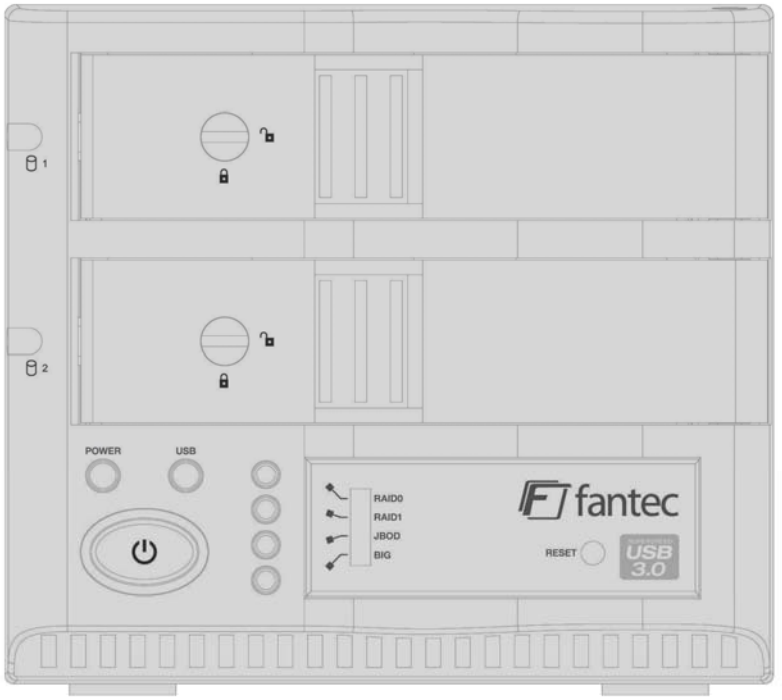
FANTEC
MR-35DU3



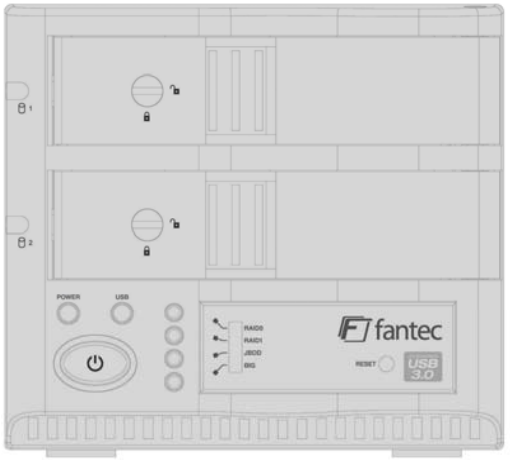
USER MANUAL

MENU

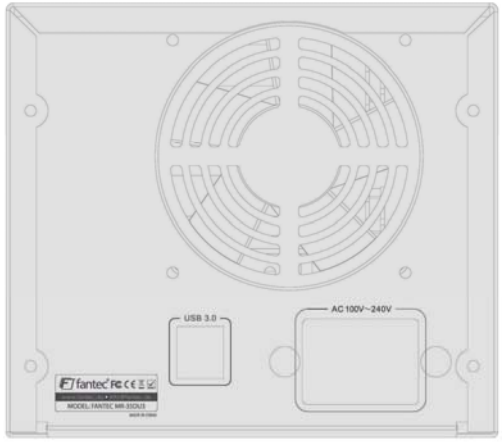
1. Product Introduction

SATA 2x HDD TO USB 3.0 5.0G interface.

