(6) Formatting

After setting a new RAID mode, you must format the volume before it is accessible.

1. Connect the RAID to the computer.
2. Configure the desired mode as explained in section 4.
3. After the RAID is configured, use Disk Management on the PC or Disk Utility on the Mac to format the volume *.

*** If using RAID 0, RAID 10, RAID 3 or RAID 5, we recommend performing a low level format after setting the RAID. Please refer to the following: http://oyendigital.com/low-level-format**

(7) Sleep Mode

If there is no HDD activity, the OS may put the Mobius to sleep (LEDs off, HDDs spin down). The Mobius will wake up when accessed.

To prevent conflict with the OS sleep commands, we recommend disabling hard drive sleep in your OS as follows:

Mac Users: **Uncheck** the option "Put Hard Disks to Sleep When Possible" in the Energy Saver settings in System Preferences.

Windows Users: **Disable** hard disk sleep and USB suspend in advanced power settings:

Control Panel > Power Options > Change Plan Settings > Change Advanced Power Settings > Hard Disk > Turn off hard disk after = Never.

Control Panel > Power Options > Change Plan Settings > Change Advanced Power Settings > USB Settings > USB Selective Suspend = Disabled.

(8) Rebuilding Data

If one of the HDDs fails, the HDD LED for the corresponding bay will be red/purple and the sounder will beep. Press the SET button to stop the sound. A new HDD can be installed and it will automatically rebuild with data (if configured as RAID 1, 3, 5, 10).

1. Power down the Mobius & disconnect it from the computer.
2. Remove the failed HDD.
3. Install a new unformatted HDD. The new HDD should be larger or equal to the previous one. The use of identical HDDs from the same manufacturer is recommended.
4. Power up the RAID. The LED will slowly deliberately blink to indicate a rebuild in progress. To estimate the rebuild time, multiply one HDD by 3 to get the approximate rebuild hours. For example, a 30TB RAID5 will take 18 hours (6TB drive x 3).

Notes:

- We recommend disconnecting the Mobius from the host computer during the rebuild process.

(9) Ejecting the Mobius

Windows: Close all applications that are accessing the Mobius. Click the "Eject Hardware" (Safely Remove) icon in the system tray and select the Mobius. The LEDs will cycle off/on a few times and the HDDs will spin down. The LEDs and HDDs will remain off when it is fully dismounted. **Note**: In JBOD mode, individual drives cannot be ejected separately. The entire unit must be ejected.

Mac: Close all windows and applications that are accessing the drive. Drag the Mobius to the Trash/Eject icon to dismount it. The LEDs will cycle off/on a few times and the HDDs will spin down. The LEDs and HDDs will remain off when it is fully dismounted.

(10) Troubleshooting and FAQ

1) If the system experiences an HDD failure:
The LED for the HDD will be solid red/purple and the sounder will beep (press SET to silence).

2) Can I remove a drive from the RAID and install it in another enclosure for access to the files?
You can do so for RAID 1 or JBOD. In other modes, you cannot remove a single drive and access it outside of the RAID.

3) Can I create a RAID-5 and add drives to the set later?
No. Once a RAID-5 set is created it must be cleared and re-created to add or subtract drives from the set.

4) Which drives are recommended for use with the Mobius?
We recommend only enterprise or NAS drives such as WD Red. We do not recommend WD Green-Blue or Seagate Barracuda. Use of these drives may inhibit performance & limit support.

5) The Mobius' LEDs flicker on and then shut off when I turn on the system. Why?
The system is designed only to operate when connected to a computer. Make sure to connect the Mobius to a computer with the included USB 3.0, FireWire 800, or eSATA cable before beginning operation of the unit.

6) I connected via eSATA but I only see one hard drive. Why?
It is due to the eSATA host not supporting "port multiplier" which allows an eSATA port to communicate with more than one drive at a time. We recommend the Sonnet Tempo cards, which include port multiplier functionality.

