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› Yottamaster VN500RU3 5 Bay RAID Hard Drive Enclosure User Manual

Yottamaster VN500RU3-RAID

Yottamaster VN500RU3 5 Bay RAID Hard Drive Enclosure User Manual

Model: VN500RU3-RAID

1. PRODUCT OVERVIEW

The Yottamaster VN500RU3 is a high-capacity 5-bay RAID enclosure designed for efficient and secure data storage. It supports up to five 2.5-inch or 3.5-inch SATA HDDs/SSDs, offering a total storage capacity of up to 110TB (5x22TB). This enclosure is suitable for various applications including video editing, photo backup, archival storage, and more.



Figure 1: Yottamaster VN500RU3 5 Bay RAID Hard Drive Enclosure.

Key Features:

- **Massive Storage Capacity:** Supports up to 110TB (5 x 22TB) with compatibility for 2.5-inch and 3.5-inch SATA HDD/SSDs.
- **Hardware RAID Functionality:** Offers flexible storage solutions with support for RAID 0, RAID 1, RAID 3, RAID 5, RAID 10, JBOD, and Normal (PM) modes.
- **High-Speed Data Transfer:** Utilizes USB 3.0 Type B interface for transfer speeds up to 5Gbps.
- **Efficient Heat Dissipation:** Features an aluminum casing, front and rear cooling holes, and an 80mm cooling fan for optimal temperature management.
- **Hot Swappable:** Allows for easy insertion and removal of hard drives without powering down the device.
- **Built-in Power Supply:** Equipped with a 150W power supply and supports auto power-on after an outage.

110TB External Storage



2.5"/3.5"
SATA HDD/SSD



MAX UP TO
5*22TB

110TB



Figure 2: Illustrates the 110TB external storage capacity and compatibility with 2.5"/3.5" SATA HDD/SSD.

