

LINDY®

CONNECTION PERFECTION

SAS/SATA-II RAID System

User Manual

English



LINDY No. 20637

CE

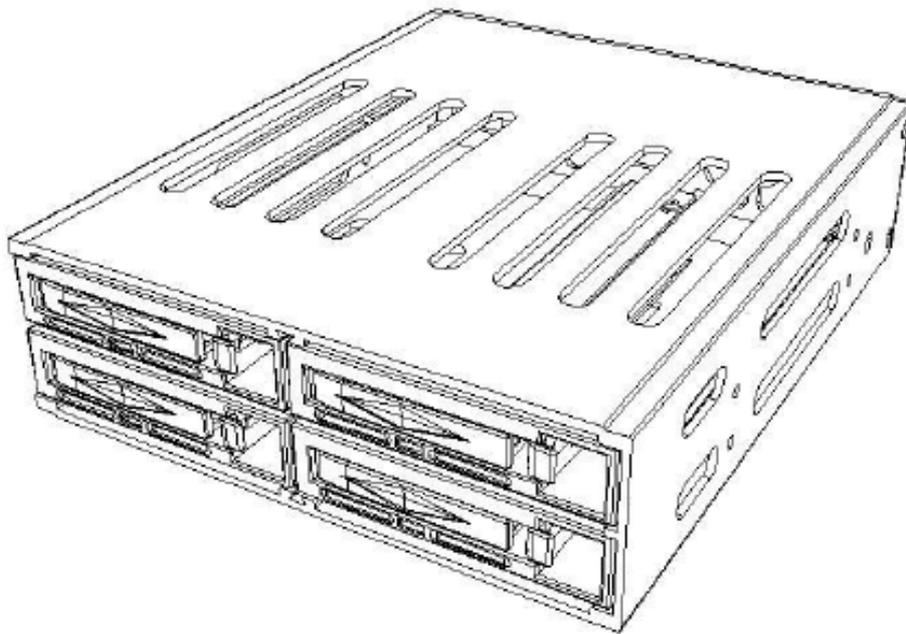
FCC

For Home and Office Use
Tested to Comply with
FCC Standards

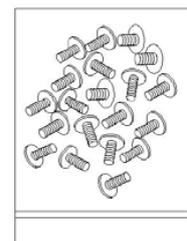
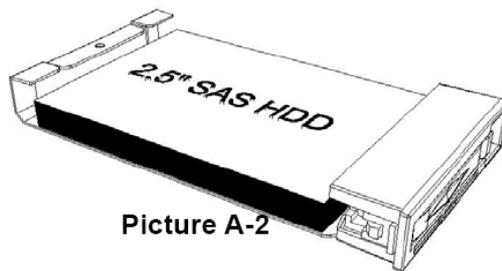
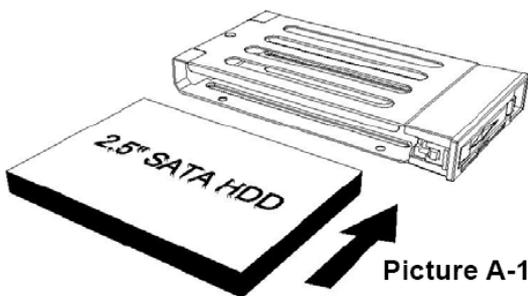
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Product Features

- Frame: Aluminium material and Plastic material for the front bezel
- Interface: Support SAS, SATA-I, SATA-II
- Form Factor: 1 x 5.25" Bay for 4 x 2" SAS & SATA Hard Drive(SSD)
- High performance transfer rate up to SAS 3Gb/s & SATA 3Gb/s
- With built-in Raid controller & Support external RAID modes including RAID 0, 1, 3, 5,10, JBOD(Large), Clone, & Normal(Single).
- Plug & play, hot swappable
- Supports 2.5" single hard drive up to 14.5mm thickness in height
- With 4-Pin Power connector and 7-Pin Signal connector
- Built-in 2 x 4cm(4020) cooling fan
- Mechanical lock on the front of each HDD tray
- LED for Power & HDD access functions
- Dimension : 173.5(L) X 146(W) X 42(H) mm
- Weight : 0.79kg



