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Hitachi Freedom Storage™
Thunder 9200™
Windows® 2000 Host Installation Guide

Document Revision Level

Revision	Date	Description
MK-90DF515-0	January 2001	Initial Release
MK-90DF515-1	February 2001	Format corrections only; no new technical information added.

Source Document Revision Level

The following source document was used to produce this Thunder 9200 host installation guide: *Hitachi Disk Array Subsystem Installation Manual (Fibre Channel)*, revision 1.

Preface

The *Hitachi Freedom Storage Thunder 9200 Windows® 2000 Host Installation Guide* describes and provides instructions for configuring the devices on the Hitachi Freedom Storage 9200 array subsystem for operation with the Microsoft® 2000 operating system (OS). This configuration guide assumes that:

- the user has a background in data processing and understands direct-access storage device (DASD) subsystems and their basic functions,
- the user is familiar with the Hitachi Freedom Storage 9200 array subsystems, and
- the user is familiar with the Microsoft® Windows® 2000 Server operating system, the 2000 server/workstation computer, and the fibre-channel adapters.

Note: The term "9200" refers to the entire Hitachi Freedom Storage™ Thunder 9200™ subsystem family, unless otherwise noted.

For further information on the Thunder 9200 array subsystem, please refer to the *Hitachi Freedom Storage 9200™ User and Reference Guide (MK-90DF504)*, or contact your Hitachi Data Systems account team. The Hitachi Data Systems worldwide web site (http://www.hds.com) also provides information on the Hitachi Freedom Storage™ Thunder 9200 subsystem and its features and options.

For further information on Windows® 2000, please consult the Windows® 2000 online help and/or user documentation, or contact Microsoft® technical support.

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Chapter 1 Overview of Thunder 9200™ Windows® 2000 Configuration

1.1 Windows® 2000 Configuration

This document describes the requirements and procedures for connecting the 9200 subsystem to a 2000 server and configuring the new 9200 devices for operation with the Windows® 2000 server operating system. The Hitachi Data Systems representative performs the physical installation of the 9200 subsystem. The user prepares for 9200 subsystem installation, and then configures the new 9200 devices with assistance as needed from the Hitachi Data Systems representative.

Configuration of the 9200 disk devices for Windows® 2000 operations includes:

- Setting LUs and file sizes (see Chapter 2),
- Installing the 9200 subsystem (see Chapter 3),
- Creating and formatting volumes (see Chapter 3), and
- Verifying file system operations (see Chapter 3).

1.2 Hitachi Thunder 9200™ Array Subsystem

The Hitachi Freedom Storage™ Thunder 9200™ RAID subsystem supports concurrent attachment to multiple UNIX®-based and PC-server platforms. Please contact your Hitachi Data Systems account team for the latest information on platform support. The 9200 subsystem provides continuous data availability, high-speed response, scaleable connectivity, and expandable capacity for PC server and open-system storage. The 9200 subsystem can operate with multihost applications and host clusters, and is designed to handle very large databases as well as data warehousing and data mining applications that store and retrieve terabytes of data.

Chapter 2 Preparing for New Device Configuration

2.1 Configuration Requirements

The requirements for 9200 Windows® 2000 configuration are:

- Hitachi Freedom Storage™ Thunder 9200™ subsystem.
- Windows® 2000 server. For information on server hardware requirements, please refer to the Windows® 2000 user documentation, or contact Microsoft® technical support.
- Windows® 2000 operating system, version 4.0. ***Important:*** Please contact Microsoft® technical support to make sure that the most current OS patches are installed on the Windows® 2000 system(s).

  Note: Hitachi Data Systems plans to support future releases of the Windows® 2000 operating system. For the latest information on Windows® 2000 version support, please contact your Hitachi Data Systems account team.

- Fibre-channel adapters. Make sure to install all utilities, tools, and drivers that come with the adapter(s). For information on driver requirements for the adapters, please refer to the user documentation for the adapter or contact the vendor.
  - The 9200 subsystem supports full-speed (100 MB/s) fibre-channel interface, including shortwave non-OFC (open fibre control) optical interface, and multimode optical cables with SC connectors. Do not connect any OFC-type fibre-channel interface to the 9200 subsystem. For information on supported FC adapters (FCAs), optical cables, hubs, and fabric switches, please contact your Hitachi Data Systems account team or the Hitachi Data Systems Support Center.

2.2 Installing the 9200 Subsystem

The 9200 subsystem comes with all hardware and cabling required for installation.

Note: The Hitachi Data Systems representative must use the 9200 Maintenance Manual during all installation activities. Follow all precautions and procedures in the maintenance manual, and always check all specifications to ensure proper installation and configuration.

2.3 Preparing for New Device Configuration

Before setting up or installing the disk array subsystem, you should be familiar with the following activities:

- Setting logical units,
- Setting file system sizes, and
- Configuring the adapter(s).

2.3.1 Setting Logical Units

The maximum number of logical units (LUs) that can be set on a single disk array subsystem is 64 for the Hitachi Freedom Storage™ Thunder 9200™. The number will vary depending upon the host bus adapter used. Contact your Hitachi Data Systems representative for information.

2.3.2 Setting File System Sizes

See Table 2.1 for maximum file sizes.

Table 2.1 File Limitations

File System Type	Maximum Size
FAT	4095 MB
NTFS	2 TB
FAT32	32 GB

Chapter 3 Configuring the New Devices

Configuration of the new 9200 devices for Windows® 2000 operations involves the following activities:

- Starting Computer Management,
- Creating and formatting volumes,
- Terminating Computer Management.