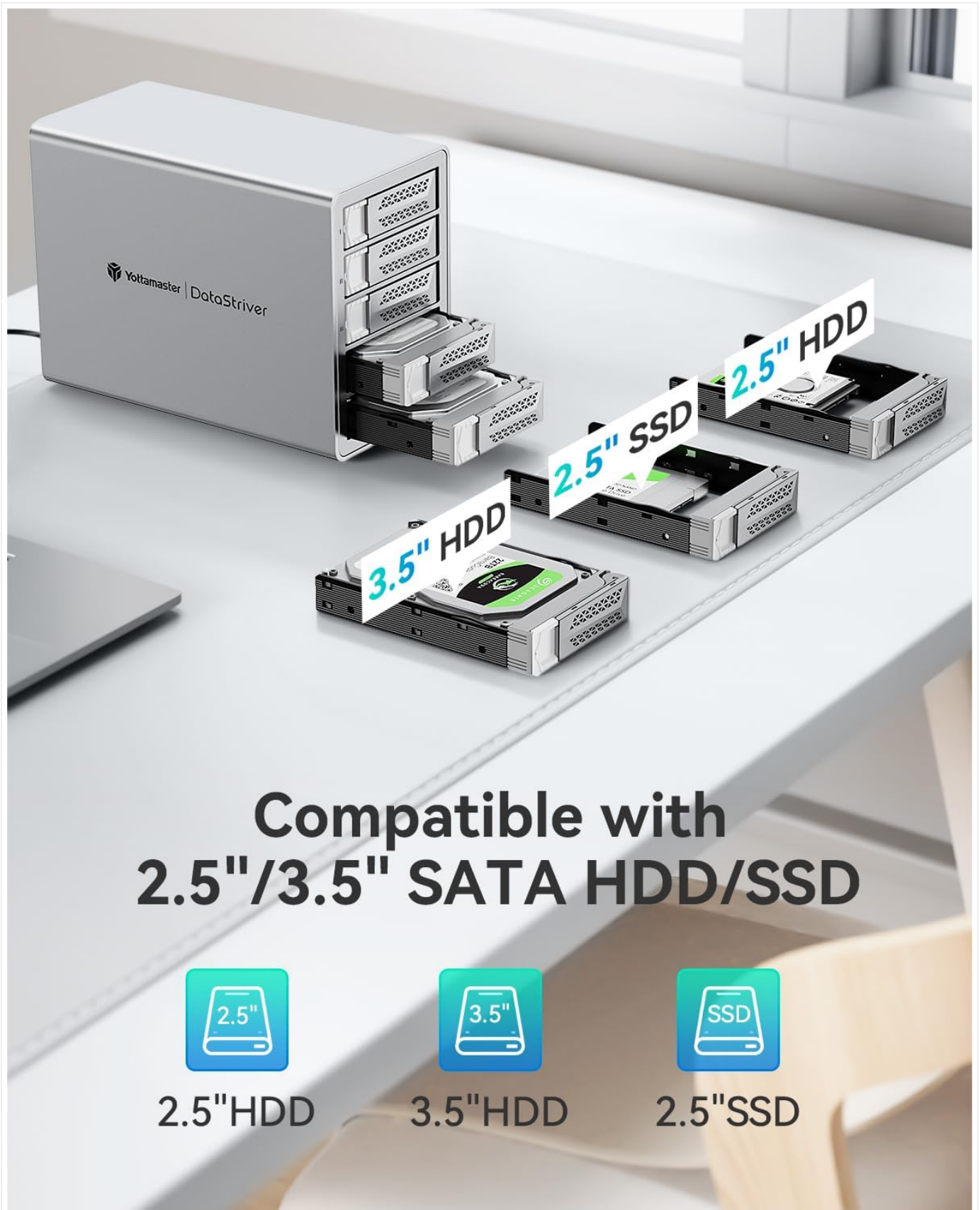


Figure 3: Diagram showing the quad heat dissipation system with aluminum alloy casing, panel heat dissipation holes, aluminum trays, and an 80x80mm cooling fan.

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Video 1: Overview of the Yottamaster VN500C3 5 Bay Hard Drive Enclosure, highlighting its features and design. Note: This video is for a similar model (VN500C3) which features 10Gbps transfer speed, whereas the VN500RU3 model has 5Gbps transfer speed. However, the general installation and design aspects are similar.

2. PACKAGE CONTENTS

Please verify that all items listed below are included in your package. If any items are missing or damaged, contact customer support.

Packing list

- | | |
|-------------------|----------------|
| 1 VN500RU3 | 2 Power line |
| 3 USB-A TO Type-B | 4 Screw |
| 5 Screwdriver | 6 Instructions |
| 7 Box | |



Figure 4: Visual representation of the items included in the product package.

1. VN500RU3 Enclosure
2. Power Line
3. USB-A to Type-B Cable
4. Screws (for drive installation)

5. Screwdriver
6. Instructions (this manual)
7. Product Box

3. SETUP AND INSTALLATION

3.1. Hard Drive Installation

The VN500RU3 enclosure supports both 2.5-inch and 3.5-inch SATA HDDs/SSDs. Follow these steps to install your drives:

1. Press the door button on the front of the enclosure and pull left to open the drive bay door.
2. Pull out an empty drive tray by its handle.
3. For 3.5-inch HDDs: Insert the HDD into the tray and secure it with 4 side screws.
4. For 2.5-inch HDDs/SSDs: Insert the drive into the tray and secure it with 4 bottom screws.
5. Slide the loaded tray back into the enclosure until it clicks into place.
6. Close the drive bay door.
7. Connect the power cable and the USB cable to your computer.

