



IB-RD3640SU3



IB-3640SU3

Please read carefully the following information to prevent injuries, damage to material and device as well as data loss:

Warning levels

Signal words and safety codes indicate the warning level and provide immediate information in terms of the probability of occurrence as well as the type and severity of the consequences if the measures to prevent hazards are not complied with.



Warns of a **directly** hazardous situation causing **death or serious injury**.



Warns of a **potentially** hazardous situation that **may** cause death or serious injury.



Warns of a **potentially** hazardous situation that **may** cause minor injury.



Warns of a **potential** situation that **may** cause material or environmental damage and disrupt operative processes.

1. Risk of electrical shock



Contact with parts conducting electricity

Risk of death by electrical shock

- Read the operating instructions prior to use
- Make sure the device has been de-energised prior to working on it
- Do not remove contact protection panels
- Avoid contact with conducting parts
- Do not bring plug contacts in contact with pointed and metal objects
- Use in intended environments only
- Operate the device using a power unit meeting the specifications of the type plate only!
- Keep the device/power unit away from humidity, liquid, vapour and dust
- Do not modify the device
- Do not connect the device during thunderstorms
- Approach specialist retailers if you require repairs

2. Hazards during assembly (if intended)



Sharp components

Potential injuries to fingers or hands during assembly (if intended)

- Read the operating instructions prior to assembly
- Avoid coming into contact with sharp edges or pointed components
- Do not force components together
- Use suitable tools
- Use potentially enclosed accessories and tools only

3. Hazards caused by a development of heat



Insufficient device/power unit ventilation

Overheating and failure of the device/power unit

- Prevent externally heating up components and ensure an exchange of air
- Do not cover the fan outlet and passive cooling elements
- Avoid direct sunlight on the device/power unit
- Guarantee sufficient ambient air for the device/power unit
- Do not place objects on the device/power unit

4. Hazards caused by very small parts and packaging



Risk of suffocation

Risk of death by suffocation or swallowing

- Keep small parts and accessories away from children
- Store/dispose of plastic bags and packaging in an area that is inaccessible to children
- Do not hand over small parts and packaging to children

5. Potential data loss

IMPORTANT

Data lost during commissioning

Potentially irreversible data loss

- Always comply with the information in the operating instructions/quick installation guide
- Exclusively use the product once the specifications have been met
- Back up data prior to commissioning
- Back up data prior to connecting new hardware
- Use accessories enclosed with the product

6. Cleaning the device

IMPORTANT

Harmful cleaning agents

Scratches, discolouration, damage caused by moisture or short circuit in the device

- Disconnect the device prior to cleaning
- Aggressive or intense cleaning agents and solvents are unsuitable
- Make sure there is no residual moisture after cleaning
- We recommend cleaning devices using a dry, anti-static cloth

7. Disposing of the device

IMPORTANT

Environmental pollution, unsuitable for recycling

Potential environmental pollution caused by components, recycling circle interrupted



This icon on product and packaging indicates that this product must not be disposed of as part of domestic waste. In compliance with the Waste Electrical and Electronic Equipment Directive (**WEEE**) this electrical device and potentially included batteries must not be disposed of in conventional, domestic waste or **recycling waste**. If you would like to dispose of this product and potentially included batteries, please return it to the retailer or your local waste disposal and recycling point.

If you have any questions, please do not hesitate to contact our support at support@raidsonic.de or visit our website at www.icybox.de.

1. INTRODUCTION

1.1 GENERAL INFORMATION

1.1.1 Usage cautions

User should not modify this device. The environmental temperature should be within +5°C ~ +35°C

Note: Port multiplier at host computer needed, if connected via eSATA

1.1.2 Power

Power voltage: DC 12 V.

When using this device, please connect the supplied AC adapter or AC adapter cable to the power jack of device. When placing the adapter cable, make sure it cannot get damaged or be subject to pressure. To reduce the risk of electric shock, unplug the adapter first before cleaning it. Never connect the adapter to the device in a humid or dusty area. Do not replace the adapter or cable's wire or connector.

