Client Setup

Overview

Supported versions of Windows are:
- Windows 95/98 or later
- Windows NT 4.0 or later

The following items need to be checked or configured:
- TCP/IP protocol.
- Access to the Disk Server's storage.
- Disk Server printer.

TCP/IP Setup

1.   Select the *Control Panel - Network* option on the Start Menu. You should see a screen like the one following.
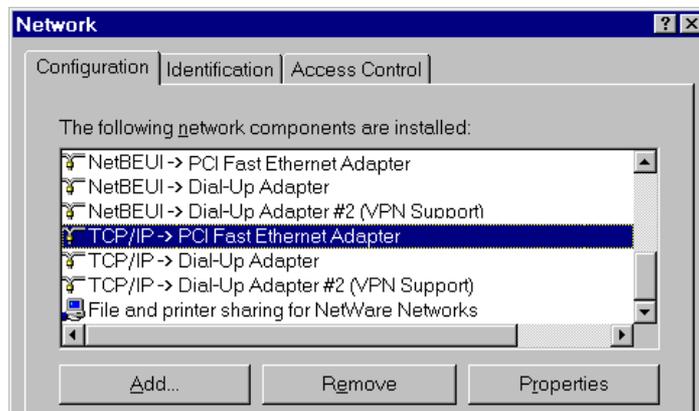

Figure 9: Network Configuration

2.   If a line like the one highlighted (TCP/IP -> Network card) is not listed, then you need to install the TCP/IP protocol by selecting *Add - Protocol - Microsoft - TCP/IP - OK.*

3.   With the TCP/IP entry highlighted, click on the *Properties* button. The *IP Address* tab will be selected. You should then see a screen like the following.
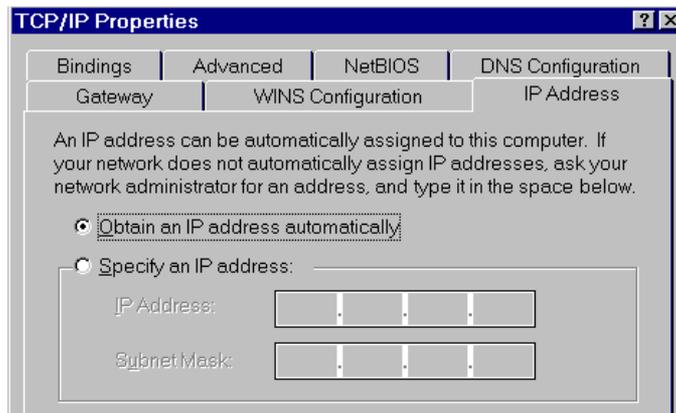
Figure 10: IP Address (Win 95/98)

To act as a DHCP Client:

1. Click on the radio button to *Obtain an IP address automatically*, as shown above. If the DHCP Server in the Disk Server has been enabled, it will now provide an IP Address and related data to your PC when it boots.

2. Restart your PC. (DHCP only functions when your PC starts.)

To use "Specify an IP address" (fixed IP Address):

- If your PC is already configured, no changes are required.
- If you just installed TCP/IP, you need to enter:
    1). *IP Address* and *Subnet mask* (on the *IP Address* tab, as shown above).
    2). *Default Gateway Address* (on the *Gateway* tab)

    These values need to be compatible with other devices on your LAN. Each PC requires a **unique** *IP Address* (usually only the last field is different), and the **same** *Subnet Mask*. The *IP Address* range commonly used is 192.168.0.1 to 192.168.0.254, with a *Subnet Mask* of 255.255.255.0.

    The *Gateway* is the IP Address of your Router or Internet Gateway. If you don't have either of those, the address should be left at 0.0.0.0.

    If you have a Router on your LAN, ask your LAN Administrator what values to use.
- If you have made any changes, Restart your PC.

Network Logon

To use the Disk Server, you must Logon to the Network correctly:

1. Check your Window logon using *Start - Settings - Control Panel - Network*.
   Ensure the *Primary Network Logon* is set to *Client for Microsoft Networks*, as shown below.