3.1 Starting Computer Management

1. From the **Start-Programs** menu, select **Administrative Tools**, and then select **Computer Management** to start the Computer Management. Initialization takes a few seconds.
2. From the **Computer Management [Local]** panel, select **Storage, then Disk Management.** The **Write Signature Wizard** appears as shown in Figure 3.1.
3. Select **Next** to select a disk you want to add a signature to (see Figure 3.2).
4. Select a disk and select **Next**. The Upgrade Disk Wizard appears as shown in Figure 3.3.
5. Select a disk to upgrade, then click **Next**. To confirm writing signatures and upgrading disks, select **Next**. Confirm the changes by selecting **Finish** on the Write Signature and Upgrade Disk Wizard panel as shown in Figure 3.4.
6. Check the empty area to make sure that the disk(s) selected in Figure 3.2 and Figure 3.3 are shown correctly (see Figure 3.4).

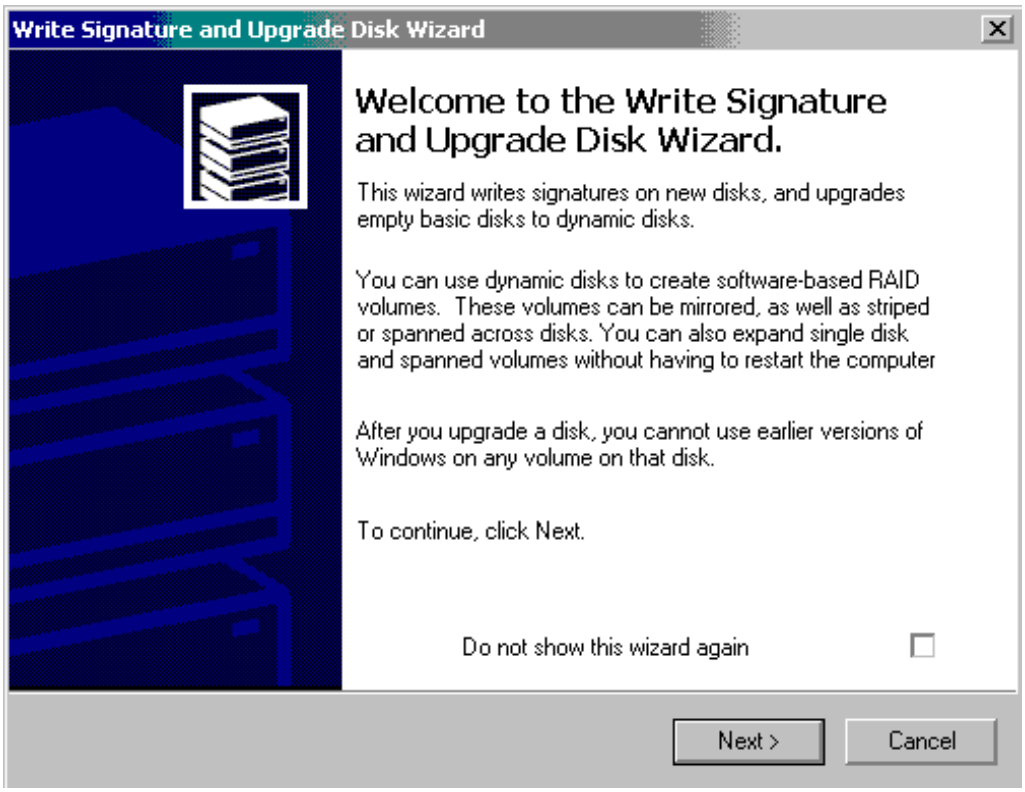

Figure 3.1 Write Signature Wizard

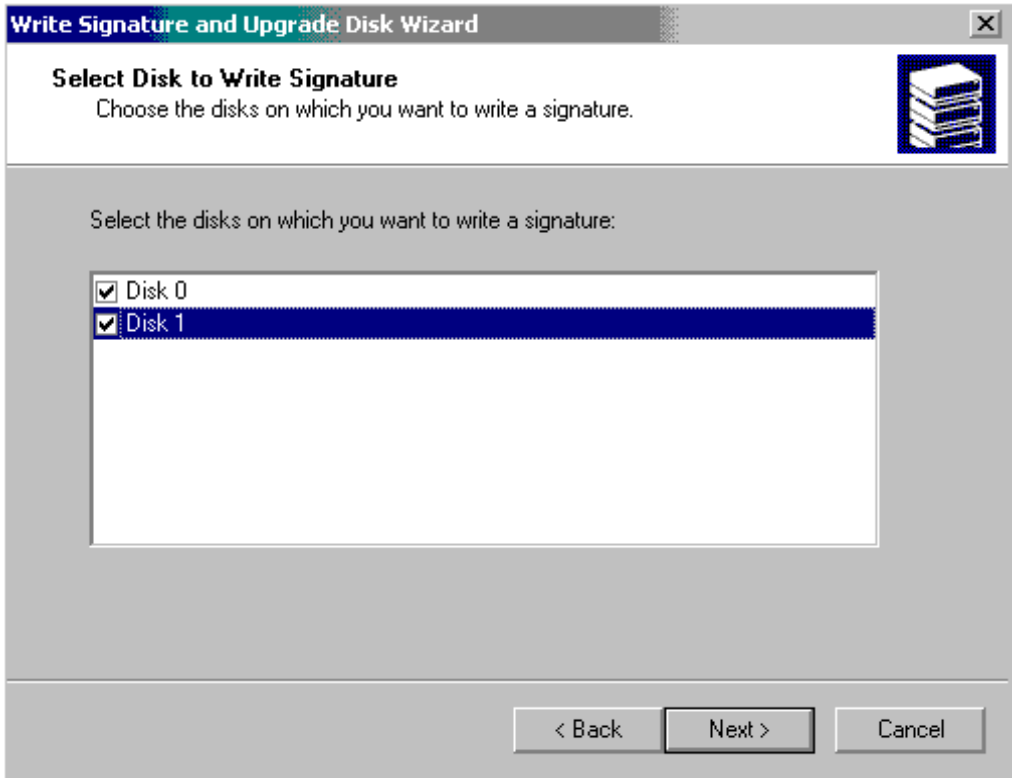

Figure 3.2 Selecting a Disk

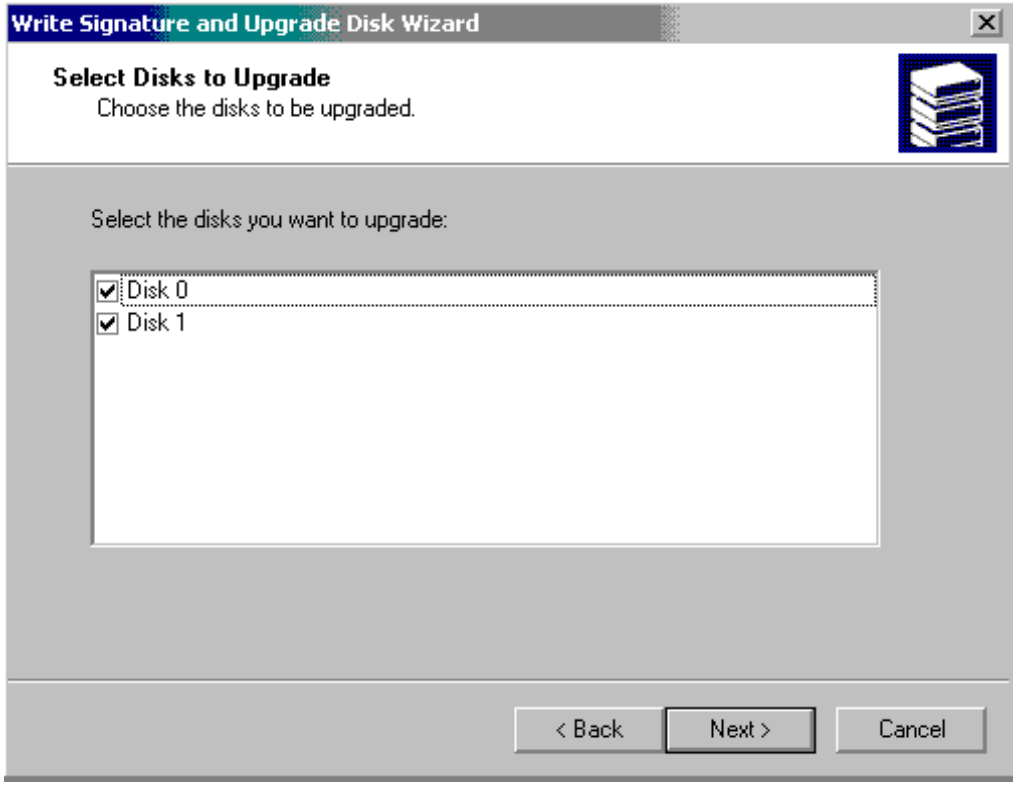

Figure 3.3 Upgrade Disk Wizard

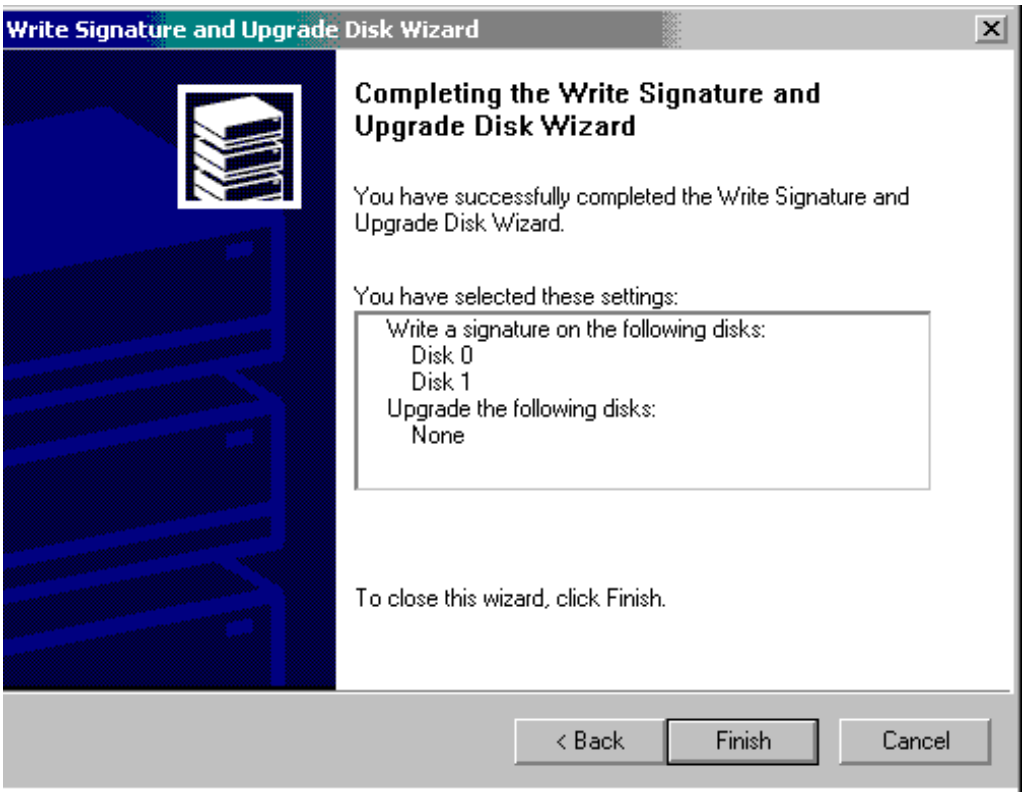