Hard Drive Indicators

Blue for Normal
Red for Hard Drive Abnormality



Metal Trays

Screw-fixed hard drive

Door Button

Press and push left to open



Input Interfaces

USB3.0 Type-B port (5 Gbps)
RAID DIP Switch

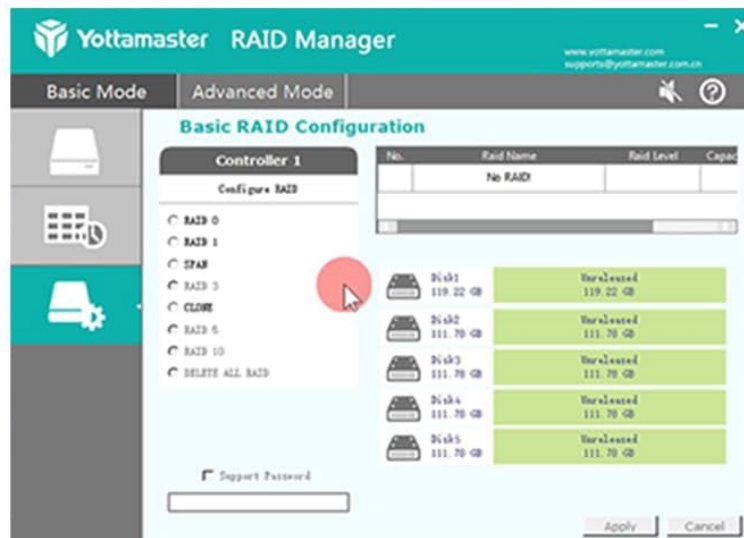
Figure 5: Detailed view of hard drive indicators, metal trays, door button, and input interfaces, illustrating components involved in installation.

3.2. RAID Configuration

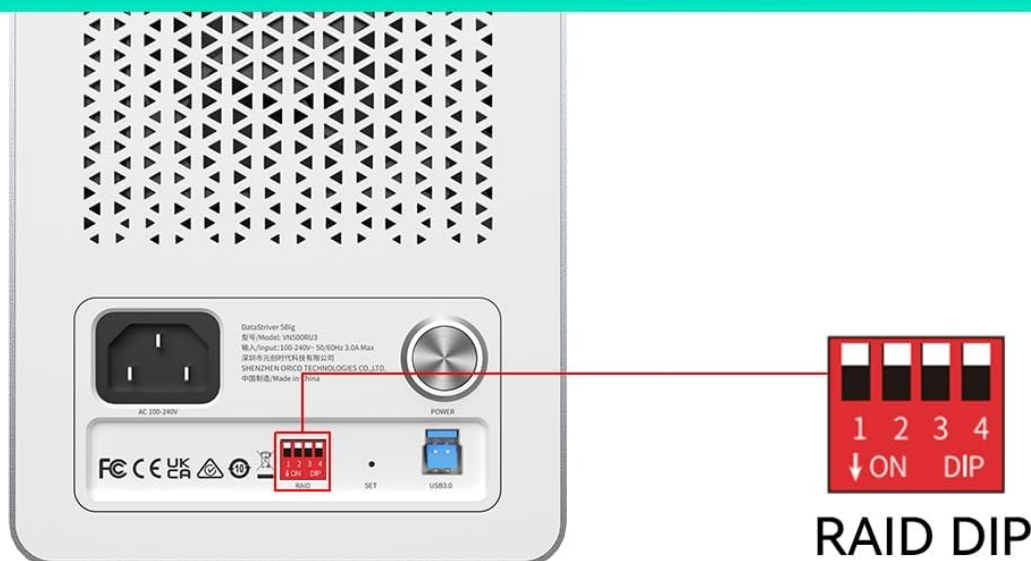
The VN500RU3 supports various hardware RAID modes to meet different storage needs. **Always back up your data before setting up or changing RAID modes.**

Two Ways to Set Up RAID

01: via RAID Manager Software



02: via RAID DIP Switch



Please Backup all data before setting up or changing RAID

Figure 6: Overview of two methods for RAID setup: via RAID Manager Software and via RAID DIP Switch.