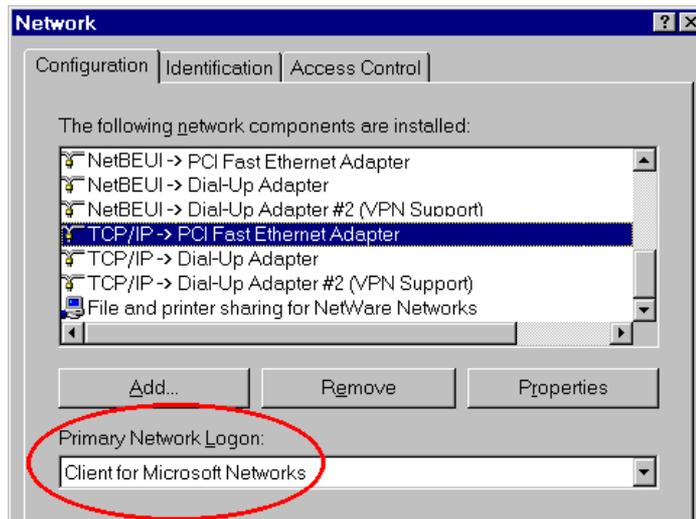   **Note:** If this is already set, there is no need to make any changes.

Figure 11: Window Logon

2.   Windows will prompt you to Logon to the Network when it boots.

You must logon. If you press ESC, or click *Cancel*, no network resources will be available. When you logon, you need to use a valid *User Name* and *Password*.

❑ If the Disk Server Administrator has defined users on the Disk Server, use the *User Name* and password they supply.

❑ If you use a *User Name* and password which is not recognized by the Disk Server, you can still use it, with *guest* access rights. By default, this allows read/write access to the "public" share, and allows you to use the printer.

Changing your Disk Server Password

Once the Disk Server Administrator has given you a valid *User Name* on the Disk Server, you can use the following procedure to change your password.

1.   Start your WEB browser

2.   In the *Address* box, enter:

> HTTP://ip_address/user.pl

Where ip_address is the IP Address of the Disk Server.
e.g.

> HTTP://192.168.0.2/user.pl

If you do not know the IP Address of the Disk Server, ask the Disk Server administrator.

3.   You will be prompted for your name and password. Enter your existing user name and password.
4.   On the next screen, enter your new password.
5.   Save, then close your Browser.

Note
The *admin* password can NOT be changed using this method. The *Administrator* interface must be used to change the password for *admin* .

Password Management

It is convenient if you only have to logon once. This requires that the *User Name* be the same on Windows, the Disk Server, and any other Servers. Only the Administrator can create or change *Users* on the Disk Server, but you can easily change your Windows 95/98 logon:

• You can logon with any *User Name*. A new user profile will be created if Windows does not recognize the user name.

- Your Windows password can be changed using *Control Panel - Passwords - Change Windows Password*.

Using the Disk Server's Storage

To use the Disk Server's storage, you must "Map" a drive letter to each Disk Server folder you wish to access. The drive will then be available to all Windows programs. The procedure is as follows:

1. Double-click the *Network Neighborhood* icon on the desktop.

2. Locate the Disk Server, as shown below. If it is not listed, double-click *Entire Network*. Then double-click the Workgroup that the Disk Server is in. (By default, the Disk Server is in *Workgroup*.)
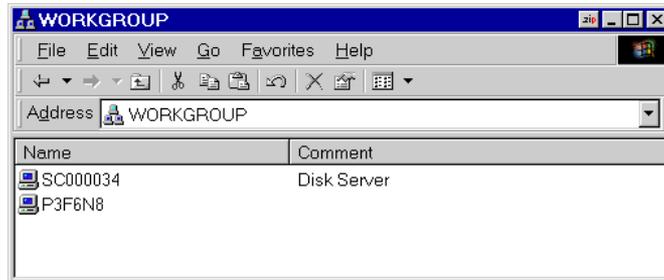
Figure 12: Network Browse

3. Double-click the Disk Server icon.

4. Right-click a folder (directory) to which you have access, and select *Map Network Drive*, as shown below.
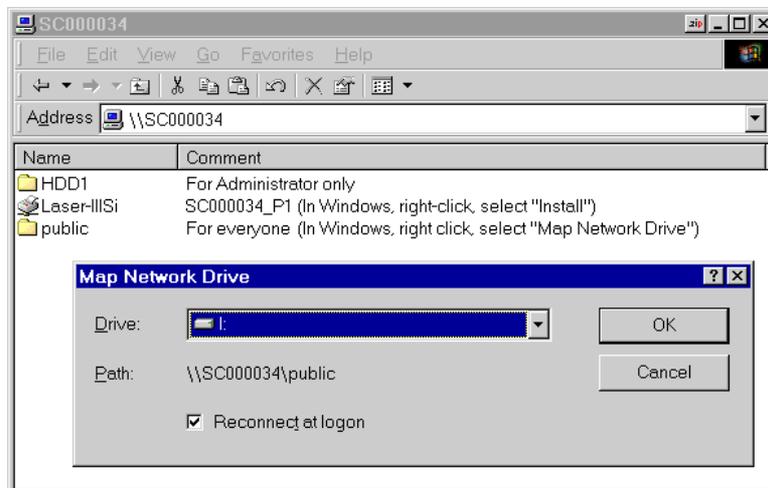
Figure 13: Map Network Drive

5. Select a drive letter for this folder, and check the *Reconnect at Logon* checkbox. (If this is not done, the mapping will be lost when you shut down your PC.)
Then click OK.