Solid HDD Inner tray with strip-heat ventilating holder

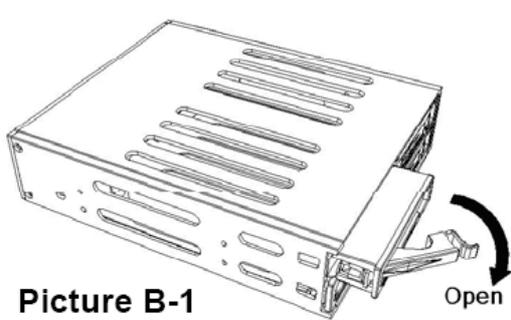


HDD Installation

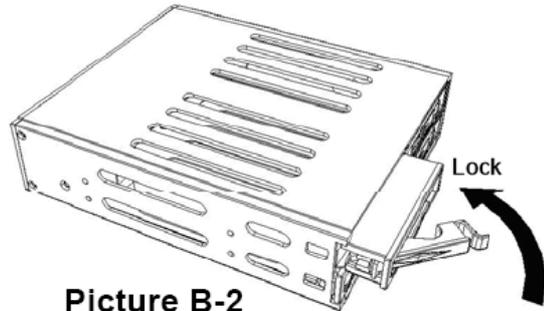
1. For 2.5"SATA HDD(SSD), put it into the tray as shown on Picture A-1 and use the provided screws to mount it on the HDD tray.
2. For 2.5"SAS HDD or HDD with more than 10.5mm in height, unscrew the cover-mounting screw and remove the upper cover. Then mount the SAS HDD or the thick HDD to the open tray (Note: After installation of a SAS HDD, do not remount the upper cover, since the SAS HDD height is higher and does not leave enough space for the cover (Picture A-2). Store the upper in a safe place. This HDD tray can fit the HDD max to 15mm high.

Safety Lock

The mechanical lock design keeps the HDD inside the frame and prevents it from being taken out while the HDD is working. (See Picture B1 & B2)



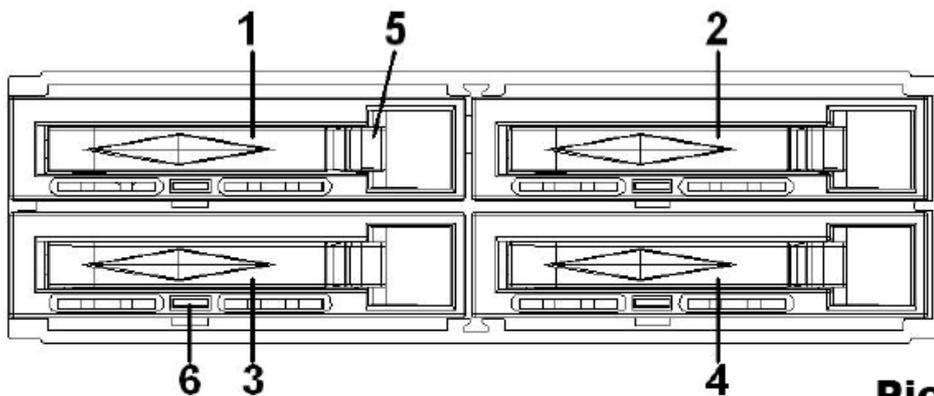
Picture B-1



Picture B-2

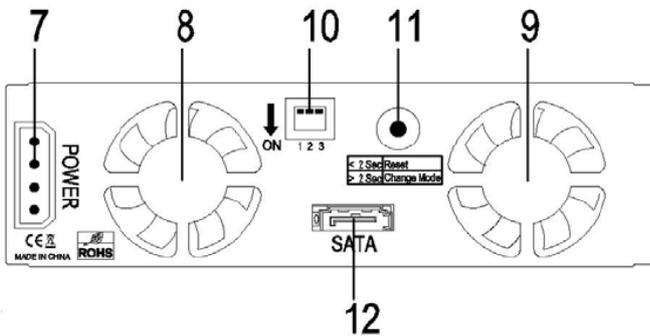
- a) How to LOCK the HDD Tray --
Slide in the HDD tray and press the front handle to lock the HDD tray on the frame(See picture B-2).
- b) How to OPEN the HDD Tray --
Use a finger to hold the "Clicker Lock" on the front panel and pull the HDD tray out(see Picture B-1)

Front Panel & Real View (See Picture C & D)



Picture C

C1--C4 : HDD Tray
 C5 : Mechanical locker for front panel
 C6 : Blue LED blinking while HDD is accessing. No LED indication if HDD is not being accessed.