1.1.3 Radio interference/compatibility

- If not properly shielded, almost all electronic devices will get radio interference. Under some conditions, your player might get interference.
- The design of this device has followed the FCC/CE standard, and has followed the following rules:

(1) This device may not cause harmful interference;

(2) This device could accept some interference received including interference that may cause undesired operation.

1.1.4 Repair

If the device has a problem, you should take it to an appointed repair center and let the specialists do the repair, never repair the player yourself, you might damage the device or endanger yourself or your data.

1.1.5 Disposing of the player

When you dispose of the device, be sure to dispose it appropriately. Some countries may regulate disposal of electrical device, please consult with your local authority.

1.1.6 Others

When using this device, please do not let the device come into contact with water or other liquid, if water is accidentally spilled on the device, please use a dry cloth to absorb the spillage.

Do not let the device come into contact with water or other liquid.

Do not disassemble the device; repair the device or change the design of the device, any damage done will not be included in the repair policy.

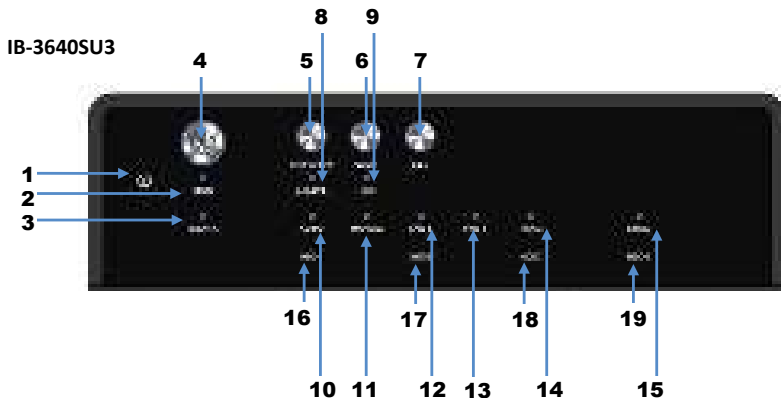
Avoid hitting the device with hard object, avoid shaking the player, and stay away from magnetic fields.

During electrostatic discharge and the strong electromagnetic field, the product will malfunction, and then unplug the power cable and the product will return to normal performance next time it is powered on.

Note: All the information contained in this manual was correct at the time of publication. However, as our engineers are always updating and improving the product, your device's software may have a slightly different appearance or modified functionality than presented in this manual.

2. HARDWARE IB-3640 SERIES

2.1 FRONT VIEW LED INDICATION



- | | |
|---------------------|---|
| 1. Blue | Power on |
| Orange | Sleep mode |
| 2. USB | on/off line |
| 3. eSATA | on/off line |
| 4. Power button | It needs to be pressed and held for 3 seconds to power off. |
| | Remark! This design prevents accidental power off. |
| 5. Interface button | Change between USB and eSATA connection |
| 6. SYNC button | Switch power sync mode (no PowerSync / Hibernate/ Power OFF) |
| | Hold SYNC button to switch between sync modes. |
| 7. Fan button | Controls auto & manual modes and fan speed from level 1 to level 3. |
| 8. eSATA | in use /access |
| 9. USB 3.0 | in use /access |
| 10. Smart Fan | automatic mode |
| 11. Smart Fan | manual mode |
| 12. Fan speed | Level 1 below 35°C = 1,000 rpm ~ 1,400 rpm |
| 13. Fan speed | Level 2 35 – 45°C = 1,500 rpm ~ 1,900 rpm |
| 14. Fan speed | Level 3 higher than 45°C = 2,400 rpm ~ 2,800 rpm |