6. This drive will now be available in Windows Explorer, and from the *File-Open* or *File-Save As* dialog in all Windows applications.

Notes:

1. When you try to access a folder, you may be prompted for a password, as shown below:

Figure 14: Network Resource Password Dialog

- ❑ If your Windows logon name is the same as your *user name* on the Disk Server, but the passwords are different, you can enter your Disk Server password here.
- ❑ But if your Windows **logon name does not exist** on the Disk Server, you will have only *guest* access rights, and **there is no password** which you can enter in this dialog.

2. When browsing the Disk Server using Windows Explorer or another file manager, you may see the following files, which have been generated by AppleTalk clients:

.Apple Desktop

.Apple Double

Network Trash Folder

Do NOT delete these files!

Using the Disk Server's Printer

1. Find out what printer is connected to the printer port on the Disk Server.

2. User *Network Neighborhood* to locate the Disk Server, as shown in *Figure 12: Network Browse*.

3. Double-click the Disk Server icon. A printer icon should be shown.

4. Right-click the printer icon, and select *Install*. The *Add Printer* wizard will start.

5. Select the *Manufacturer* and *Printer* matching the printer connected to the Disk Server.

6. Follow the prompts to complete the installation.

7. The new printer will then appear in your Printer list, and can be used from any Windows application

8. Use the normal Windows commands to manage the printer:
   - ❑ Use *Start - Settings - Printers* to list all your printers.
   - ❑ Double-click the printer to view or delete the documents in the print queue.
   - ❑ Use *File - Set as Default* to make the selected printer the default printer.
   - ❑ Use *File - Properties* to view or modify the properties of the selected printer.

Macintosh Client Setup

Requirements

To use the Disk Server, you require:

- Macintosh OS Version 7.5 or later, with Appleshare.
- LaserWriter 8 (or later) printer, OR the correct printer driver for the printer connected to the Disk Server. In the latter case, the printer driver must be installed on each Macintosh requiring access to the printer connected to the Disk Server.
- The Disk Server Administrator must create a value *User Name* on the Disk Server for each Mac user. Otherwise, Mac users will only be able to access the Disk Server by using the *guest* login.

TCP/IP

Generally, no changes are required.

However, if you previously used a fixed (static) IP Address, but now wish to use the DHCP Server function in the Disk Server, you must change your TCP/IP settings to make your Mac a DHCP client. Use the procedure below.

To make your MAC a DHCP Client

- Select *Apple - Control Panel - TCP/IP*.
- Select *Ethernet*, then *Setup*, then *DHCP*.

Accessing Disk Storage

1. Select *Chooser* from the *Apple* menu.
2. Click the *Appleshare* icon.
3. If necessary, select the appropriate zone. (By default, the Disk Server is accessible from any zone.)
4. Select the Disk Server from the list of File Servers, and click OK.
5. In the *Log-in* dialog, enter your Name and Password. These must match the values stored on the Disk Server, or you will not be able to gain access. If the Disk Server Administrator has not created a *User Name* for you, click the *Guest* button. This will allow access to the *public* share.
6. A list of "Shares" (Disk Server folders) will be displayed. Use the checkbox to indicate which Shares you wish to access. If you select a Share to which you do not have access permission, you will see an error message.
7. Click OK to finish. An icon for each Share will appear on your desktop. You can use these like any other folders.

Using the Disk Server's Printer

1. In *Chooser*, select the printer type matching the printer connected to the Disk Server.
2. From the list on the right, select the Disk Server, then click *Create*.
   (Refer to *Troubleshooting* if the Disk Server's printer is not listed.)
3. The new printer will be created, and can be used like any other printer.

