External 3.5" 4 X SATA HDD Enclosure

User's guide

Introduction

Support maximum 4 SATA HDD which is with COMBINATION function. It is desirable to be able to use all these disks as if they were one single volume (cf. # P.16). There are 7 kinds of combination for max 4 hard disks. Combination can combine 4 drives into one larger logical volume. For example, Combine 4 STAT HDD each volume has 500GB to a 2TB volume, it is very ideal for audio/video professional working with large amounts of DV and DVD video or professional 2D/3D image files.

Notice # 1: When connect one volume more than 137GB big drives or more than the combined volume than 137GB, the version of OS needs after Windows 2000 SP-3/Windows XP SP-1 or later. In Windows 98SE/ME, you can not make one volume (a partition) more than 137GB or more than 137GB at "a combine mode".

1.1 Precaution

Only qualified persons are authorized to carry out maintenance on this device.

- Read this User's Guide carefully, and follow the correct procedure when setting up the device.
- Do not open your device or attempt to disassemble or modify it. Never insert any metallic object into the drive to avoid any risk of electrical shock, fire, short-circuiting or dangerous emissions.
- No user-serviceable parts. If it appears to be malfunctioning, have it inspected by a qualified Technical Support representative.
- Never expose your device to rain, or use it near water, or in damp or wet conditions. Never place objects containing liquids on the device, as they may spill into its openings. Doing so increases the risk of electrical shock, short-circuiting, fire or personal injury.

- Make sure that the computer and Device are electrically grounded. If the devices are not grounded, there is an increased risk of electrical shock. Power requirements 100-240 V~, 4-2 A, 60-50 Hz, (Supply voltage fluctuations not exceeding ± 10% of the nominal, transient over-voltages according to over-voltage category II).
- Do not expose the Device to temperatures outside the range of 0° C to 35° C (32° F to 95° F); or to operational humidity beyond 5-80%,non-condensing, or non-operating humidity beyond 10-90%, non-condensing. Doing so may damage the Device or disfigure its casing. Avoid placing your Device near a source of heat or exposing it to sunlight (even through a window). Inversely, placing your Device in an environment that is too cold or humid may damage the unit.
- Always unplug the Device from the electrical outlet if there is a risk of lightning or if it will be unused for an extended period of time. Otherwise, there is an increased risk of electrical shock, short-circuiting or fire.
- Use only the power supply shipped with the device.
- Do not use the Device near other electrical appliances such as televisions, radios or speakers. Doing so may cause interference which will adversely affect the operation of the other products.
- Do not place the Device near sources of magnetic interference, such as computer displays, televisions or speakers. Magnetic interference can affect the operation and stability of your Device.
- Do not place heavy objects on top of the device

Any loss, corruption and destruction of data is the sole responsibility of the user, and under no circumstances will be held liable for the recovery or restoration of this data. You are highly recommended to keep TWO copies of your data.

1. 2 The Capabilities of this device

- Supports Raid JBOD, BIG,
- Supports SATA HDD x 4
- Complies with USB 2.0 data transfer rate up to 480Mbps
- Easy installation on your PC
- Auto Power on-off mode according the USB bus power

2. Your System

2.1 System Requirements

Hardware

PC

- An Intel PIII 500Mhz equivalent or fast
- 64MB RAM or more
- 250MB free space of hard disk space
- Supper VGA (800*600) or Higher with 256 colors
- CD-ROM drive

MAC

- Mac G4 500mhz or faster
- 64MB RAM or more
- 250MB free space of Hard disk
- Supper VGA (800*600) or Higher with 256 colors
- CD-ROM drive

Software

- Windows Vista
- Windows 2000,
- Windows XP
- Windows ME
- Wubdiws 98SE or later version

- Mac OS 10.3.9 or newest version is installed

2.2 Package of Content

Your device should contain the following:

1. One main body of this product
2. One USB cable
3. One power supply cable
4. 4pcs of 3.5" hard disk holds
5. 16 pieces of installation screws for 3.5" hard disks
6. Users manual

Main Body

USB Cable

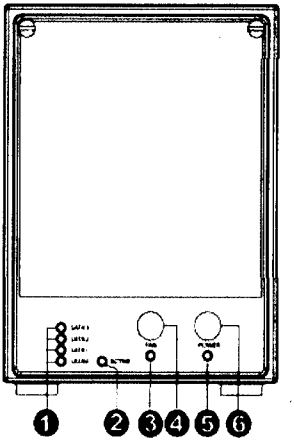
AC cable

HDD Hold & Screws

2.3 *Parts description*

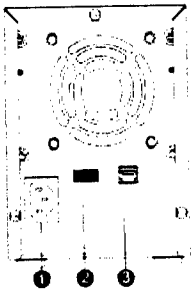
The Front View

1. SATA HDD Status LED
   The LED using to indicate the status of SATA HDDs.
   SATA3 is top one SATA HDD, the SATA0 is the button one SATA HDD
   LED ON: SATA HDD Ready
   LED flash: SATA HDD is active
   LED off: SATA HDD fail or No SATA HDD
2. System Ready:
   On = System is ready
   Off = System is not ready
   Off = No system error
3. FAN LED: ON FAN is turn ON
4. Fan Switch:
   Push lock to turn ON the system fan.
   Push release to turn OFF the system fan
5. Power LED: ON Power is turn ON
6. Power Switch:
   Push lock to turn ON the System power.
   Push release to turn OFF the system power