Picture D

RAID Config	DIP Switch		
	1	2	3
RAID 0	ON	ON	ON
RAID 10	ON	ON	OFF
JBOD	ON	OFF	ON
RAID 3	ON	OFF	OFF
Clone	OFF	ON	ON
RAID 5	OFF	ON	OFF
Reserved	OFF	OFF	ON
Normal (Single)	OFF	OFF	OFF

Picture E

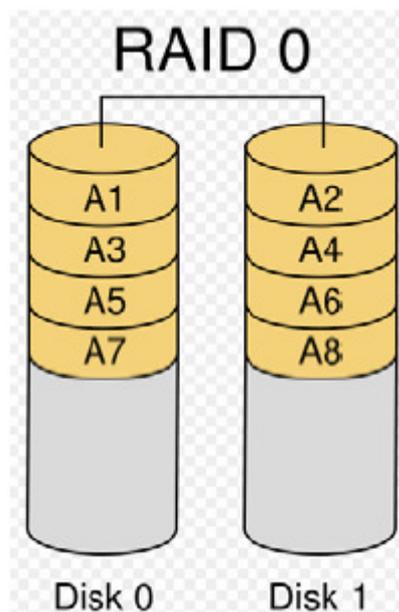
- D7: 4-pin power connector
- D8.D9: Cooling FAN
- D10: RAID Mode configuration DIP switch (see Picture E for details)
- D11: Change Mode Button iAfter setting the RAID mode from the DIP Switch, the new Raid mode can be effective only after you pressed the hChange Mode Button h for more than 2 seconds.
- D12: For SATA or SAS data port connections to the host (SATA or SAS RAID controllers.)

RAID Mode Setting & Description

RAID 0 (Disk Striping): DIP Switch Setting : SW1:ON SW2: ON SW3: ON

RAID 0 (or Stripe) is the segmentation of logically sequential data, such as a single file, so that segments can be assigned to multiple hard disks in a round-robin fashion and through written concurrently.

(Note: If any hard disk becomes defective, information stored in this RAID 0 mode will be invalid.)



RAID 1 (Mirroring for high security):