3.2.1. RAID Modes Overview

The following table summarizes the supported RAID modes and their characteristics:

Multiple RAID modes Meet different storage needs

RAID Mode	Min Disks	Max Capacity	Data Protection	Fault Tolerance	Security	How to set up
RAID 0	2	$N * D$	No	0 disk	Low	 Down-Down-Down-Up
RAID 1 (Preferred)	only 2	$1 * D$	Yes	1 disk	Hight	 Down-Down-Up-Up
RAID 3	3	$(N-1) * D$	Yes	1 disk	Middle	 Down-Up-Up-Up
RAID 5 (Preferred)	3	$(N-1) * D$	Yes	1 disk	Middle	 Up-Down-Up-Up
RAID 10	4	$N * D * 50\%$	Yes	1 disk	Hight	 Down-Down-Up-Up
JBOD/SPAN	2	$N * D$	No	0 disk	Low	 Down-Up-Down-Up
PM	1	$N * D$	No	0 disk	Middle	 Up-Up-Up-Up
Note: 1. D: the minimum capacity among all hard drives; N: the number of hard drives 2. Backup your data before setting RAID Mode						

Figure 7: Table detailing various RAID modes, minimum disks, max capacity, data protection, fault tolerance, security, and setup method.

Table 1: RAID Mode Characteristics

RAID Mode	Min Disks	Max Capacity	Data Protection	Fault Tolerance	Security
RAID 0	2	$N * D$	No	0 disk	Low
RAID 1 (Preferred)	only 2	$1 * D$	Yes	1 disk	High
RAID 3	3	$(N-1) * D$	Yes	1 disk	Middle

RAID Mode	Min Disks	Max Capacity	Data Protection	Fault Tolerance	Security
RAID 5 (Preferred)	3	$(N-1) * D$	Yes	1 disk	Middle
RAID 10	4	$N * D * 50\%$	Yes	1 disk	High
JBOD/SPAN	2	$N * D$	No	0 disk	Low
PM (Normal)	1	$N * D$	No	0 disk	Middle

Note: D = the minimum capacity among all hard drives; N = the number of hard drives.

3.2.2. Setting Up RAID via DIP Switch

The RAID DIP switch is located on the back of the enclosure. Refer to Figure 7 for the correct DIP switch settings for each RAID mode.

1. Choose the desired RAID Mode based on your data storage needs and the DIP switch configuration from Table 1.
2. Set the DIP switches accordingly.
3. Hold the "SET" button on the back of the enclosure.
4. While holding "SET", power on the enclosure.
5. Continue holding "SET" for approximately 10 seconds until the LED lights up and you hear a buzzing sound, indicating the setting is complete.
6. Release the "SET" button.
7. Access Disk Management (Windows) or Disk Utility (Mac) to format your hard drives for use.

3.2.3. Setting Up RAID via RAID Manager Software

For a software-based RAID configuration, download the Yottamaster RAID Manager Software from the official Yottamaster website (typically found on the firmware download page).

1. Download and install the Yottamaster RAID Manager Software for your operating system (Windows or Mac).
2. Launch the software and select your desired RAID mode.
3. Confirm the RAID mode information within the software.
4. Format the drives using your operating system's Disk Management or Disk Utility tool to make them usable.

4. OPERATING INSTRUCTIONS

4.1. Data Transfer

The VN500RU3 enclosure connects to your computer via a USB 3.0 Type-B port, offering data transfer speeds of up to 5Gbps. This allows for rapid transfer of large files, such as 1GB in approximately 2 seconds.