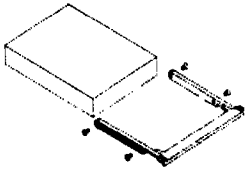
The Rear View

1. Power Supplier Connect
2. Dip Switch
3. External USB 2.0 Port

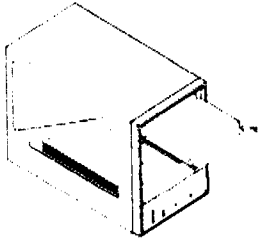


3. Setup your device

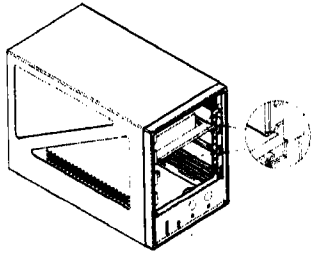
Step 1. Open the front cover.



Step 2. Slide the SATA HDD into the case. Make sure the click of HDD holder is at right position.



Step 3. Make sure the click of HDD holder is at right position.



Step 4. Close the front cover.

Step 5 Connect to your PC's eSATA Port which support port multiplier.

4. Using with your PC

1. Combine 4X SATA:
   DIP1~DIP4 set to the "ON" position to combine the SATA1~ SATA4 to one virtual volume. From PC's "Disk Manager", it is recognized as one hard disk with the capacity is sum of SATA1, SATA2, SATA3 and SATA4.
2. Combine 3X SATA:
   1) DIP switch: DIP 1~3 ON, DIP 4 OFF
   Hard disks of SATA1 ~ SATA3 are combined to one virtual volume.
   SATA4 works as an independent hard disk.
   From PC's "Disk Manager", it is recognized as two hard disks.
   2) DIP switch: DIP 1 OFF, DIP 2~4 ON
   Hard disks of SATA2 ~ SATA4 are combined to one virtual volume.
   SATA1 works as an independent hard disk.
   From PC's "Disk Manager", it is recognized as two hard disks.
3. Combine 2X SATA:
   1) A DIP switch: DIP 1~2 ON, DIP 3~4 OFF
   SATA1 and SATA2 are combined to one virtual single volume.
   SATA3 and SATA4 work as independent hard disks.
   From PC's "Disk Manager", it is recognized as three hard disks.
   2) A DIP switch: DIP 1~2 OFF, DIP 3~4 ON
   SATA3 and SATA4 are combined to one virtual single volume.
   SATA1 and SATA2 work as independent hard disks.
   From PC's "Disk Manager", it is recognized as three hard disks.
4. Double combine Mode:
   SATA1 and SATA2 are combined to one virtual single volume and
   SATA3 and SATA4 are combined to one virtual single volume, too.
   From PC's "Disk Manager", it is recognized as two hard disks.

5. Normal Mode:

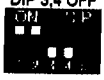
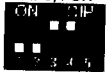
Set DIP 1~4 to OFF position to disable the COMBINATION function. SATA1, SATA2, SATA3 and SATA4 are acting as independent drive volumes.

From PC's "Disk Manager", it is recognized as four hard disks.

* The definition of DIP switch for the COMBINATION mode is listing as follows.

Please! Follow up the setting to choose the combination that you need.

	DIP SW	A movement state of HDD	the number of HDD	Disk Volume at PC (# note 1)	LED status	
4X HDD combine mode	DIP1~4 ON 		HDD 4 combined	1		1/2/3/4 lighting
3X HDD combine mode	DIP1 ~3 ON DIP4 OFF 		HDD 4 normal HDD1-3 combined	2		1/2/3 lighting

	DIP1 OFF DIP3~4 ON 		HDD 2~4 combined HDD1	2		2,3,4 lighting
2X HDD combine mode	DIP 1,2 ON DIP 3,4 OFF 		HDD3,4 normal HDD 1~2 combined	3		1,2 lighting
	DIP1,2 OFF DIP3,4 ON 		HDD 3~4 combined HDD 1,2 normal	3		3,4 lighting
Double 2X HDD combine mode	DIP1 ON DIP2-4 OFF 		HDD 3~4 combined HDD 1-2 combined	2		all lighting

Support Disk Size over 2 TB	**DIP1~3 OFF** **DIP4 ON** 		HDD 1~4 combined	1		According the number of HDD
Normal mode	DIP 1~4 OFF 		HDD1~4 normal	4		all lighting off

?˙ Note1??Windws 2000 / Windows XP & Mac OS can not support the hard disk capacity over 2TB. If your are using these OSs, please set the "DIP 4" at "ON" position!