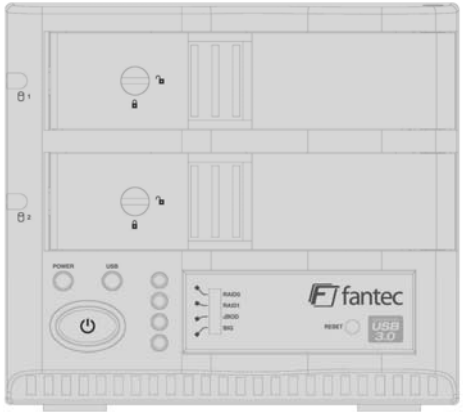
Front



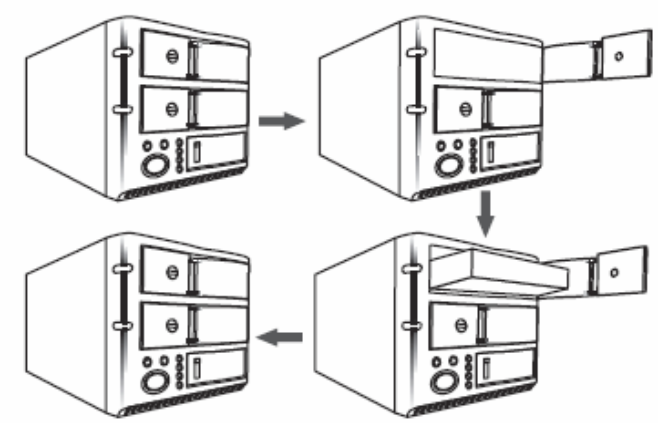
Back



2. Operation

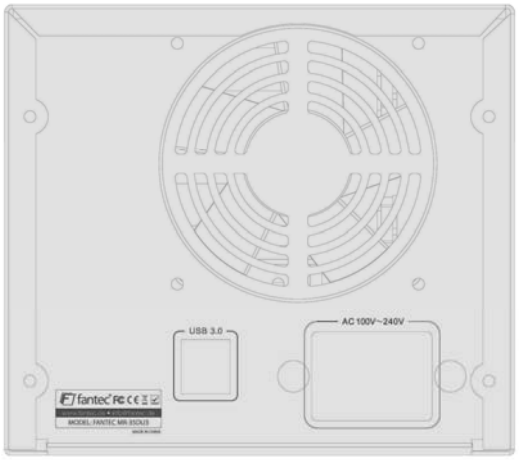


The Hard Disk Installation: Sway from side to side the lock , and pull the doorknob to insert 1 or 2 hard disk.Close the doorknob and the installation will be completed (The step will be represented in terms of following graphs)



Note: Sway from side to side the lock at the instructed point which you could open the doorknob to install/ unload the hard disk. In Contrast, when you sway from side to side the lock at the instructed point then you may not open it.

Connect to the computer host through USB, and turn on the power



Turn the switch to RAID0, LED will keep bright and the host will be entering the RAID0 active status.
Turn the switch to RAID1, RAID1 LED keep bright, and the host will be entering the RAID1 active status.
Turn the switch to JBOD, JBOD LED keep bright, and the host will be entering the JBOD active status.
Turn the switch to BIG, BIG LED will keep bright, the host will be entering the BIG active status.

Hard disk LED "⊟1"/"⊟2" sends blue light and has long-lasting bright light, which indicates the hard disk connection is correct.

Hard disk LED "⊟1"/"⊟2" sends the pink light and does not stop glittering, which indicates the hard disk performing wrong material transmission.

Hard disk LED "⊟1"/"⊟2" sends red light and does not stop glittering, which indicates the hard disk connection error.

LED condition:
switch on power and insert two HD in terms of different working pattern

PATTERN	HDD carries on the self-checking	Material transmission
RAID0	HDD1 and HDD2 LED glitter in turn with blue& red lights. Self- checking completes when LED sends blue light	Under the material transmission: The HDD1 and the HDD2 LED glitter with purple light. The material transmission completes when LED sends the blue light
RAID1	HDD1 and HDD2 LED glitter in turn with blue& red lights. Self- checking completes when LED sends blue light	Under the material transmission: The HDD1 and the HDD2 LED glitter with purple light. The material transmission completes when LED sends the blue light
JBOD	HDD1 and HDD2 LED glitter in turn with blue& red lights. Self- checking completes when LED sends blue light	Under the material transmission condition: LED glitters with purple light while operating different HDD. The material transmission completes when LED sends blue light
BIG	HDD1 and HDD2 LED glitter in turn with blue& red lights. Self- checking completes when LED sends blue light	Under the material transmission: The HDD1 and the HDD2 LED glitter with purple light. The material transmission completes when LED sends the blue light

Switch on power then insertion HD or two HD have a damage in the situation under the different working pattern the LED condition (HDD1 normal, HDD2 is unusual, otherwise also establishes)