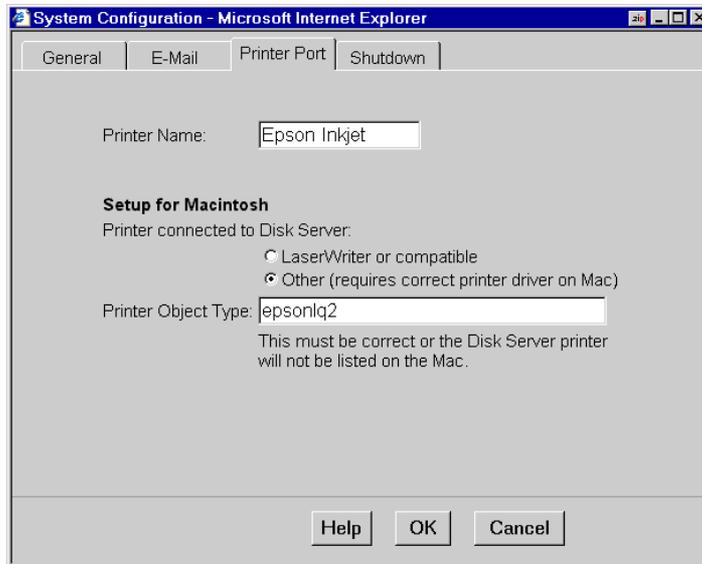| Note |
|---|
| • The *Printer Object Type*, on the *Printer* tab of the *System* menu option, must be correct.

• The Disk Server setting for the Printer Driver used (*LaserWriter* or *Other*) must also be correct. |

Figure 15: Printer tab (System menu)

Changing your Password

Once the Disk Server Administrator has created a valid *User Name* on the Disk Server for you, you can use the following procedure to change your password.
1.   Start your WEB browser
2.   In the *Address* box, enter:
          HTTP://ip_address/user.pl
      Where ip_address is the IP Address of the Disk Server, as in the following example:
          HTTP://192.168.0.2/user.pl
      If you do not know the IP Address of the Disk Server, ask the Disk Server administrator.
3.   You will be prompted for your name and password.
          Enter your existing user name and password.
4.   On the next screen, enter your new password.
5.   Save, then close your Browser.

Note
The *admin* password can NOT be changed using this method; the *Administrator* interface must be used.

Troubleshooting

Windows

Problem 1:	**The Disk Server Utility doesn't list any Disk Servers.**
Solution 1:	Check the following:

- The Disk Server is properly installed, LAN connections are OK, and it is powered ON.
- Ensure that your PC and the Disk Server are on the same network segment. (If you don't have a router, this must be the case.)
- Ensure that your PC has the TCP/IP network protocol loaded. In Windows, this is done by using *Control Panel-Network*. If an entry for TCP/IP -> Network card is not listed, use *Add - Protocol - Microsoft - TCP/IP* to add it.

  You then need to select the new entry (TCP/IP -> Network card), click *Properties*, and configure the *IP Address* tab.
  - ❑ If your LAN has a DHCP Server, you can select "Obtain an IP Address automatically".
  - ❑ Otherwise, you must select "Specify an IP Address", and enter values for *IP Address* and *Subnet Mask*. The *IP Address* range commonly used is 192.168.0.1 to 192.168.0.254, with a *Subnet Mask* of 255.255.255.0. (The Disk Server's default IP Address is 192.168.0.2, with a Subnet Mask of 255.255.255.0). Remember that each device needs a **unique** IP Address, and the **same** Subnet Mask.

Problem 2:	**Using the Disk Server Utility, the Disk Server is listed, but the *Admin* button doesn't work.**
Solution 2:	This will happen if the Disk Server's IP Address is not compatible with your PC.
	Use the *Quick Setup* button to assign a compatible IP Address and Network Mask (Subnet Mask) to the Disk Server, then *Refresh* the listing.

Problem 3:	**The Disk Server is configured, but I can't find it in *Network Neighborhood*.**
Solution 3	Try using *Start - Find - Computer*, and enter the Disk Server's name.

If this does not work, use **Control Panel - Network** to check the following:

- TCP/IP protocol is installed. If not, use *Add - Protocol - Microsoft - TCP/IP* to install it.
- Check the network Bindings:
  1). Ensure the TCP/IP protocol is bound to your Network card (NIC).
      Select your Network card, click *Properties*, and then the *Bindings* tab. If TCP/IP is not bound (checked), check it.
  2). Ensure the **TCP/IP -> Network card** entry is bound to the *Client for Microsoft Networks* service.
      Select the *TCP/IP* entry for your Network Card, click *Properties*, and then the *Bindings* tab. If *Client for Microsoft Networks* is not bound (checked), check it.
- If you don't have a router, check that your IP Address is compatible with the Disk Server's. This means it needs to be from the same address range (e.g. 192.168.0.3 to 192.168.0.254) and using the same *Subnet Mask* (e.g. 255.255.255.0)
- If you DO have a router, check that your *Gateway IP Address* is set correctly. Ask your LAN administrator for the correct value.