?˙ Note 2??Only can set the DIP SW4 to on position when you are using Windows 2003 Server SP-1or Windows Vista or Itanium-based WindowsXP computer. The GUIDpatition table "GPT" is supported by Windows 2003 Server SP-1or Windows Vista or Itanium-based WindowsXP computewhich can support volume size up to 18 exabytes.

6.Automatic HDD Power On-Off control setting

Set DIP switch 5 "ON", than this device will turn on/off the power of HDD and fan according with PC power on/off. For this mode the power switch must be turned on. Also the power of HDD and fan will be turned off after you unplug the USB cable, if you replug the USB cable the power of HDD and fan will be turned on automatically

Power control DIP switch	DIP 5 OFF 	Power of HDD and fan Automatic on/off is disabled	DIP5 ON 	Power of HDD and fan automatic on/off is enable

When "DIP switch 5" is **OFF** regardless of an USB cable and the PC, the power of HDD and fan will be turned **ON** after the power switch is turned on.

The status of power LED will be turned on/off according the power of HDD and fan on/off.
#1: Automatic power on/off in some situation cannot be used. (You can find more detail at Chapter 8 Troubleshooting.)
#2: Please disconnect the power core from outlet or turn off power switch when you changed DIP switch setting.

4.1 The Trouble Shooing

■ It is not recognized even if I connect this product. Or do not work justly.

- o Please! Check the state of power switch and the state of a power supply outlet.
- o Please! Check whether connection of the USB cable have been contact well.
- o Please! Check the setting of jumper of each hard disk which is set correctly.
- o Please! Check device driver is installed for your OS.
- o If you connect this product via USB HUB, please connect it in an USB port of PC directly, and test it again.
- o Please check the limitation of filing system and partition capacity according the OS which you using.

■ "A disk management" screen cannot start in Windows 2000/XP.

- o You must be logged on as an administrator or a member of the Administrators group in order to initialize hard disk at the system of WINDOWS 2000/XP.

■ Transfer speed is slow even if I have access to USB.

- o Please! Check whether the USB port is working at USB2.0 mode.
- o Please! Check whether it is connected to a port of USB1.1.
- o If you are using a USB HUB to PC, please confirm that HUB is an USB2.0 HUB.
- o When other USB device is connected to the PC at same time, there is the situation of transfer speed becomes slow. Please take off other USB device.
- o Please! Check whether you use an USB cable which is came with this product.

■ Cannot use this product by specific software (a disk tool and backup software).

- o On specific software (Note1), cannot use this product.

Please use other software whether that case uses a hard disk of the normal deployment for a PC.

Note1: About specifications of software, please check with software vender for detail.

- **Windows does not start when start a PC with this product was connected. Or it is hang up at PC starting process.**
- **Power can not turn on at auto power on-off mode.**
  - Please! Check the setting of BIOS setup of the PC? If there is a setting item such as "USB Legacy Device" or "USB Legacy Support"? Set this in "Disable" mode (invalidity), and please test it again.

    If the USB 4X HDD still cannot turn on the power after change the setting of BIOS. Please disconnect the USB cable from PC and restart your PC. After the Windows was full loaded then connect the USB 4X HDD to the PC.

    In addition, about user's guide of BIOS setup menu, please refer the instruction manual of PC or the manual of the mother board.
- **In Windows 98 SE environment, I installed HDD more than 64GB, but do not exactly recognize that capacity.**
  - Using Fdisk.exe to partition a hard disk that is larger than 64 GB (64 gigabytes, or 68,719,476,736 bytes) in size, "Fdisk" does not report the correct size of the hard disk. To resolve this problem immediately, download the fix by clicking the download link later in this article or contact Microsoft Product Support Services to obtain the fix.

    http://support.microsoft.com/default.aspx?scid=kb; ja; 263044

- **In Windows 98 SE and Mac OS cannot recognize HDD which already formatted in Windows 2000 / XP /VISTA**
  - There is a limitation to the filing system and partition capacity of the OS. Please confirm which OS is installed in the PC. The following lists show you filing system of Operating System.

OS	FILLING SYSTEM		
	NTFS	FAT32	HFS
Windows 98 SE	X	○	X
Windows ME	X	○	X
Windows 2000Pro	○	○#1	X
Windows XP	○	○#1	X
Windows Vista	○	○#1	X
Mac OS	X	○#2	○

#1.When format USB 4X HDD in Microsoft Windows with FAT32 format, it is limit the capacity up to 32GB. If you need use one volume at FAT32 format over 32GB then you need third part's utility to initialize and format it.
#2.When share USB 4X HDD with Windows OS, it is necessary to format the USB 4X HDD within FA32 format in Windows side

- **The volume space is less then hard disk specification, the hard disk space that it is recognized, and is displayed less than capacity of the hard disk.**

  ○ Because calculation methods are different, there is a little it, and capacity recognized on the OS after a format is displayed than real capacity. This calculates capacity indication of a hard disk at 1GB =1000MB, but a calculation on the OS is calculated at 1GB =1024MB.

  Following table shows you the different of capacity of the 1.2 TB volume size, before and after format.

HardDisk	1.2TB	1,200GB	1,200,000MB
OS	1.09TB	1,117GB	1,144,409MB