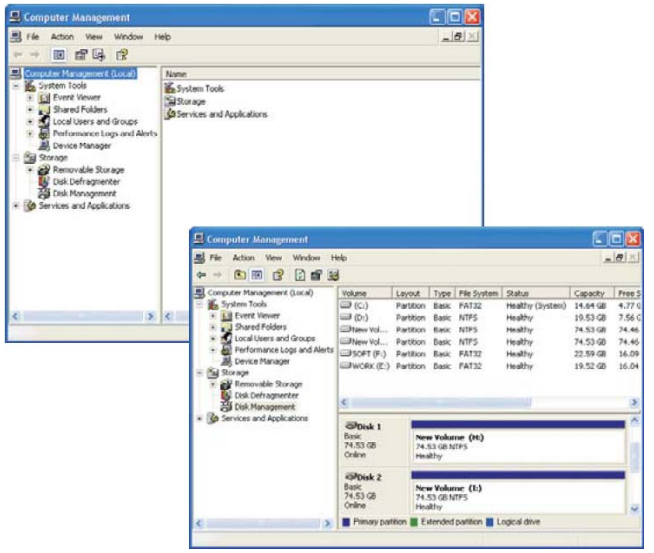
PATTERN	HDD carries on the self-checking	Material transmission
RAID0	HDD1 and the HDD2 LED glitter in turn with blue & red lights. Selfchecking completes when the HDD1 LED sends blue light, and the HDD2 LED continues glittering in turn with blue& red lights.	Under the material transmission condition: The HDD1 LED glitters with purple light, and the HDD2 LED glitters in turn with blue & red lights. The material transmission completes when HDD1 LED sends blue light and the HDD2 LED continue glittering in turn with blue & red lights.
RAID1	HDD1 and the HDD2 LED glitter in turn with blue & red lights. Selfchecking completes when the HDD1 LED sends blue light, and the HDD2 LED continues glittering in turn with blue& red lights.	Under the material transmission condition: The HDD1 LED glitters with purple light, and the HDD2 LED glitters in turn with blue & red lights. The material transmission completes when HDD1 LED sends blue light and the HDD2 LED continue glittering in turn with blue & red lights.
JBOD	HDD1 and the HDD2 LED glitter in turn with blue & red lights. Selfchecking completes when the HDD1 LED sends blue light, and the HDD2 LED continues glittering in turn with blue& red lights.	Under the material transmission condition: The HDD1 LED glitters with purple light, and the HDD2 LED glitters in turn with blue & red lights. The material transmission completes when HDD1 LED sends blue light and the HDD2 LED continue glittering in turn with blue & red lights.
BIG	HDD1 and the HDD2 LED glitter in turn with blue & red lights. Selfchecking completes when the HDD1 LED sends blue light, and the HDD2 LED continues glittering in turn with blue& red lights.	Under the material transmission condition: The HDD1 LED glitters with purple light, and the HDD2 LED glitters in turn with blue & red lights. The material transmission completes when HDD1 LED sends blue light and the HDD2 LED continue glittering in turn with blue & red lights.

Attention:
1. If you use two HDD simultaneously and discover that the LED1 or LED2 glittering with blue & red lights in turn for a long time. Please check and see if the HDD has installed correctly.

2. If you simultaneously use two HDD, and the HDD damaged under RAID0, JBOD, and BIG pattern, the data on the HDD will lose. Under the RAID1 pattern, you may consider to take out the damaged HDD and replace formatted HDD instead. The 5744 software " REBUILDING" function will start recovering and the data will be recovered.

2.1 USB Interface

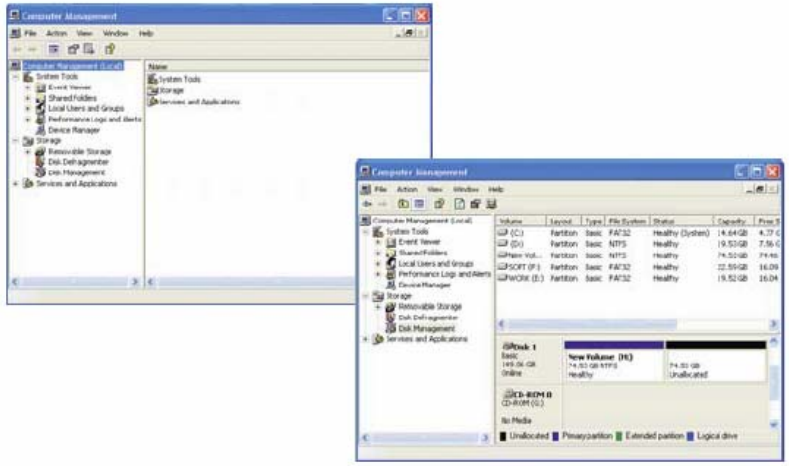
2.1.1 JBOD Mode
The two drives were connected to the products HDD1 and HDD2 Connector. USB&Power Cable were connected;
Opening the power switch, pulling MODE switch to and press switch, after a few seconds, the computer will automatically capture USB devices and increased 2 drives(If not drive there, then the hard disk drive management will re-zoning which format),At the moment you can Operate the disk. Re-zoning which drives formatted as follows(All information will be eliminated when Format hard drives).
Click " ", right-clicking pop-up menu, click Options " ", popup computer management plan was pop-up as follow:



Click “**Disks Management**” plan:
Right pop-up The additional disks (H :) and the additional disks (I :)' menus, choose “**Delete disk segmentation** ”.
Click “**Segmentation additional disks**”, followed by a clew to operate

