

SAT3520U2R

Instruction Manual

SATA Hard Drive Enclosure

**3.5" Black USB2.0 to Dual SATA
Hard Drive Enclosure with RAID**

INFO SAFE

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FCC Compliance Statement

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 communications. 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.

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Introduction

This Dual SATA External RAID Hard Drive Enclosure offers a practical external RAID solution, allowing you to install two Serial ATA hard drives for connection to a host computer through high speed USB 2.0. Delivering easy to use, yet versatile external RAID storage, the enclosure can select JBOD, Striping (RAID 0), Spanning (non RAID), and Mirror (RAID 1) modes.

Packaging Contents

- 1 x SAT3520U2R drive enclosure
- 1 x USB cable
- 1 x Screw kit with screw driver
- 1 x Power Adapter
- 1 x Software CD
- 1 x Instruction Manual

System Requirements

- USB enabled computer system
- Microsoft® Windows® 2000/XP/Vista/7, or Apple® Mac OS® X, or Linux®

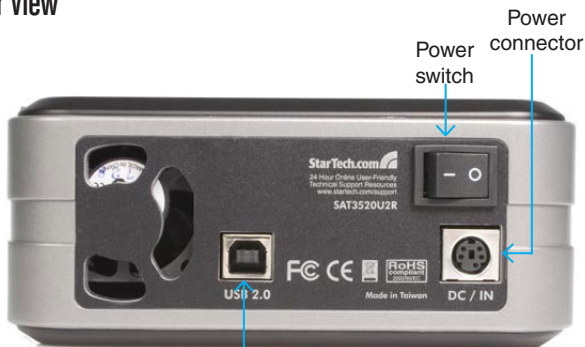
Front View



- Power
- Rebuild
- HDD1 Access
- HDD2 Access
- HDD1 Error
- HDD2 Error

Air Vent

Rear View



Power connector

Power switch

USB 2.0

USB connector

DC / IN

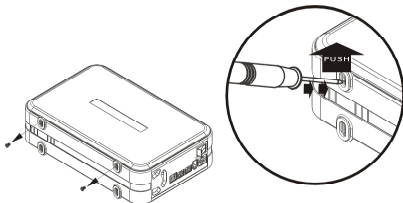
Installation

WARNING: Hard drives require careful handling, especially when being transported. If you are not careful with your hard disk, lost data may result. Always handle your hard drive and storage device with caution.

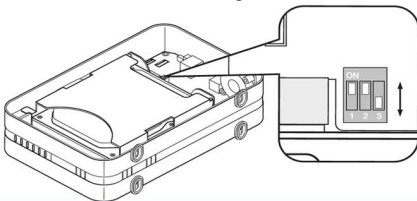
Hardware Installation

1. Mode Selection

1. Remove the cover of the enclosure by unfastening and removing the screws on the bottom of the unit (bottom side is closest to the USB 2.0 and DC/IN ports). Insert the screwdriver into the remaining screw hole, and press outward.



2. With the cover removed, the DIP switches used for mode selection are exposed. Please note that the DIP switch numbers are denoted on the switch casing.



3. To configure SAT3520U2R for RAID, use the following DIP switch selections. Once completed, please leave the enclosure open, for hard drive installation:

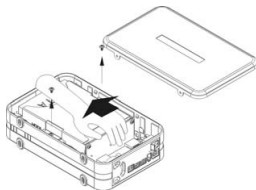
DIP Switch	Hard Drive Mode	Max Volume Size
	Single/JBOD	Above 2TB
	Single/JBOD	Under 2TB
	Spanning	Above 2TB
	Spanning	Under 2TB
	RAID 0 (Stripe)	Above 2TB
	RAID 0 (Stripe)	Under 2TB
	RAID 1 (Mirror)	Above 2TB
	RAID 1 (Mirror)	Under 2TB

2. Hard Drive Installation

WARNING! If you are installing drives to be used in RAID 1 (Mirroring) Mode with a drive that already contains data, that drive must always be installed first.

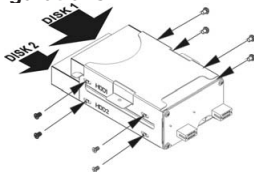
NOTE: If you are configuring SAT3520U2R for RAID applications (Mirroring Mode, Striping Mode or Spanning Mode), the installed hard drives must be identical in brand, size and model number.

1. Unfasten the two screws on either side of the internal drive holder case, and pull backward to release and remove the drive tray from the enclosure.

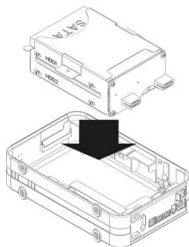


Non-RAID (Single Mode) or RAID 0 Configurations:

1. Insert both hard drives into the drive tray, and secure them with screws (provided). Insert the drive tray (with both drives installed) back into the enclosure.