Quad Heat Dissipation

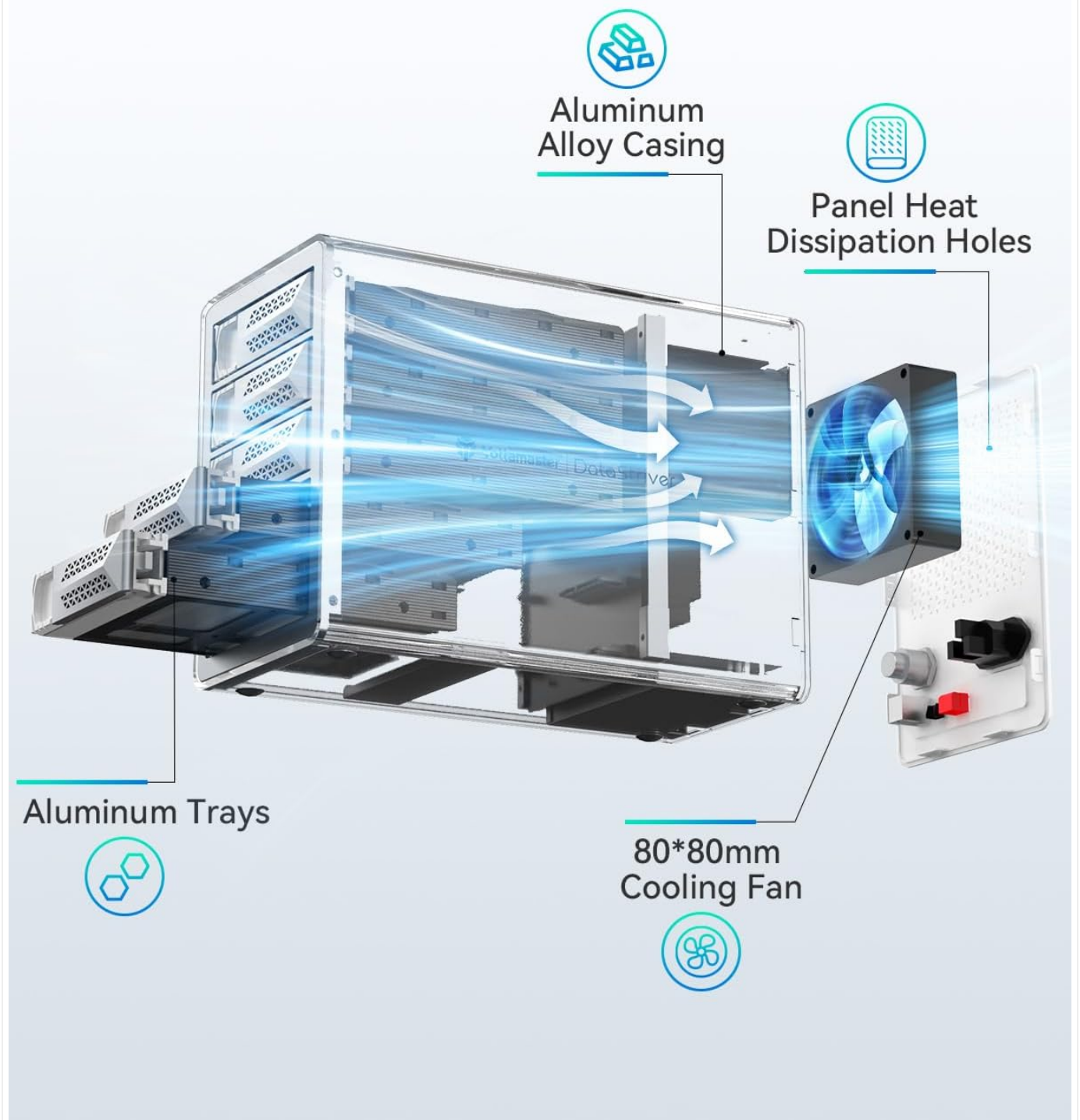


Figure 8: Illustration of the USB 3.0 Type-B port and the 5Gbps data transfer capability.

4.2. Auto-Sleep Function

The enclosure features a 10-minute auto-sleep mode to optimize energy efficiency. If you wish to disable this function, follow these steps:

1. Download the "Sleep Time Setting Firmware" from the Yottamaster official website's firmware download page. Ensure you select the correct firmware for 4/5 Bay enclosures.
2. Access the firmware utility, choose "RD Version", and input the required password (refer to the firmware utility instructions for the password).
3. Set the "Standby Timer" to "0" within the utility to disable auto-sleep.