2.1.2 BIG Mode

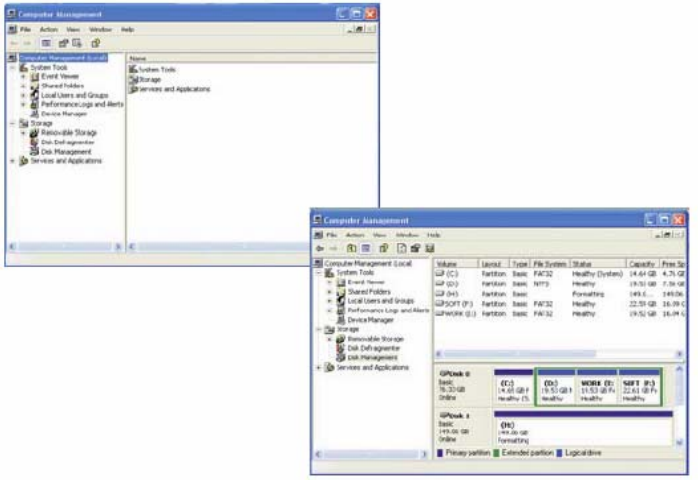
The two drives were connected to the products HDD1 and HDD2 Connector. USB&Power Cable were connected;
Opening the power switch, pulling MODE switch to **BIG** and press **RESET**switch, after a few seconds, the computer will automatically capture USB devices.
Click “**My Computer**”, right-clicking pop-up menu, click Options “**manage**”, popup computer management plan was pop-up as follow:



Click “**Disks Management**” plan:
Right pop-up the additional disks (H:)' menus, choose “**Delete disk segmentation**”.
Click “**Segmentation additional disks**”, followed by a clew to operate.

2.1.3 RAID0/ FAST Mode

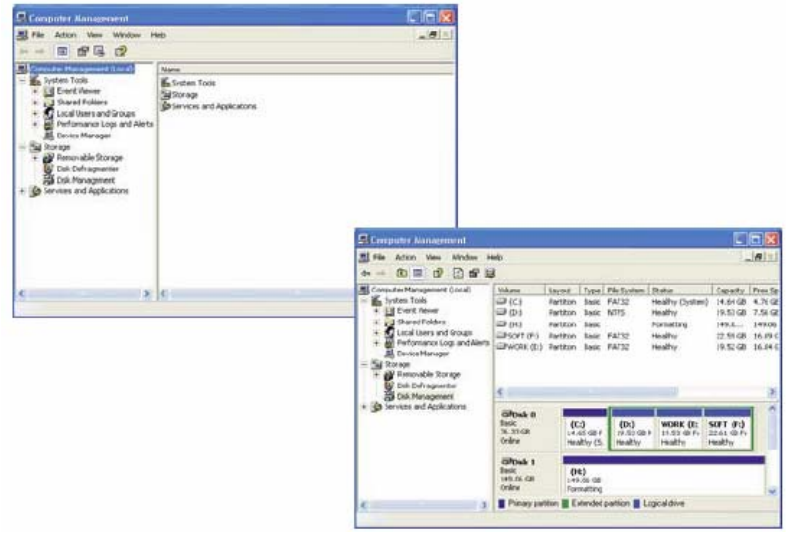
The two drives were connected to the products HDD1 and HDD2 Connector. USB&Power Cable were connected;
Opening the power switch, pulling MODE switch **RAID0** to and press **RESET** switch, after a few seconds, the computer will automatically capture USB devices and increased 1 drive(If not drive there, then the hard disk drive management will re-zoning which format),At the moment you can Operate the disk. Re-zoning which drives formatted as follows(All information will be eliminated when Format hard drives).
Click “**My Computer**”, right-clicking pop-up menu, click Options “**manage**”, popup computer management plan was pop-up as follow:



Click “**Disks Management**” plan:
Right pop-up the additional disks (H:)' menus, choose “**Delete disk segmentation**
”.
Click “**Segmentation additional disks**”, followed by a clew to operate

2.1.4 RAID1/ SAFE Modus

The two drives were connected to the products HDD1 and HDD2 Connector; USB&Power Cable were connected;
Opening the power switch, pulling MODE switch to **RAID1** and press **RESET** switch, after a few seconds, the computer will automatically capture USB devices and increased 2 drives(If not drive there, then the hard disk drive management will re-zoning which format),At the moment you can Operate the disk. Re-zoning which drives formatted as follows(All information will be eliminated when Format hard drives);
Click "**My Computer**", right-clicking pop-up menu, click Options "**manage**", popup computer management plan was pop-up as follow:



Click "**Disks Management" plan** :
Right pop-up The additional disks (H:) and the additional disks (F :)' menus, choose "**Delete Disk Segmentation**".
Click "**Segmentation additional disks**", followed by a clew to operate