(11) Warranty Information

This product includes a two (2) year repair/replacement warranty provided by Oyen Digital. This warranty is non-transferable and is limited to the original purchaser. Warranty service may be requested by completing the form at the following link: www.oyendigital.com/rma-request-form.html

For our complete warranty policy, visit:
www.oyendigital.com/warranty.html



Mobius 5-Bay RAID System User Guide

Table of Contents

1	Specifications
2	Detailed View
3	Inserting or Removing Drives
4	Setup
5	RAID Modes
6	Formatting
7	Sleep Mode
8	Rebuilding Data
9	Ejecting the Mobius
10	Troubleshooting and FAQ
11	Warranty Information

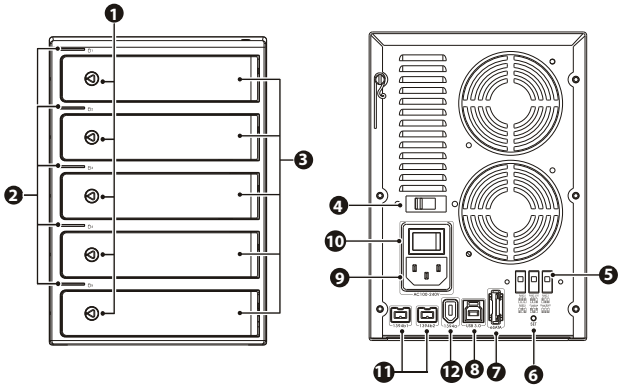
For more information, visit our website at www.oyendigital.com

(1) Specifications

Supported Drives	• 3.5" SATA I/II/III HDD/SSD (Must be RAID qualified. Check with mfg.)
Interface/Ports	• eSATA • FireWire 800 • FireWire 400 • USB 3.0
RAID Modes	• RAID 0 Striping • RAID 1 Mirroring • RAID 10 Striping+Mirroring • RAID 3 • RAID 5 • CLEAR RAID (JBOD)
System Requirements	• Windows XP/7/8 or higher • Mac OS 10.4 or higher
Operating Environment	• Temperature: 5°C ~ 40°C
Enclosure Size	10.5 x 5.1 x 7.4 inches

Package Includes: Mobius 5-Bay, USB 3.0 cable, FW800 cable, FW400 cable, eSATA cable, power cord, user guide, key set

(2) Detailed View



1.Door Lock
2.LED-HDD Access
3.Drive Bay
4.Voltage Select Switch
5.RAID Switch
6.Set Button
7.eSATA Port
8.USB 3.0 Port
9.Power Port
10.Power Switch
11.1394b port
12.1394a port

LEDs and Sound:

Condition	Drive LED
Powered & ready	Solid blue
Read/Write activity	Rapid blinking purple
Drive Error	Solid red or purple; Sounder will beep (press SET to silence)
HDD Sleep / Eject	Off
RAID 1 Rebuilding	Slow blinking purple (approximately 3 blinks per second)

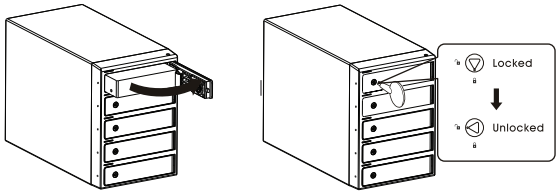
Note: The drive LEDs will be OFF when the unit is not connected to a computer.

Set the Mobius upright on its feet. The Mobius does not function properly when laying on its side.

(3) Inserting or Removing Drives

Inserting: Gently pull the lever and open the door. Insert/remove drive into bay. To **close**, pull the lever and push the door all the way closed. Release the lever when the door is closed.

Locking: Use the included key to lock the door if desired.