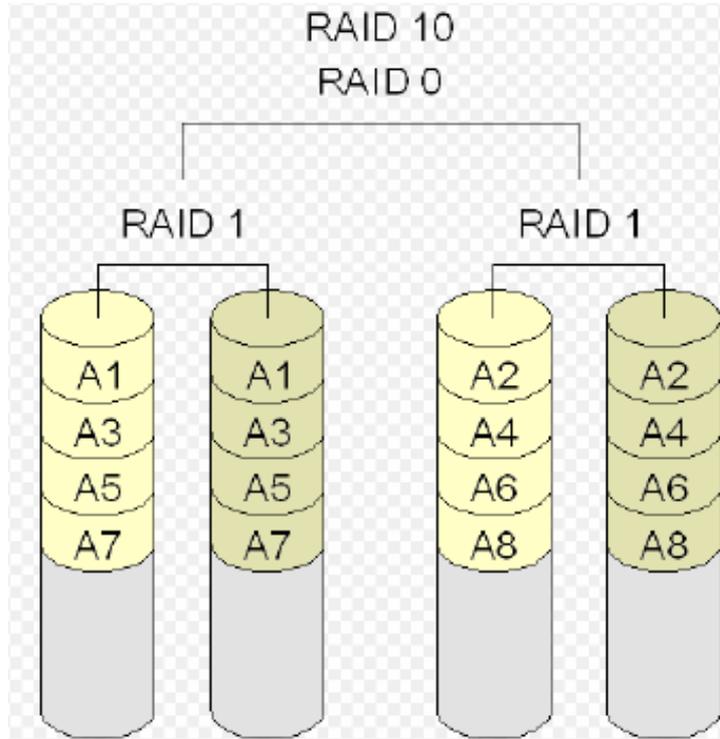
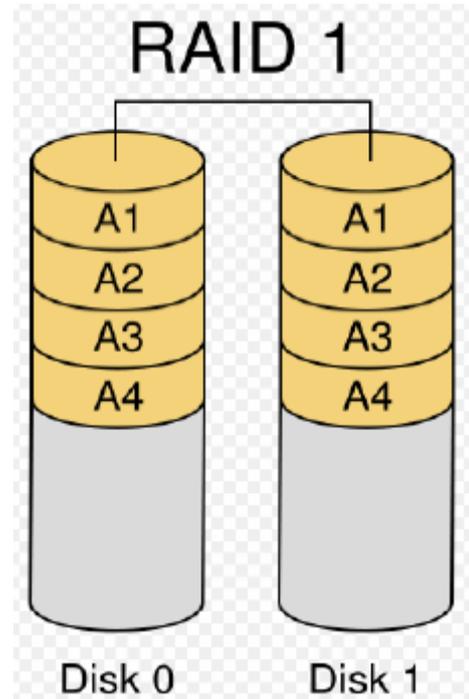
RAID 1 or Mirror is the replication of data onto separate hard disks in real time to ensure continuous availability. Take a RAID 1 system with two hard disks as an example, data in a hard disk will be exactly the same as the data in another hard disk.

Note: Failure in a hard disk, Host controller still could read/write data. Users have to replace the defect hard Disk and the RAID system will enter identical rebuild mode automatically when you replace a new hard disk in.

RAID 1+0 (For high performance & high security):

DIP Switch Setting : SW1:ON SW2: ON SW3: OFF

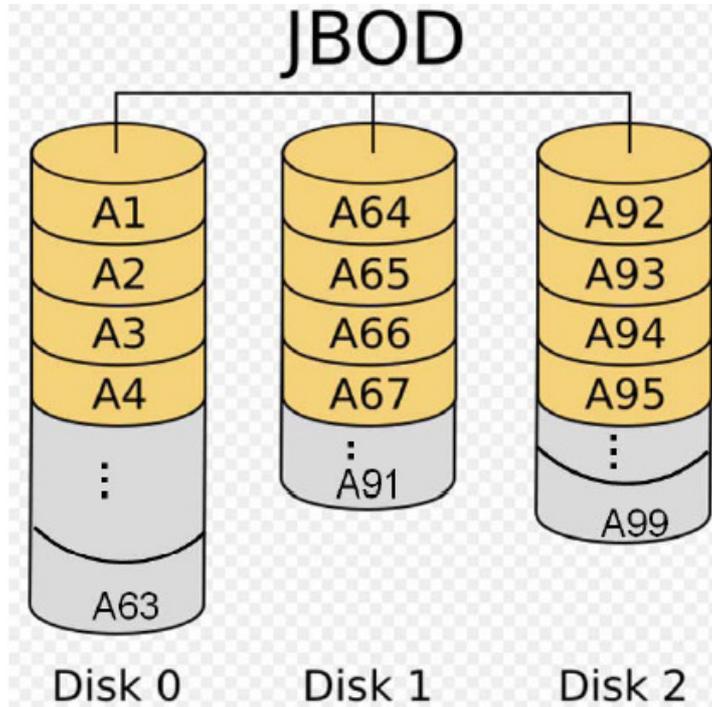
RAID System could be configured to support Stripe and Mirror at the same time, i.e. RAID 10. Take four hard drives RAID 10 as an example, hard drive 0 and hard drive 1 could act as Mirror 1 and hard drive 2 and hard drive 3 could act as another Mirror 1 too. The system then will configure these two Mirrors as Stripe.