Figure 3.4 Confirming Signatures and Upgrades

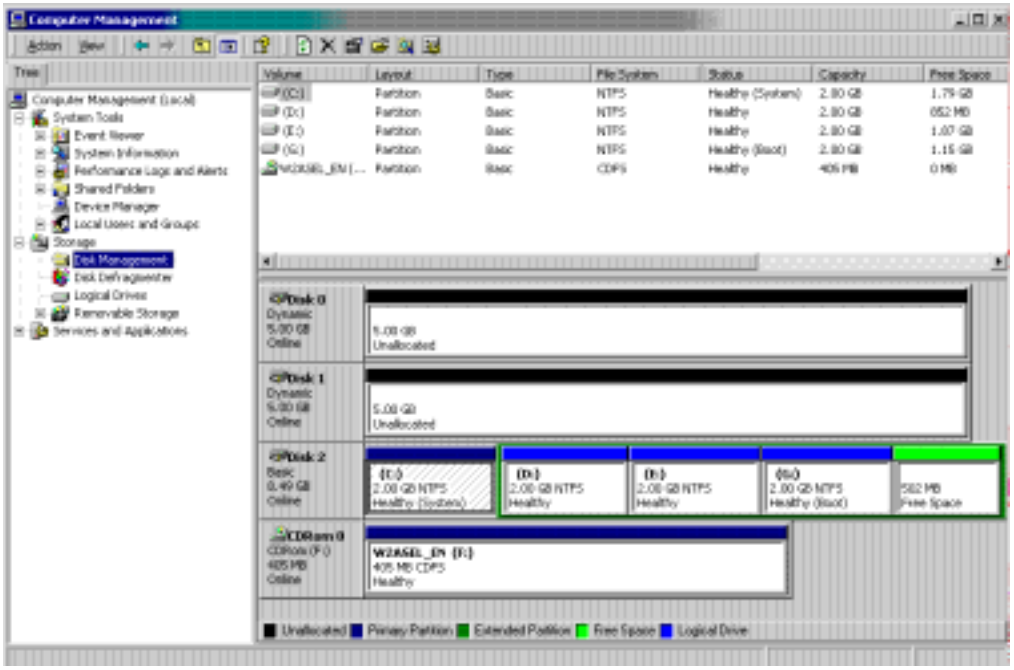

Figure 3.5 Confirming Signature(s) and Upgrade(s)

3.2 Creating Volumes

1. On the Computer Management panel, place the cursor in an unallocated area of a selected disk. Right click the mouse. From the menu, select **Create Volume** as shown in Figure 3.6**.**
2. From the Create Volume Wizard screen, click **Next** (see Figure 3.7**).**
3. From the Select Volume Type screen, select volume type. A definition is provided for type selected. Select **Next**.
4. From the Select Disks screen, enter disk size (see Figure 3.9), then select Next.
5. From the Assign Drive Letter or Path screen, make a selection and click **Next**. See Figure 3.9.
6. From the Format Volume screen, make required selections, and select **Next**.
7. The Create Volume Wizard panel lists your selections (see Figure 3.12). To confirm, select **Finish.** To modify the selections shown, repeat steps 2 through 7 as needed.
8. While formatting is being done, the Computer Management panel appears as shown in Figure 3.13. Make sure that Free Space status changes to NTFS Healthy.