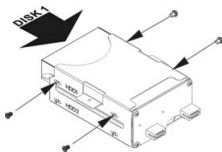


2. Push the drive tray forward in the enclosure, securing the connection. Once the tray is firmly connected, fasten the screws on the holder. Replace the top panel of the enclosure, and fasten the screws at the bottom.

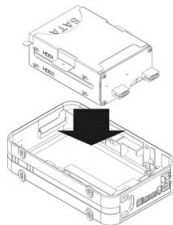


RAID 1 Mirror Mode

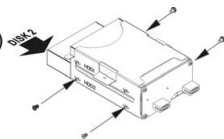
1. Insert the primary (containing data to be mirrored) drive into the drive tray, and fasten it to the tray with the screws provided.



2. Insert the drive tray back into the enclosure, ensuring the tray is secured using the connectors.



3. Once secure, power on the enclosure.
4. SAT3520U2R will recognize the drive as the master drive, and prepare it for mirroring. Once complete, the error light indicator of the second drive will illuminate (denoted as HDD2 Error).
5. When this occurs, power off the enclosure, and remove the drive tray from the enclosure.
6. Insert the second drive (containing no data) into the drive tray, and fasten it to the tray with the screws provided.



7. Secure the drive tray to the enclosure connections, and fasten the tray to the enclosure using the screws removed earlier.
8. Place the cover back on the enclosure, and replace the screws removed earlier.
9. Power on the enclosure.
10. SAT3520U2R will indicate that the Rebuild function is under way (the corresponding light will display activity), as the data from Drive 1 is mirrored onto Drive 2, and RAID 1 is configured on the drives.

NOTE: that the Mirroring process may take several minutes to several hours, depending on the amount of data being mirrored.

WARNING! Please do NOT power off the enclosure, until the HDD2 Error LED is no longer illuminated.

Driver Installation

Windows 2000/XP/Vista/7, Mac OS X, Linux

No driver installation is required for these operating systems, as this drive enclosure is natively supported, so the drivers are already installed.

How to Use

Operating Modes

Single Mode (Non-RAID)

In Single Mode, the installed drives will appear individually as two independent drives. This function can be used if only one hard drive is installed, or two different brands or capacities of drive are being used.

RAID 0 - Spanning Mode

In Spanning Mode, two hard drives will appear as a single, large drive. Spanning is an array that is written sequentially across two drives.

RAID 0 - Striping Mode

Striping combines multiple hard drives into a single large disk array. The data is split evenly across both drives simultaneously. Read/write performance is increased as a result, but failure of any one disk will make the entire array unusable.

RAID 1 - Mirroring Mode

To operate in Mirroring Mode, two identical hard drives (capacity, brand and model number) must be used. This mode creates an extra copy (or mirrored set) of the data from drive one on the second drive. Mirroring Mode provides data redundancy that is useful in the event that the primary hard drive fails, allowing an instant replacement of damaged data with the second set.

NOTE: If RAID 1 mode is in effect, and you wish to change to single or RAID 0 modes, please use the RIB Clean utility to clean the drives partition table, located on the StarTech.com website, in the Downloads section. For more information, please see the section titled Using the RIB Clean Utility.

Using the RIB Clean Utility

If you wish to switch from RAID 1 - Mirroring Mode to another operating mode, the RIB Clean Utility must be used to prepare partition information.

To use the RIB Clean Utility:

1. Download the utility from the StarTech.com website (Downloads section), and save it to the local computer.
2. Double-click on the RIBClean icon to launch the Utility.
3. Once the main Utility screen loads, click on Scan Disk.
4. Once Disk Scanning is complete, click on Clean RIB. Once complete, click on Exit.

Specifications

Bus Interface	USB 2.0
Connectors	USB type B DIN power connector
LEDs	Power, Rebuild, HHD1 Access, HDD2 Access, HDD1 Error, HDD2 Error
Chipset	Oxford OXU931DS
Maximum Data Transfer Rate	480Mb/s
Hard Drive Support	3.5" SATA 1.5/3.0 Gbps up to 2TB in capacity
Power Adapter	5V/12V, 2A/2A
Compatible Operating Systems	Windows 2000/XP/Vista/7, Mac OS X, Linux

Technical Support

StarTech.com's lifetime technical support is an integral part of our commitment to provide industry-leading solutions. If you ever need help with your product, visit www.startech.com/support and access our comprehensive selection of online tools, documentation, and downloads.

Warranty Information

This product is backed by a one year warranty.

In addition, StarTech.com warrants its products against defects in materials and workmanship for the periods noted, following the initial date of purchase. During this period, the products may be returned for repair, or replacement with equivalent products at our discretion. The warranty covers parts and labor costs only. StarTech.com does not warrant its products from defects or damages arising from misuse, abuse, alteration, or normal wear and tear.

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