2.1.5 Partitioning Volumes

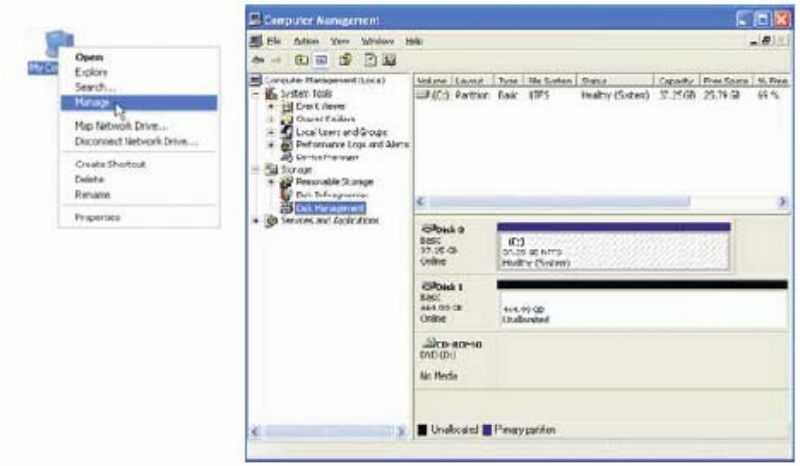
This section explains how to partition volumes after configuring them in the SteelVine Manager GUI. You must partition volumes for the host computer's operating system before you can store data on the volumes. Refer to the operating system's documentation for further guidance.

Partition a Volume

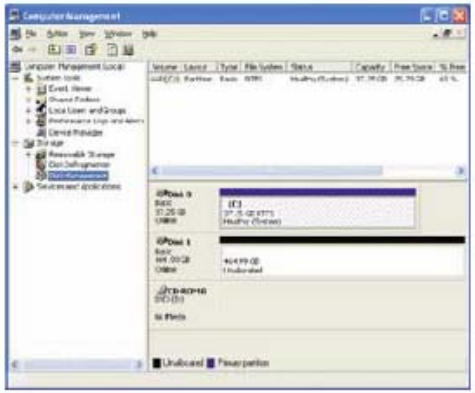
MS Windows

Important: Before reconfiguring a volume, back up your data and delete previously defined SteelVine Storage Reference Design partitions. If no hard disk drives are connected to the SteelVine Storage Processor, the SteelVine Processor device (the " **Not Initialized**" disk with no capacity allocated to it) will appear. Do not initialize or modify that device.

1. Right-click the **My Computer** icon on your desktop and select **Manage** from the pop-up window.

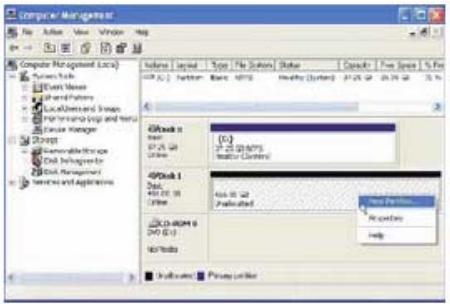


2. Select **Disk Management** under **Storage** to open the Windows Disk Manager.

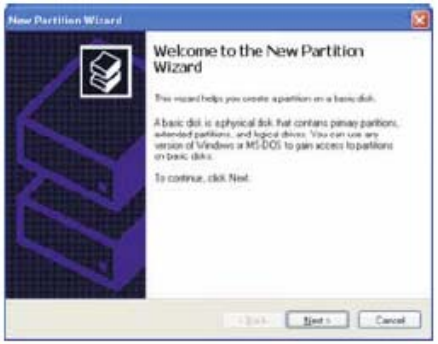


Every disk should appear with the word " **Basic**", a size value that shows the available storage capacity, and a status of " **Online**". Instead of Basic, a disk could appear **Unknown**, **Dynamic**, or **Not Initialized** .
If the disk appears as " **Unknown**", right-click the disk icon and select **Write Signature**. A window opens with the selected disk (all Unknown disks may appear in this window). Make sure the box next to each disk is checked and click OK. The disk should now be marked as a **Basic** disk.
If a disk appears as " **Dynamic**", right-click the disk icon, and select **Revert to Basic Disk** . Within a few seconds, the disk should be marked as a **Basic disk** . If a disk is marked " **Not Initialized** ", right-click the disk icon and select Initialize Disk. An additional dialog box appears allowing you to select which disks to initialize. Uncheck the SteelVine Processor Disk item and click **OK**. Within a few seconds, the selected disk(s) should be marked as a **Basic** disk.