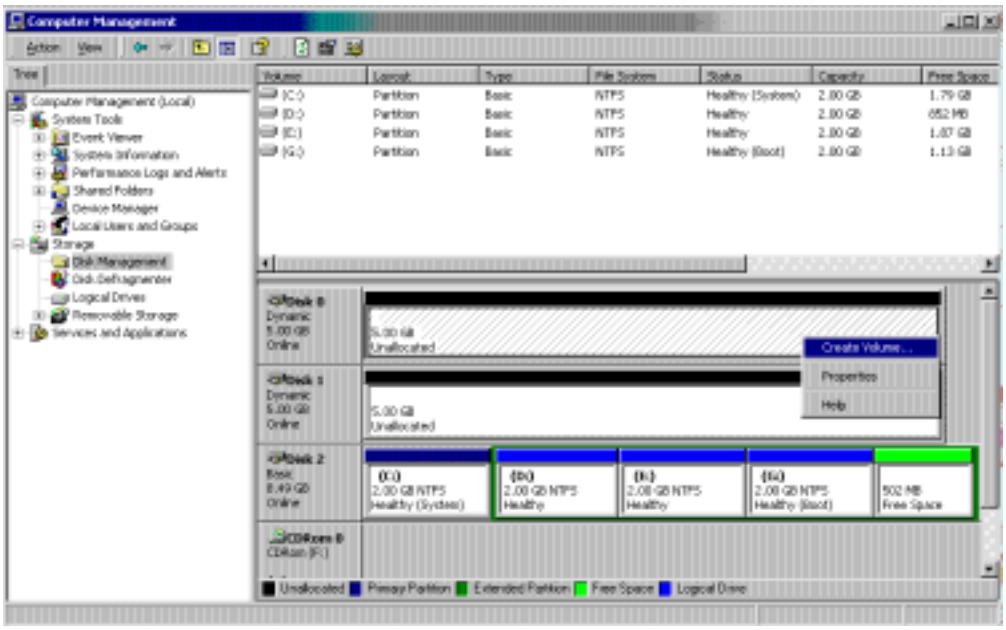

Figure 3.6 Creating Volumes

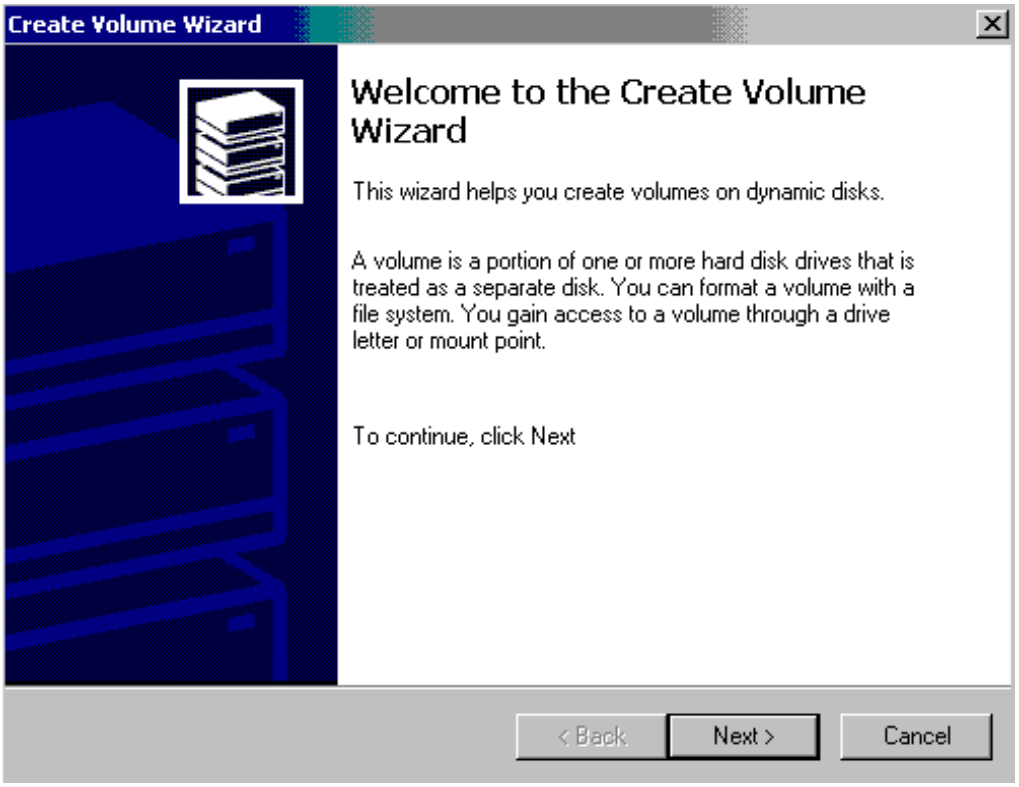

Figure 3.7 Create Volume Wizard Panel

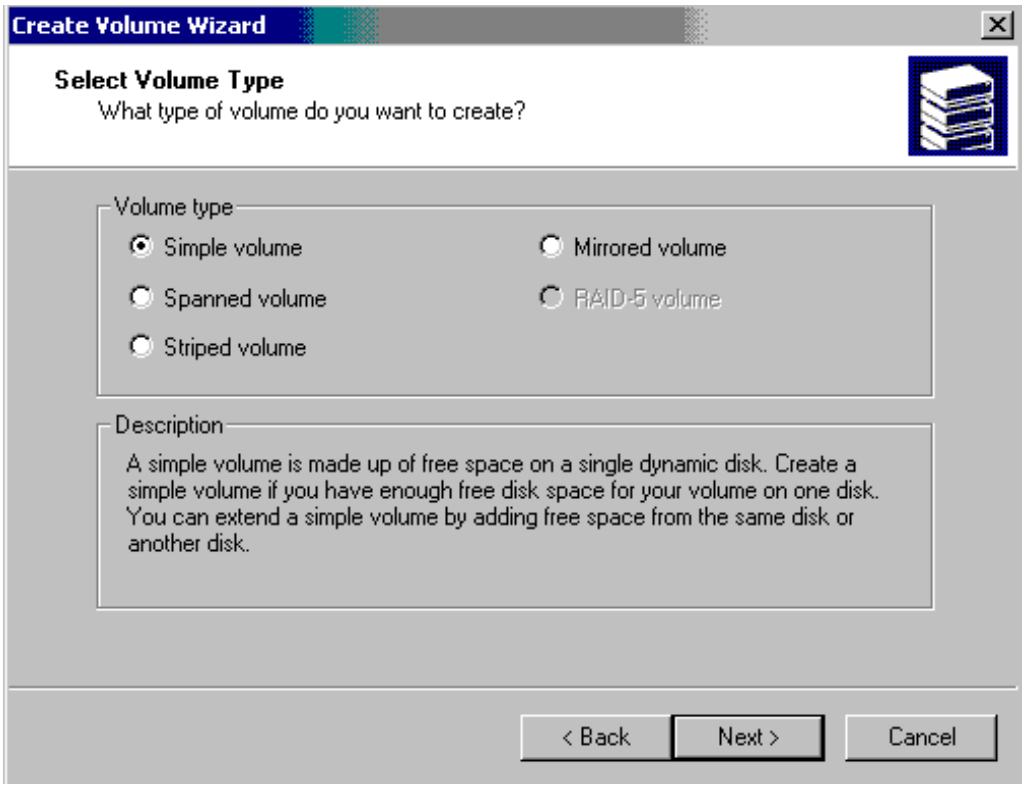

Figure 3.8 Selecting Volume Type