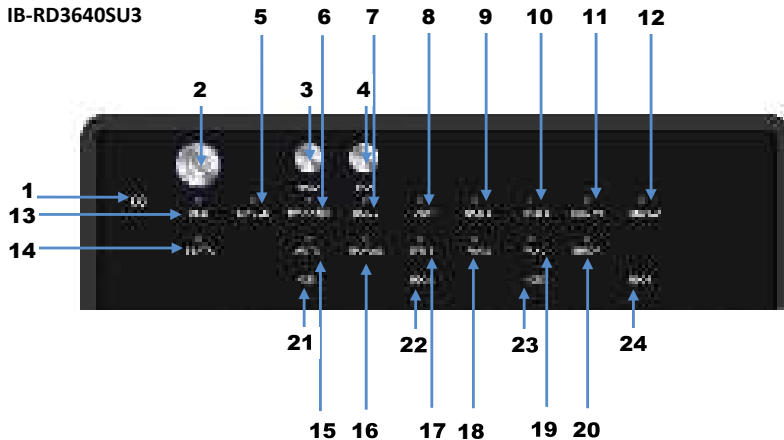
15. SYNC modes

blue	When the PC is off, the device goes off in 15 seconds
orange	When the PC is off, the device goes to sleeping mode
off	Sync is off

16.-19. HDD access

HDD1 / HDD2 / HDD3 / HDD4	
blue flashing	active
purple	access

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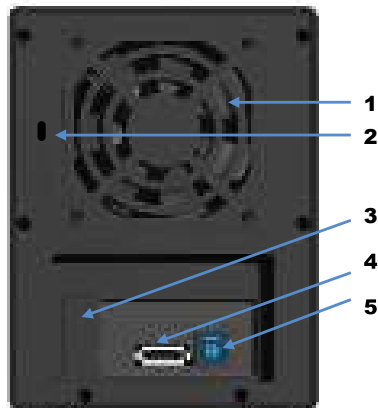


- | | |
|-----------------|---|
| 1. Blue | Power on |
| Orange | Sleep mode |
| 2. Power button | It needs to be pressed and held for 3 seconds to power off.
Remark! This design prevents accidental power off. |
| 3. Mode button | RAID mode button needs to be pressed and held for 3 seconds to switch the device's raid mode.
Remark! This design will prevent accidental execution of this function. |
| 4. Fan button | Controls auto & manual modes and fan speed from level 1 to level 3. |
| 5. Single mode | |
| 6. RAID 0 | Spanning Mode / LARGE |
| 7. RAID 0 | Striping Mode |
| 8. RAID 1 | |
| 9. RAID 3 | |
| 10. RAID 5 | |
| 11. RAID 10 | |
| 12. Rebuild | |
| 13. USB | in use / access |
| 14. eSATA | in use / access |
| 15. Smart Fan | automatic mode |
| 16. Smart Fan | manual mode |
| 17. Fan 1 | level 1 below 35°C = 1,000 rpm ~ 1,400 rpm |
| 18. Fan 2 | Level 2 35 – 45°C = 1,500 rpm ~ 1,900 rpm |
| 19. Fan 3 | Level 3 higher than 45°C = 2,400 rpm ~ 2,800 rpm |

20. HDD error When any of HDD1 to HDD4 has an error, HDD error is on.
Remark! LED doesn't function in SINGLE mode.
- 21.-24. HDD access HDD1 /HDD2 / HDD3 / HDD4
- | | |
|--------|---------|
| blue | active |
| purple | access |
| red | rebuild |

2.2 REAR VIEW

IB-RD3640SU3 / IB-3640SU3



1. Fan
2. Kensington Lock support
3. RAID Mode confirmation button (behind the plastic cover)
4. eSATA port
5. USB 3.0 port

Note: Port multiplier at host computer needed, if connected via eSATA

5. USB 3.0 port

2.3 SIDE VIEW

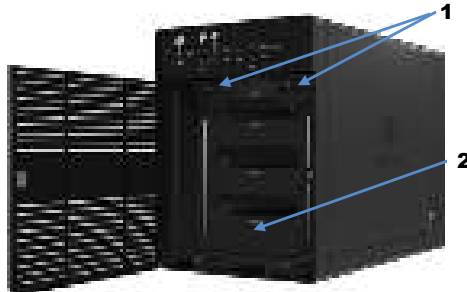
IB-RD3640SU3 / IB-3640SU3



1. DC Power jack

3. HDD INSTALLATION

- Please use the provided screws to secure the handles to the 4 HDDs.
- Open the front door.
- Press down the tabs (1) of metal frame to unlock and remove it.