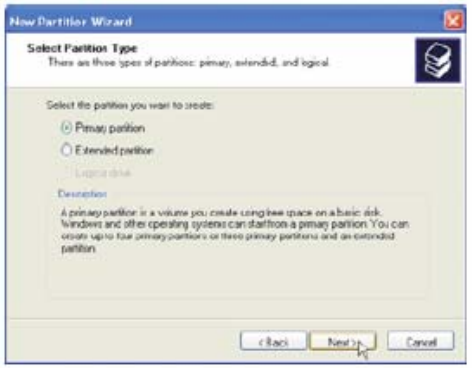
3. Right-click the configured disk's unallocated space and select **New Partition** . If the New Partition option is not available, select the disk and initialize it first. To do this, right-click on the disk item and select " **Initialize Disk** ".



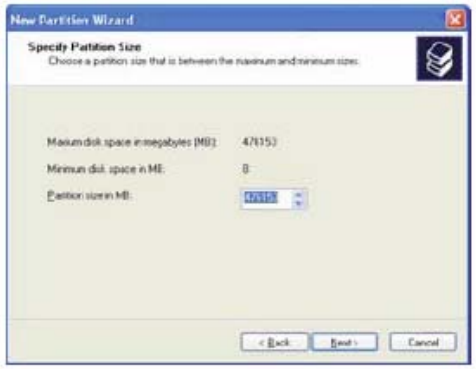
4. Click **Next** to start the Partition Wizard.



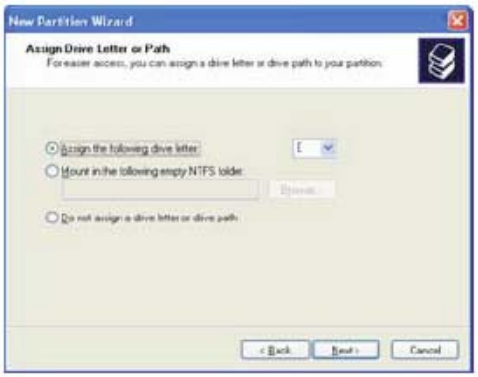
5. Select the Primary or Extended option and click **Next**.



6. Specify the partition size. By default, the partition occupies the entire volume. Click **Next**.



7. Assign a drive letter or mount path and click **Next**.



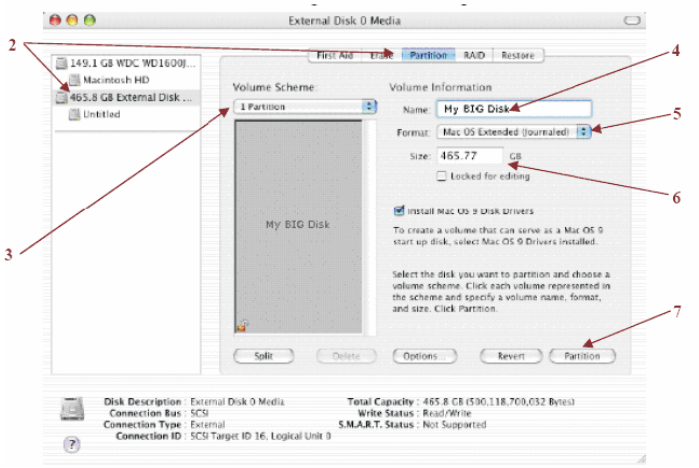
8. Name and format the partition and click .
9. Review the file system settings and click to create the logical partition.

Mac OS X

Important: Before reconfiguring a volume, back up your data and drag the old drive to the trash to un-mount previously defined SteelVine Storage Reference Design partition. If no hard drives are connected to the Storage Appliance, the SteelVine Processor disk (8.0 GB Config Disk Media) will appear. Do not remove or modify that partition. After you configure and partition the new volumes, restore the backed-up data to the new configuration.

1. Launch **Disk Utility** from the **Application** > **Utilities** folder.

2. Select a configured disk and click the Partition tab. This procedure illustrates the **BIG** Storage Policy configuration, which concatenates the capacity of all hard drives connected to the SteelVine Storage Reference Design.



3. Select 1 **Partition** from the **Volume Scheme** drop-down list.
4. Enter a name for the volume in the **Name** field (such as “My BIG disk”.)

5. Select **Mac OS Extended (journaled)** from the Format drop-down list.
6. Specify the size of the partition in the **Size** field.
7. Click the **Partition** button.
8. Click **Partition** to acknowledge the warning.

Disk Utility mounts the created partition and represents it with an icon on the desktop. The icon is labeled with the partition name.