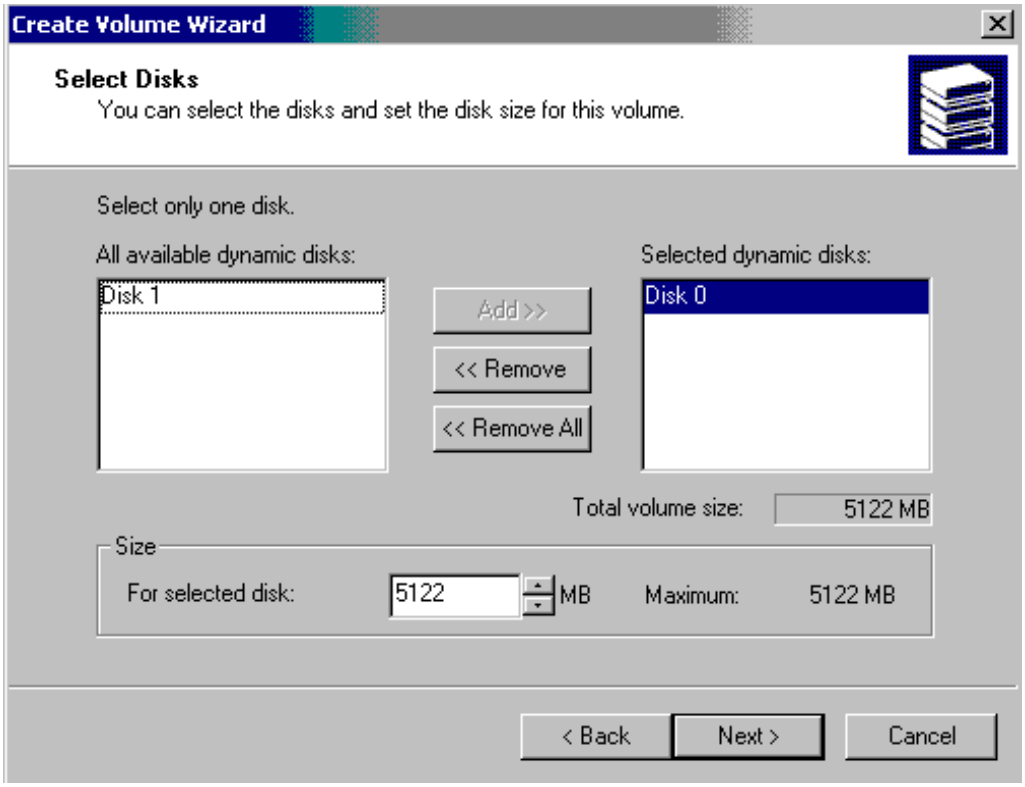

Figure 3.9 Selecting Disk Size

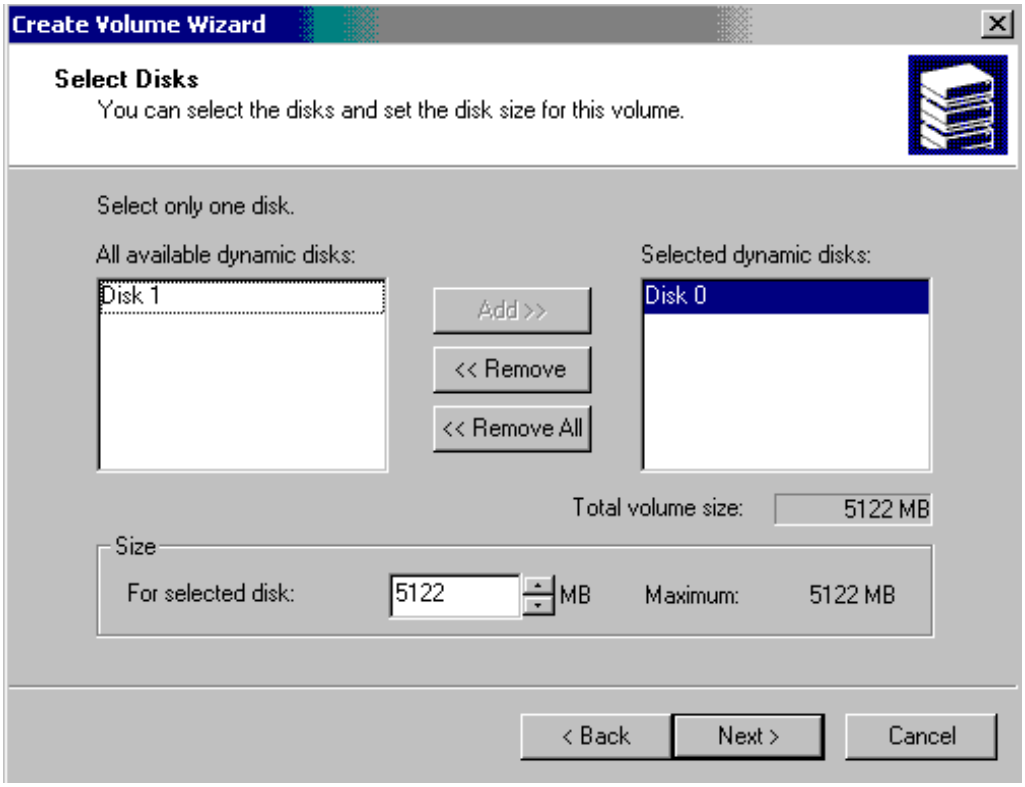

Figure 3.10 Assigning a Drive Letter or Path

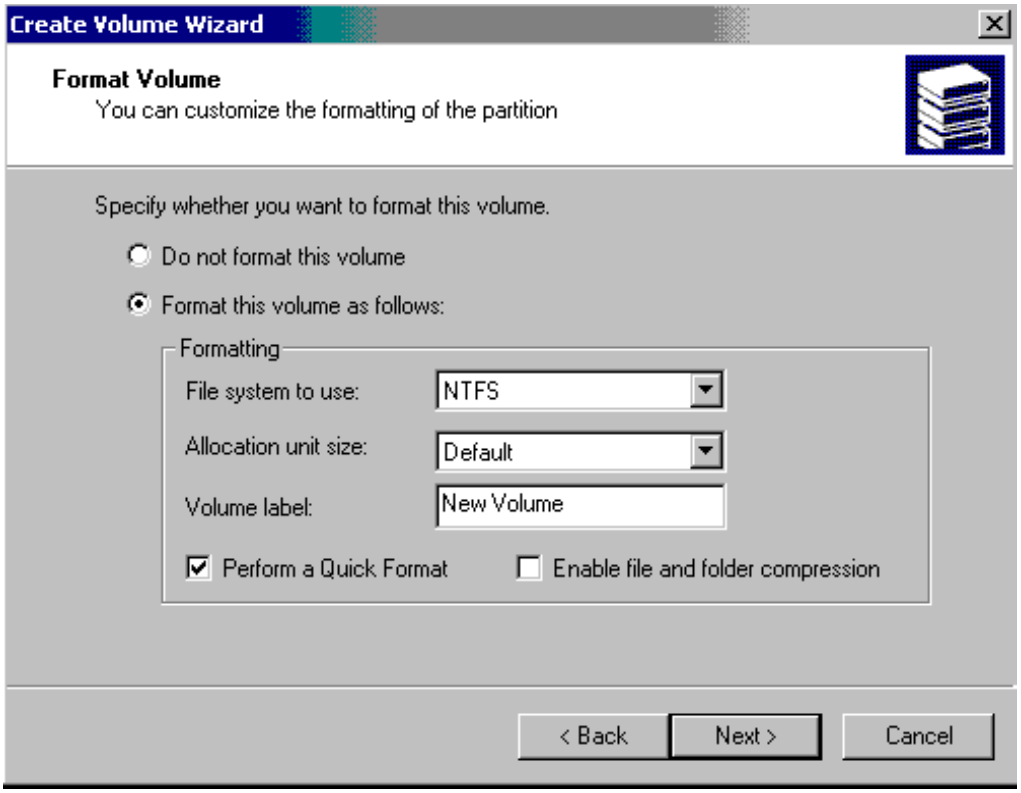

Figure 3.11 Formatting the Volume