- Take the transport paper board out of the device.
- Slide the 4 HDDs into the guide rails and push them downwards until it locks into the connector in order from up to down.
- Reinstall the metal frame that was removed before. Please make sure the bottom of the frame stays inside the track (2) before closing the front door.
- Connect the power adapter and choose one cable to connect to your computer (depends on version) and power on the device.
- When connected and powered on, the System LED will turn blue; the HDD LED lights will turn blue. If there are HDDs, the HDD LED will stay blue. If the HDDs are accessed the corresponding HDD LEDs will flash blue.

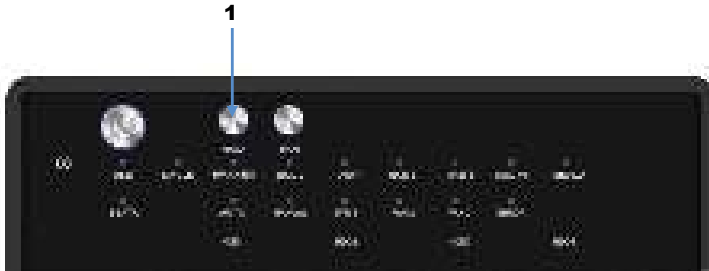
IB-3640SU3 / IB-RD3640SU3

- Power on the product and complete the setting inside *Disk management* of your computer system.

4. SETTING/CHANGING THE RAID MODE

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REMARK: Default setting is SINGLE mode.



- For RAID mode setup, users need to press and **HOLD** the RAID button (1) at the front for 3 seconds until the LEDs are flashing.
Press again for changing the RAID mode.



- After selecting the RAID mode you want, press and hold the confirmation button at the rear panel (behind the plastic cover) (2) until the device shuts down.
- Power on the product again and complete the setting inside **Disk management** of your computer system.

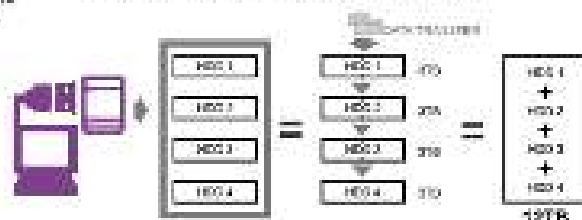
RAID 0

Spanning (BIG) JBOD



Spanning concatenates multiple hard drives as a single large volume, resulting in a second-to-second expansion of virtual volume beyond the physical limitations of separately connected hard drives. The data are written from HDD1 to HDD4.

■ RAID 0, JBOD Spanning Only. Not Single JBOD.

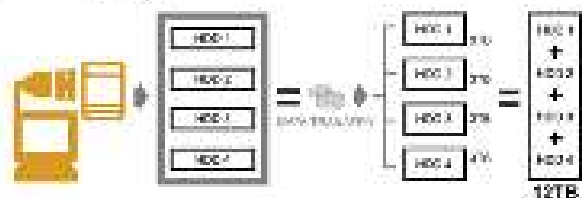


RAID 0

Striping



Striping is a method of concatenating multiple hard drives into one logical storage unit. It is the automated process of writing data across multiple drives simultaneously. Striping is used to increase the performance of data reads. The multiple hard drives will write data in "column" effect. If one drive in a striped set fails, all of the data in the stripes set is lost.



RAID 1

Mirroring



Mirroring is the automated process of writing data to multiple drives simultaneously. Mirroring is used to provide redundancy. If one drive fails, the redundant drive(s) will continue to store the data and provide access to it.

The failed drive can then be replaced, and the drive set can be rebuilt.

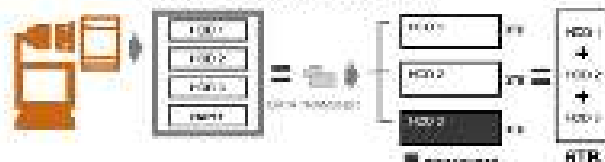


RAID 3

Striped set
with dedicated parity

+3

This mechanism provides an improved performance and fault tolerance similar to RAID 5 but with a dedicated parity disk rather than rotated parity stripes. The single parity disk is a bottle-neck for writing since every write requires updating the parity data. One minor benefit is the dedicated parity disk allows the parity drive to fail and operation will continue without parity or performance penalty.