4. Confirm the "PASS" message displayed by the utility.
5. Restart the enclosure to activate the new setting.

5. MAINTENANCE

To ensure the longevity and optimal performance of your Yottamaster VN500RU3 enclosure, consider the following maintenance tips:

- **Regular Cleaning:** Gently wipe the exterior of the enclosure with a soft, dry cloth to remove dust. Ensure ventilation holes are clear of obstructions.
- **Proper Ventilation:** Place the enclosure in a well-ventilated area to allow for proper airflow and heat dissipation. Avoid blocking the cooling fan or ventilation holes.
- **Firmware Updates:** Periodically check the Yottamaster official website for any available firmware updates. Keeping the firmware updated can improve performance and stability.
- **Data Backup:** Regularly back up critical data stored on the drives within the enclosure to another location. While RAID modes like RAID 1, 3, 5, and 10 offer data redundancy, they are not a substitute for a comprehensive backup strategy.
- **Safe Removal:** Always safely eject or unmount the enclosure from your computer before disconnecting the USB cable or powering down the device to prevent data corruption.

6. TROUBLESHOOTING

This section addresses common issues you might encounter with your Yottamaster VN500RU3 enclosure. If you experience problems not covered here, please contact Yottamaster customer support.

- **Enclosure not recognized by computer:**
 - Ensure the power cable is securely connected and the enclosure is powered on.
 - Verify the USB cable is properly connected to both the enclosure and your computer.
 - Try a different USB port on your computer.
 - Test with a different USB cable.
 - Check Disk Management (Windows) or Disk Utility (Mac) to see if the drives are detected but unformatted.
- **Hard drive not detected:**
 - Ensure the hard drive is correctly seated in its tray and the tray is fully inserted into the enclosure.
 - Check the drive's connection to the tray (screws).
 - Test the hard drive in another bay or another enclosure/computer to rule out a faulty drive.
 - Observe the hard drive indicators (blue for normal, red for abnormality).
- **Slow data transfer speeds:**
 - Ensure you are connected to a USB 3.0 port on your computer. USB 2.0 ports will result in significantly slower speeds.
 - Check the quality of your USB cable.
 - Verify that your computer's drivers for USB 3.0 are up to date.
 - Consider the performance of the hard drives themselves, especially if using older or slower HDDs.
- **RAID configuration issues:**
 - Double-check the DIP switch settings against the RAID mode table (Table 1).
 - Ensure you held the "SET" button for the required duration during DIP switch configuration.
 - If using software, ensure the RAID Manager Software is the correct version and installed properly.
 - Remember to format the drives after RAID configuration.

- **Enclosure overheating:**
 - Ensure the enclosure is placed in an area with good airflow.
 - Check that the cooling fan and ventilation holes are not obstructed by dust or other objects.
 - Avoid placing the enclosure in direct sunlight or near heat sources.

7. SPECIFICATIONS

Feature	Detail
Model Number	VN500RU3-RAID
Max Number of Supported Devices	5
Compatible Devices	2.5-inch SATA HDD/SSD, 3.5-inch SATA HDD/SSD
Max Capacity	110TB (5 x 22TB)
Hardware Interface	USB 3.0 Type-B
Data Transfer Rate	Up to 5 Gigabits Per Second (5Gbps)
Supported RAID Modes	RAID 0, RAID 1, RAID 3, RAID 5, RAID 10, JBOD, Normal (PM)
Material	Aluminum
Power Supply	Built-in 150W
Cooling System	80mm Cooling Fan, Ventilation Holes
Item Weight	10.65 pounds
Package Dimensions	13.39 x 13.07 x 8.58 inches
Operating System Compatibility	Windows, Mac

8. WARRANTY AND SUPPORT

Yottamaster products typically come with a standard manufacturer's warranty. For specific warranty terms and conditions, please refer to the warranty card included with your product or visit the official Yottamaster website.

For technical support, troubleshooting assistance, or inquiries regarding your Yottamaster VN500RU3 enclosure, please contact Yottamaster customer service through their official website or the contact information provided in your product documentation. You may also find helpful resources, FAQs, and driver/firmware downloads on the [Yottamaster Store on Amazon](#).

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question