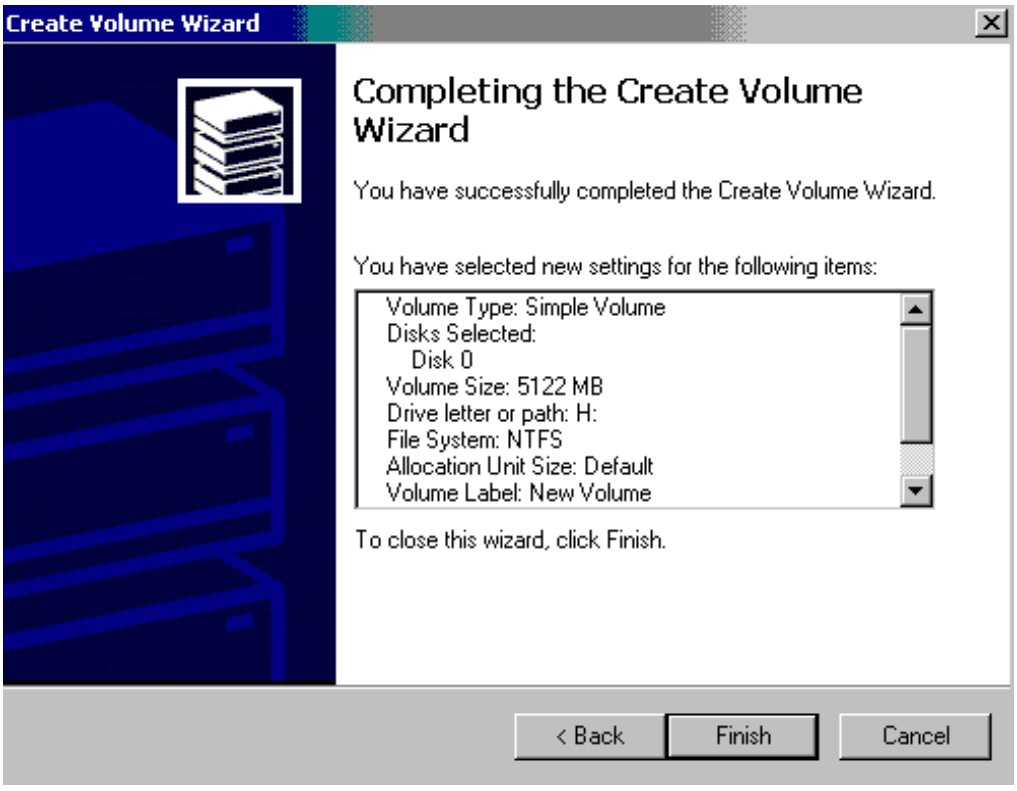

Figure 3.12 Completing the Create Volume Wizard

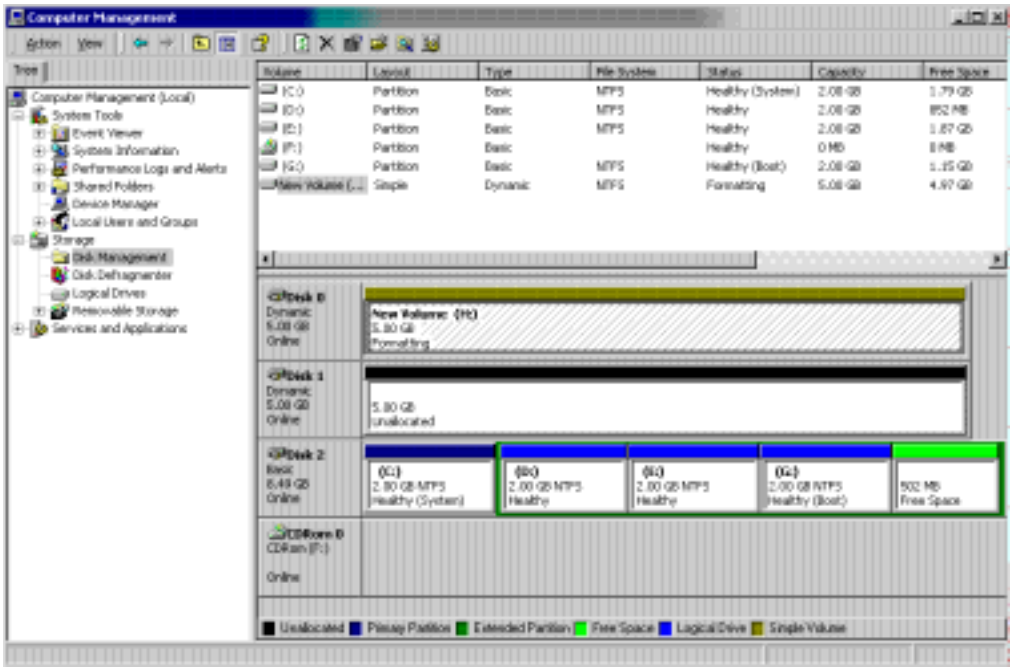

Figure 3.13 Formatting a Volume

3.3 Terminating Computer Management

1. On the Computer Management menu, select **Close**.
2. To verify the file system operations, select **Start**, then **Programs**, then **Accessories**, and **Windows® Explorer (see** Figure 3.14**).** On the New Volume panel, confirm the formatting as shown in Figure 3.15.