3. Note

1. If this product is in use for the first time or the mode (**BIG, JBOD, RAID0/FAST, RAID1/SAFE**) is changed, we must initialize and format the HDD before. (All information will be eliminated when format hard drives)
2. When you need to change different mode (BIG, JBOD, RAID0/FAST, RAID1/SAFE) you must press the RESET button, so that the enclosure can distinguish the exact mode.
3. If you require a faster data transfer, **RAID0/FAST** MODE will be suggested to use.
4. If you require a higher data security, **RAID1/ SAFE** MODE will be suggested to use.
5. If you require a bigger hard disk capacity, **BIG MODE** will be suggested to use.

4. Features

4.1 High speed external storage solution,. USB 3.0 (5.0 Gb/s).

The FANTEC MR-35DU3 provides the following Serial Advanced Technology Attachment (SATA) features:
Automatic negotiation between SATA I (1.5Gbps) and SATA II (3.0 Gbps)
Serial ATA 2.5 specification compliance (Gen2m)
Serial ATA Port Multiplier 1.1 specification compliance
For detailed information about SATA technology, refer to the following

specifications online:
Serial ATA: High Speed Serialized AT Attachment, Revision 1.0a
Serial ATA II: Extensions to Serial ATA 1.0a, Revision 1.1
Serial ATA II: Port Multiplier, Revision 1.1
The Serial ATA web site is http://www.serialata.org/.

USB Features
The FANTEC MR-35DU3 provides the following Universal Serial Bus (USB) features:
USB 1.0 and USB 2.0 specification compliance
For detailed information about USB technology, refer to the following specifications online:
Universal Serial Bus Specification, Revision 1.1
Universal Serial Bus Specification, Revision 2.0
The USB Organization web site is http://www.usb.org/

4.2 Serial ATA HDD
Populated with two Serial ATA (SATA) hard disk drives (HDDs), each unit can manage as much as 4,000 gigabytes (i.e., 4 terabytes) of data, depending on the capacity of the hard disk drives that are installed. By combining multiple units in a daisy-chained hierarchy structure, you can increase the total storage capacity of your system.

4.3. 4 Arbeits Modis (BIG,JBOD,RAID0/FAST,RAID1/SAFE)
You can configure the FANTEC MR-35DU3 to use any of the following Storage Policies to map the appliance's physical hard drives to virtual drives that are visible to the host computer. The virtual drives are called volumes in the GUI. The host operating system treats each volume as if it were a single physical drive. This virtualization allows you to overcome restrictions that are imposed by physical hard drives, such as speed, storage capacity or data storage reliability.

BIG
The BIG storage policy concatenates a series of physical hard drives as a single large volume; resulting in a seamless expansion of virtual volumes beyond the physical limitations of singularly connected hard drives. SteelVine BIG storage policy delivers maximum storage space without a single large capacity and costly hard drive. Hard drive A and B are concatenated into a single virtual volume in the Figure below with a storage capacity that is equal to the sum of each of the physical hard drives A and B.

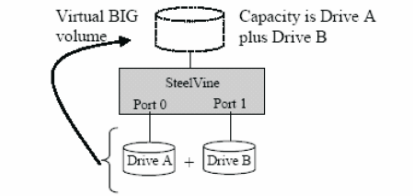


Figure 2 - BIG storage policy sample configuration

It is also possible to create a BIG volume using only a single hard disk drive connected to Port 0, and then increase the storage capacity of the volume later by adding another hard disk drive to Port 1 and pressing the Mode Change pushbutton. The new disk blocks of Port 1 will be concatenated to the end of the disk blocks of Port 0, and any data that is stored on the existing BIG volume will be preserved. However, it is not possible to expand an existing BIG volume by adding another hard disk drive to Port 0 and still preserve any existing data on that volume.

JBOD

The JBOD (Just a Bunch of Disks) storage policy enables each hard drive to be seen separately as one drive. if using a USB host connection. JBOD storage policy is available in the SteelVine Manager for a standalone (non-cascaded) Storage Processor or the top-level node of a cascaded configuration, but not for subordinate nodes. Even though you can use the switch to select JBOD mode. In a JBOD configuration, the SteelVine Storage Reference Design directly exposes each physical drive.

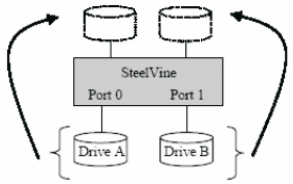


Figure 3 - JBOD storage policy sample configuration

FAST (RAID0)
The FAST storage policy distributes access across all hard disks, also called striping (equivalent to RAID 0). FAST presents the best data speed but no data redundancy. FAST storage policy accelerates hard disk operating speed by using many disks in parallel. Hard drive data segments are written to different disks simultaneously which increases performance while sacrificing data redundancy. To implement the FAST storage policy, the SteelVine Storage Processor creates a single virtual volume that is striped across both hard drives, with a storage capacity that is equal to the sum of both hard disk drives.