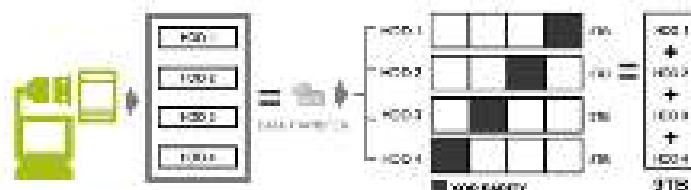


RAID 5

Striped set
with distributed parity

+5

Distributed parity requires all drives to be present to operate; drive failure requires replacement, but the array is not destroyed by a single drive failure. Upon drive failure, any subsequent read can be calculated from the distributed parity such that the drive failure is masked from the end user. The array will lose data rate in the event of a second drive failure and is vulnerable until the data that was on the failed drive is rebuilt on the replacement drive.

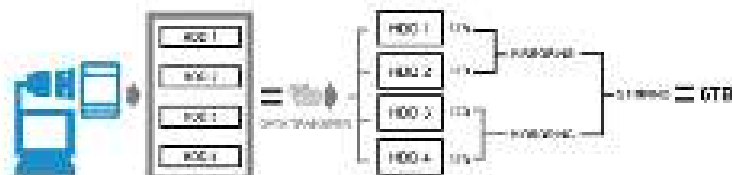


RAID 10

Mirroring + Striping

RAID 10 is mirrored RAID tracks in a striped RAID 0 array.

+10

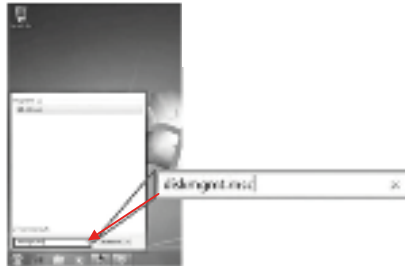


5. DISK INITIALISATION

5.1 WINDOWS® (32/64 BIT)

If the HDD is uninitialized, you may have to initialize it by doing steps as followed:

- At first click "Start", "Execute" at your PC and key in "diskmgmt. msc".
- After that please press "RETURN" key.



1. Start disk initialization.

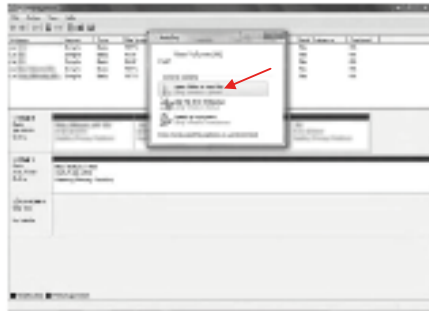
Remark: Please enable GPT if the total capacity is more than 2 TB and enable MBR if the total capacity is less than 2 TB.



2. Create new partition and format disk.



3. Disk format completed.



5.2 macOS®

If the HDD is uninitialized, you may have to initialize it by doing steps as followed:

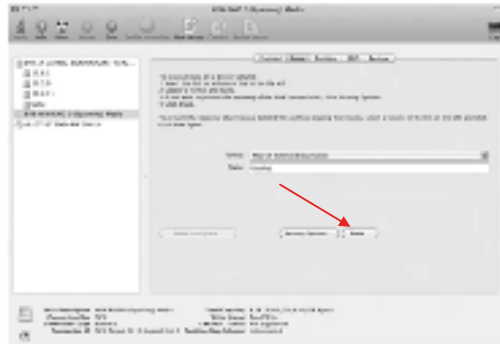
1. Click Disk Utility icon



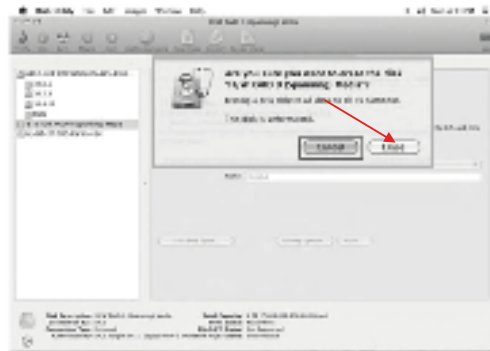
2. HDD initialise...