Problem 4	**When I click on the Disk Server icon in Network Neighborhood, I get prompted for a password.**
Solution 4	This can happen in the following situations:

- The Logon name you used on your PC is recognized by the Disk Server, but the password is not. Simply enter your Disk Server password, or make your Windows password the same as the Disk Server password.
- The logon name you used on your PC is NOT recognized by the Disk Server, and was converted to *guest*, with *guest* access rights. Ask the Disk Server Administrator to create a *user name* for you. (Use the same name as on your PC.)
- You do NOT have access permission for this share.
  Ask the Disk Server Administrator to grant you access.

Note: Windows uses the *Computer name*, as shown on *Control Panel - Network - Identification*, as the default *Logon Name*.

Problem 5	**When using the Web interface, some of the data will not fit on the screen, and there is no scrollbar.**
Solution 5	This will only happen if you use extra large fonts, either in your Browser or in Windows. You must reduce the font size:

- In your Browser, select *View - Fonts* to change the font size.
- In Windows, use *Control Panel - Display - Settings - Advanced* to change the font size. Either of the 2 standard settings - *Small* or *Large (125%)* - should work.

Problem 6	**A print job does not print. No error message is displayed.**
Solution 6	This can happen if the amount of free disk space is not sufficient to spool (queue) the print job. Disk Usage can be checked using the *Status - Disk* screen on the *Administrator* interface. If this is the problem, you must delete some print jobs:

1. Using the *Administrator* interface, select *Status - Printer*.
2. Use the *Delete current job* to delete the current print job, or *Delete all jobs* to delete all print jobs.

   These options can also be used if for some reason a print job or jobs does not print correctly.

Macintosh

Problem 1:	**Can't connect to the Disk Server to configure it.**
Solution 1:	Check the following:

- The Disk Server is properly installed, LAN connections are OK, and it is powered ON.
- If your LAN has a router, ensure that your Mac and the Disk Server Device are on the same network segment.
- If any PC or device on the LAN is already using the Disk Server's default IP Address of 192.168.0.2, that PC or device must be turned OFF until the Disk Server is allocated a new IP Address.
- Ensure that your Mac is using an IP Address within the range 192.168.0.3 to 192.168.0.254 and thus compatible with the Disk Server's default IP Address of 192.168.0.2. Also, the *Subnet Mask* should be 255.255.255.0.
  This can be checked using *Apple - Control Panel - TCP/IP*.

Problem 2:	**Disk Server's printer is not listed on my Mac.**
Solution 2:	• On the Disk Server's *System - Printer* screen**,** check the **Printer Object Type**. If this is not correct, the Disk Server's printer will not be listed on the Macintosh. Check the Printer's User Manual for this data, or contact the printer supplier.
	• On each Mac, check that the **Printer Driver** is installed. If not using a LaserWriter, each Mac must have the printer driver for the printer installed. Otherwise, the correct printer type can not be selected, so the Disk Server will not be listed.
Problem 3:	**The printer does not work at all, or does not work properly.**
Solution 3:	On the Disk Server *System - Printer* screen, check the following:
	• **Printer Connected to the Disk Server** is set correctly ("LaserWriter" or "Other").
	• **Printer Object Type** is set correctly. If this is incorrect, then Mac clients may be able to select an incorrect printer.
Problem 4	**The printer was working, but now it doesn't. The printer seems OK, and no error message is displayed.**
Solution 4	This can happen if the amount of free disk space is not sufficient to spool (queue) the print job. Disk Usage can be checked using the *Status - Disk* screen on the *Administrator* interface. If this is the problem, you must delete some print jobs, as follows:
	1. Using the *Administrator* interface, select *Status - Printer*.
	2. Use the *Delete current job* to delete the current print job, or *Delete all jobs* to delete all print jobs.
	These options can also be used if for some reason a print job or jobs does not print correctly.
Problem 5	**When using the Web interface, some of the data will not fit on the screen, and there is no scrollbar.**
Solution 5	You must reduce the font size. In your Browser, select *View - Fonts* to change the font size.

Specifications

Dimensions	210mm (W) * 271mm (D) * 66mm (H) 8" (W) * 11" (D) * 3" (H)
Operating Temperature	5° C to 40° C
Storage Temperature	-10° C to 60° C
Network Protocol:	TCP/IP, AppleShare, SMB
Network Interface:	Auto-sensing Ethernet 10BaseT or 100BaseTX UTP, RJ45 connector
Printer Port	1 Centronic parallel port
LEDs	Rear: - 2 LAN connection status Front: - 5 status/operation
Power	12V DC , maximum 3.6 amps. 100- 240 V AC, 50-60Hz power adapter provided.