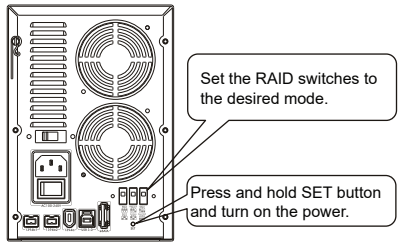


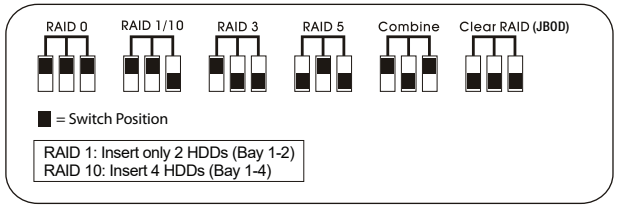
We recommend using only enterprise or NAS drives (512e only). The Mobius is not compatible with 4Kn hard drives. Drives such as WD Green, Blue, Black, and Seagate Barracuda are NOT recommended and may inhibit performance & limit technical support.

(4) Setup

Perform a "Clear RAID" procedure after installing drives. This applies to new or previously used drives.
Note: This procedure will not delete the partition or data from previously used JBOD drives.

Clear RAID Procedure:
Set the switches on the back of the RAID unit to Clear RAID (all switches down). Press and hold the SET button while turning on the power. Hold the SET button until the 2nd beep occurs (approx. 10 seconds). Release the SET button. Any previous RAID mode is removed and the drives are now set for JBOD mode. You may set a new RAID mode, or leave in JBOD mode.





Set RAID Mode:
After performing the Clear RAID procedure, set the switches on the back of the Mobius to the desired mode. Press and hold the SET button while turning on the power. Hold the SET button until the 2nd beep occurs (approx. 10 seconds). Release the SET button. The RAID mode is now configured.

(5) RAID Modes

RAID 0 (Striping) is a non-redundant data mapping technique. It combines data evenly across multiple drives simultaneously, dramatically increasing performance.

• In Striping mode, it will be viewed as one single storage unit. If one disk in the RAID System fails, all data in installed disks will be lost.

• The total capacity = smallest drive X the total number of drives. For example, if the smallest drive is 1TB, the capacity will be 5 TB when 5 drives are installed.

RAID 1 (Mirroring) consists of two drives storing duplicate copies of the same data. In this mode, the data is simultaneously written to two disks. The speed of operation is slow in comparison to other RAID modes.

• Only 2 HDDs (bay 1 and 2) are allowed for the function to perform properly.

RAID 3 or RAID 5 use block-level striping with parity data distributed across all disks (RAID 5) or one disk (RAID 3). RAID 5 is the most common mode due to the combination of redundancy and speed.

• 3 or more drives are required. If hotspare is desired, insert 3 or 4 drives and create the RAID. Then insert a 4th or 5th drive(s) in bay 4 and/or 5 to be used as a hotspare. When a drive fails, the spare drive will automatically be rebuilt to replace the failed drive.

• The total capacity = all disks minus 1. The capacity is limited by the size of the smallest disk. For example, if three 2 TB and two 3 TB drives are installed, the total capacity will be 8 TB ((2 TB x 5 disks) - 1 disk).

RAID 10 combines RAID 0 and RAID 1 in one single system. It creates two sets of striped disks and then mirrors these sets.

• Only 4 HDDs are allowed for the function to perform. If 5 HDDs are inserted, the 5th drive will be used as a hotspare. When a drive fails, the 5th drive will automatically be rebuilt to replace the failed drive.

Combine (Span) combines multiple hard drives into a single logical unit. Unlike Striping, it writes data to the first drive until it reaches full capacity. When the first disk reaches full capacity, data is written to the second disk. Spanning provides the maximum possible storage capacity, but does not increase performance or safety.

JBOD (Clear RAID) is not actually a RAID. It simply is a collection of drives that are recognized as separate drives by the OS. JBOD provides no performance increase or redundancy. This is the default setting.