Please note: When DIP Switch is set to RAID 10, and you installed two HDD only, the system uses the RAID 1 mode.

JBOD(Concatenating) : DIP Switch Setting: SW1:ON SW2: OFF SW3: ON

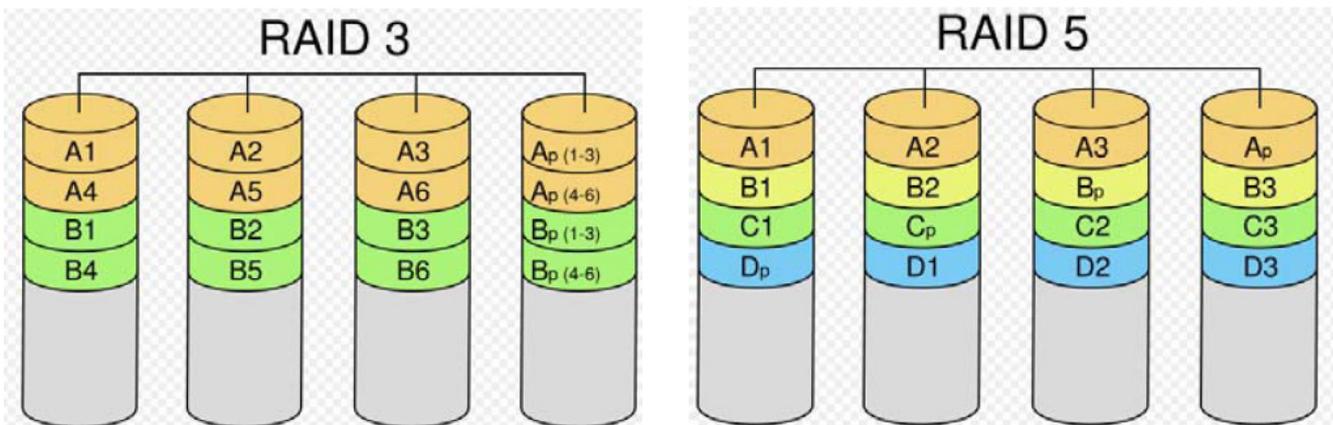
This mode is also named Concatenating. In this mode, the RAID System will concatenate all of the hard drives into a single hard drive with larger capacity. For example, if three 500GB hard disks are connected to the RAID System in concatenating mode, user will get a single hard disk with capacity of 1,500 GB after it is configured.



RAID 3 (Parity protection) DIP Switch Setting : SW1:ON SW2: OFF SW3: OFF

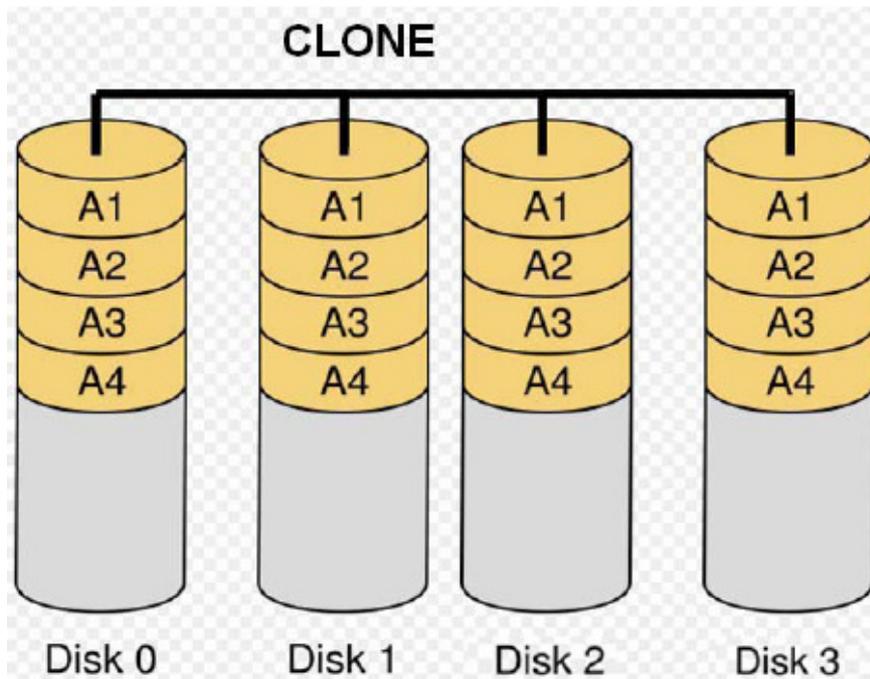
RAID 5 (Parity protection) DIP Switch Setting : SW1:OFF SW2: ON SW3: OFF