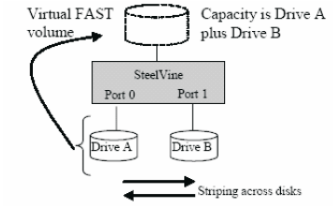


Figure 4 - FAST storage policy sample configuration

SAFE (RAID1)

The SAFE storage policy stores all data in duplicate on separate drives to protect against data loss due to drive failure. One drive mirrors the other at all times, equivalent to RAID 1. Every write operation goes to both drives. SAFE provides the highest level of data protection for critical data that you cannot afford to lose if a hard drive fails, but halves the amount of storage capacity because all data must be stored twice. The resulting storage capacity of the virtual SAFE volume will be equivalent to the size of one hard drive (if both drives are the same) or the smaller of the two drives (if they are different).

If one drive fails, the SAFE volume is still usable, but it is in a vulnerable state because its mirrored hard drive is inaccessible. When the offline drive comes back online, the appliance begins a rebuild process immediately to restore data redundancy. A message box appears in the GUI to notify you that a rebuild is in progress.

Although the volume remains available during the rebuild process, the volume is susceptible to data loss through damage to the remaining drive until redundancy is restored at the end of the rebuild and verification process. Host access takes precedence over the rebuild process. If you continue to use the SAFE volume during the rebuild, the rebuild process will take a longer time to complete, and the host data transfer performance will also be affected.

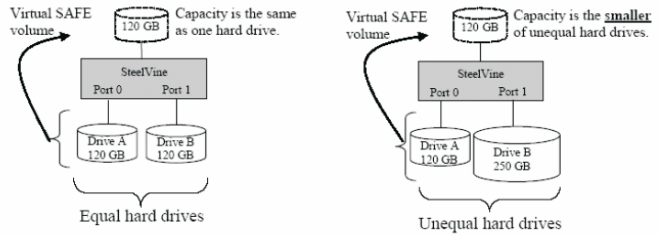


Figure 5 - SAFE storage policy sample configuration

4.4 Support system: Windows 2000/XP/VISTA and MAC OS 9.0 or above version

4.4.1 System Expansion for Windows

Overview

This appendix describes the procedures needed with Microsoft Windows for expanding file systems that have been created on volumes that have increased in size, while preserving all of your existing data. After you have added more hard disk drives to increase the storage capacity of a BIG volume, you must use the supplemental procedure described below to allow the expanded capacity to be recognized by the Windows file system.

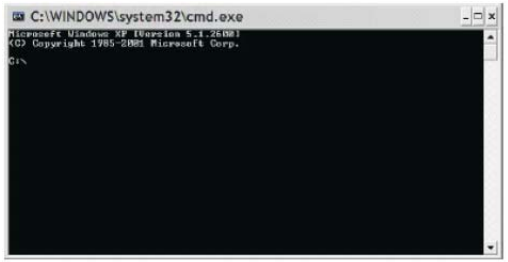
A command-line utility named "Disk part. exe" ("Disk Partition") enables you to manage hard disk partitions and volumes. This utility is included as part of Windows XP Professional Edition, Windows 2003 Server and Windows Vista. For Windows 2000 or Windows XP Home Edition, you must download the "disk part" utility from Microsoft's website.

Additional third-party products (such as Norton Partition Magic) are available to perform similar volume management activities, but those products are very sophisticated and are not included in this manual.

Procedure

Before you can use DiskPart.exe commands on a hard drive disk partition/volume, you must first list and then select the partition/volume to extend their capacity to match the virtual hard drives created in the SteelVine Manager GUI.

1. Open a command prompt window by clicking Start --Run, then entering "cmd"



2. At a command prompt, type “diskpart”.

3. Type” list volume” to display the existing volumes on the computer.

4. Type select volume <volume_number> where “<volume_number>” is number of the volume that you want to extend. In this case that will be “2”.

5. Type “extend”

6. Type “exit” to quit Diskpart.exe

The volume size will be updated to reflect the expanded physical storage capacity while maintaining all of the existing data that is stored on the volume.

The result of extending the hard disk partition/volume is illustrated below.
Before extend:

2. At a command prompt, type diskpart.

Note: Before the hard drive partition/volume has been extended the “152.67GB Unallocated” was not accessible for data usage. After using the disk part utility to extend the hard drive partition/volume capacity, the Windows host side matches the virtual hard drive partition/volume created in the SteelVine Manager

5. Package contens

FANTEC MR-35DU3

- User manual
- AC Cable
- USB Cable