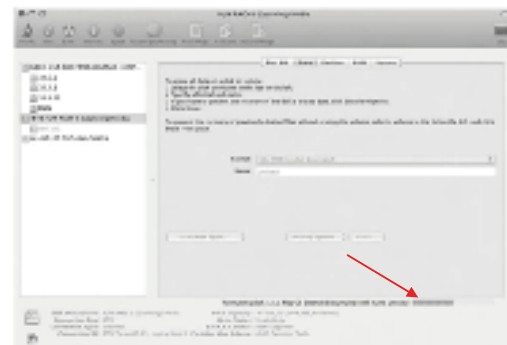
3. Click Erase



4. Click Erase



5. HDD format in process



6. Format completed



6. REFERENCES

1. Changing the RAID mode will cause data lost.
2. Please refer to the instructions when switching the RAID mode, otherwise the execution might fail.
3. Interface of USB / eSATA **cannot** be used at the same time.
4. When using the RAID function, HDD's with the same brand, model and capacity is strong recommended.
5. When using RAID function, more than one HDD partition is not recommended.
6. Under Windows® users can enable GPT when initializing HDD with a total capacity of more than 2 TB.
7. Older OS may not recognize the device if you use a different operation system than Windows® For more detailed information about GTP, please visit:
<http://msdn.microsoft.com/en-us/library/windows/hardware/gg463525.aspx>
8. If users enable MBR by mistake, in order to clean the partition table, you have to switch to another RAID mode and do the RAID mode switch all over again referring to Setup. Then go back to the RAID mode you want, repeat the previous actions and enable GPT when initializing HDD.
9. For Macintosh users: the total capacity of more than 2 TB could be recognized only for the operation system 10.4.11 Tiger or later.
10. Do not connect the device to the SATA on board port of the motherboard. Either use SATA to eSATA PCI-Express or SATA to eSATA PCI add-on card; otherwise the PC (Windows / Macintosh) may not recognize the device.
11. In RAID 1, HDD1 and HDD2 must be installed; otherwise the PC (Windows / macOS®) cannot recognize the device. Raid 1 is for two hard drives only. Slot 3 and Slot 4, will not be usable.
12. Rebuild time is based on the capacity, e.g. it takes about 1 hour for 200 GB.
13. When the USB / eSATA cable is plugged out, the device goes to sleeping mode automatically.
14. To take out the HDD from the device, slightly press down the handle of the tray and pull it out.
15. Setting up motherboard's power management in S3 is recommended.
(For more details refer to the user guide of motherboard BIOS setting).
16. If the device takes too long to initialize, please check if the HDD is securely installed or update the SATA host driver version.
17. If the transfer rate is not normal, please check if the setting of SATA disk jumper is 1.5 or 3.0 Gbit/s.
18. If there is noise with the fan, power of the device, unscrew the fan, take out the cover, clean the fan end assemble it back.
19. If the noise is still present, you can change the fan with an identical fan of size 80x80x20 mm.
20. If the fan stops working, do not dismantle it. Please send back to the retail store immediately.
21. Temperature +5°C ~ 35°C
Humidity 90 RH
22. Smart fan controlled by the built-in thermal sensor and it comes with 2 modes (auto/manual) and 3 levels of speed:
level 1 below 35°C = 1,000 rpm ~ 1,400 rpm
Level 2 35 – 45°C = 1,500 rpm ~ 1,900 rpm
Level 3 higher than 45°C = 2,400 rpm ~ 2,800 rpm

23. **Operation system:**
Windows® (32/64bit)
(with GPT enabled, supports total capacity more than 2TB)
macOS®
24. Support USB transfer speeds of low speed (up to 1.5 Mbit/s), full speed (up to 12 Mbit/s), high speed (up to 480 Mbit/s), super speed (up to 5 Gbit/s), eSATA transfer speed (up to 1.5 ~ 6.0 Gbit/s)

Note: Portmultiplier at host computer needed, if connected via eSATA.



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