XOR engine in the RAID System generates Parity Block. In RAID 3 mode, Parity Block will be stored in the same hard drive. While in RAID 5 mode, Parity Block will be spread over all of the different hard drives. The RAID System will also make use of same size disk space in each hard disk under RAID 3/5 condition. (Note: Failure in a hard disk will cause the RAID System enter degrade-mode and, in this case, host controller still could read/write data through the RAID System normally without knowing any defects. Users have to replace the defective hard disk. the RAID System, then, will enter into the identical rebuild mode automatically.



Clone DIP Switch Setting : SW1:OFF SW2: ON SW3: ON

This mode is useful especially when users would like to copy data from a hard drive to several hard drives at the same time. The action of Clone is similar to RAID 1. However, all of the hard disks will be the mirrors. For example, in a Four hard drives Clone environment, data in each hard drive will be same.



Normal(Single) DIP Switch Setting : SW1:OFF SW2: OFF SW3: OFF

Normal mode means all of the configured hard drives exist and the RAID System is not in the rebuild condition. User can see the original hard drives from the host which supports port multiplier technology. Note: If the host does not support port multiplier function, then, you will find only one hard drive on the operating system. The RAID tool is useful in this case.)

Reserved DIP Switch Setting : SW1:OFF SW2: OFF SW3: ON

This mode is reserved for future functionality.

Radio Frequency Energy, Certifications

FCC Warning

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 technician for help

You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation

CE Statement, EMC Compatibility

This device complies with EN Standards EN55022 and EN55024 according to the relevant EC EMC Directive. It must be used with shielded cables only to maintain EMC compatibility.

Dieses Produkt entspricht den einschlägigen EMV Richtlinien der EU und darf nur zusammen mit abgeschirmten Kabeln verwendet werden.

LINDY Herstellergarantie

LINDY gewährt für dieses Produkt über die gesetzliche Regelung hinaus eine zweijährige Herstellergarantie ab Kaufdatum. Die detaillierten Bedingungen dieser Garantie finden Sie auf der LINDY Website aufgelistet bei den AGBs.



**WEEE (Waste of Electrical and Electronic Equipment),
Recycling of Electronic Products**

In 2006 the European Union introduced regulations (WEEE) for the collection and recycling of all waste electrical and electronic equipment. The wheeled bin symbol shown indicates that this product must not be disposed of with household waste. Instead the product must be recycled in a manner that is environmentally friendly. For more information on how to dispose of this product, please contact your local recycling centre or your household waste disposal service. Each individual EU member state has implemented the WEEE regulations into national law in slightly different ways. Please follow your national law when you want to dispose of any electrical or electronic products.

More details can be obtained from your national WEEE recycling agency.

Germany / Deutschland

Die Europäische Union hat mit der WEEE Richtlinie umfassende Regelungen für die Verschrottung und das Recycling von Elektro- und Elektronikprodukten geschaffen. Diese wurden von der Bundesregierung im Elektro- und Elektronikgerätegesetz – ElektroG in deutsches Recht umgesetzt. Dieses Gesetz verbietet vom 24. März 2006 an das Entsorgen von Elektro- und Elektronikgeräten über die Hausmülltonne! Diese Geräte müssen den lokalen Sammelsystemen bzw. örtlichen Sammelstellen zugeführt werden! Dort werden sie kostenlos entgegen genommen. Die Kosten für den weiteren Recyclingprozess übernimmt die Gesamtheit der Gerätehersteller.



LINDY No 20637

1st Edition, April 2010

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