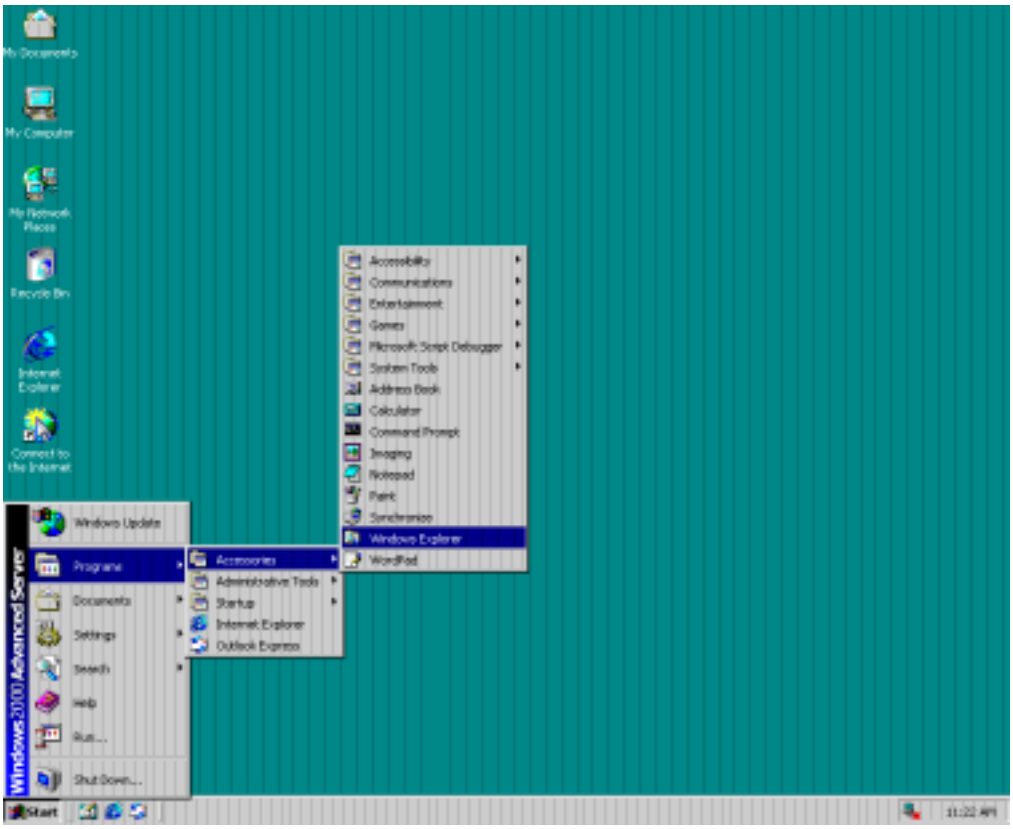

Figure 3.14 Selecting Windows® Explorer

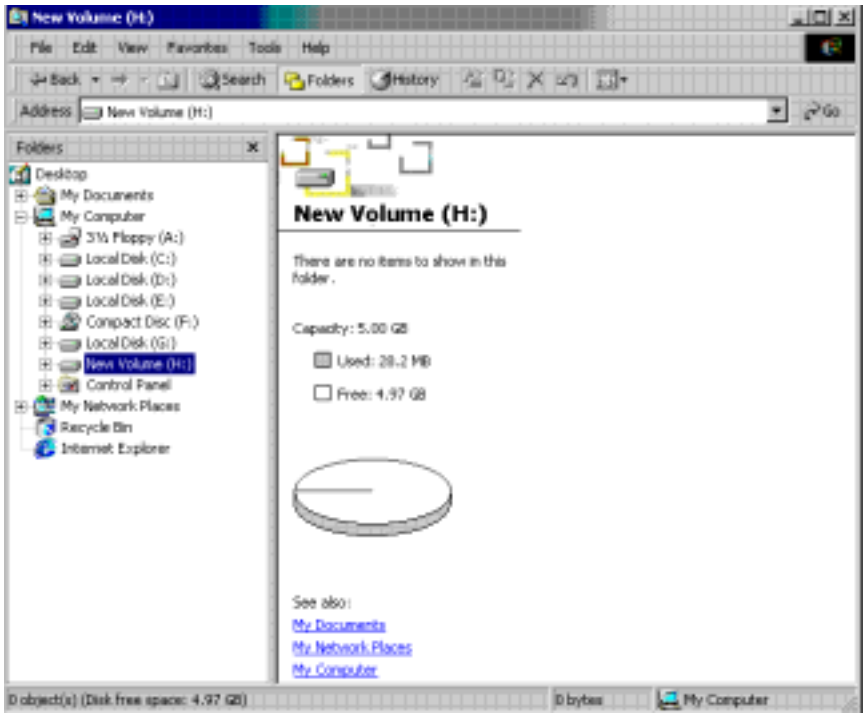

Figure 3.15 Confirming Configuration Changes

Chapter 4 Troubleshooting

4.1 Troubleshooting

The Hitachi Freedom Storage™ Thunder 9200™ array subsystem provides continuous data availability. For troubleshooting information for the 9200 subsystem, please refer to the *Hitachi Freedom Storage™ Thunder 9200™ User and Reference Manual* (MK-90DF504).

4.2 Calling the Support Center

If you need to call the Hitachi Data Systems Support Center, make sure to provide as much information about the problem as possible, including the circumstances surrounding the error or failure and the exact content of any error messages displayed on the host system(s). Please check the SVP service information messages (SIMs) using Web access, and note the reference codes and severity levels of the recent messages.

The worldwide Hitachi Data Systems Support Centers are:

- Hitachi Data Systems North America/Latin America
  San Diego, California, USA
  1-800-348-4357
- Hitachi Data Systems Europe
  Contact Hitachi Data Systems Local Support
- Hitachi Data Systems Asia Pacific
  North Ryde, Australia
  011-61-2-9325-3300

Appendix A Acronyms and Abbreviations

FAT	file allocation table
FCA	FC adapter
LU	logical unit
LUN	logical unit number
MB	megabytes
OFC	open fibre control
PC	personal computer system
SIM	service information message
RAID	redundant array of independent disks
SIM	service information message
TB	terabytes