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> TERRAMASTER D5-300 USB3.1 (Gen1) Type C 5-Bay External Hard Drive Enclosure User Manual

TERRAMASTER D5-300-US

TERRAMASTER D5-300 5-Bay External Hard Drive Enclosure

Model: D5-300-US | Brand: TERRAMASTER

User Manual

PRODUCT OVERVIEW

The TERRAMASTER D5-300 is a high-capacity 5-bay external hard drive enclosure designed for data storage, backup, and management. It features a USB 3.1 (Gen1) Type-C interface, offering fast data transfer speeds and broad compatibility with various operating systems. This enclosure supports multiple RAID modes, providing flexible options for data protection and performance optimization.



Figure 1: Front view of the TERRAMASTER D5-300 enclosure, showing five drive bays and indicator lights.

The D5-300 is built with an aluminum-alloy shell for durability and efficient heat dissipation, ensuring stable and

reliable operation. It is an ideal solution for professionals and home users requiring large-scale, secure, and fast external storage.

KEY FEATURES

- **High-Speed Connectivity:** Equipped with a USB 3.1 (Gen1) Type-C interface, ensuring rapid data transfer. It is compatible with Mac (note: not compatible with macOS 14 and above), Windows, and Linux operating systems, and also works with Thunderbolt 3 interfaces.



Figure 2: Rear view highlighting the USB Type-C port and dual cooling fans.

- **Massive Storage Capacity:** Supports up to five (5) SATA hard drives, with compatibility for 20TB 3.5-inch SATA hard drives, allowing a total storage capacity of up to 100TB in RAID 0. It also supports 2.5-inch SATA hard drives and SSDs. (Note: Hard drives are not included and must be purchased separately.)

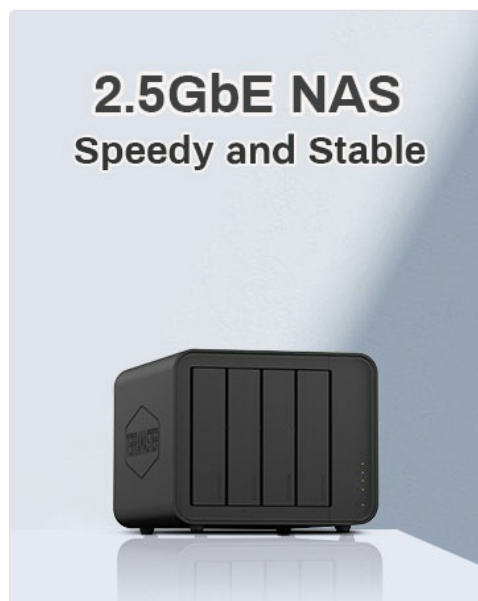


Figure 3: Illustrates compatibility with various drive types (HDDs and SSDs).

- **Optimized Performance:** Achieves transmission speeds of up to 220MB/s when tested with dedicated 4TB NAS drives in RAID 0 configuration, leveraging the USB 3.1 Gen1 super speed protocol.



Figure 4: The D5-300 connected to a laptop, demonstrating its high-speed capabilities.

- **Multiple RAID Modes:** Supports a variety of RAID modes including RAID 0, RAID 1, RAID 5, RAID 10, CLONE, JBOD, and Single Disk. RAID 5 is generally recommended for the D5-300 as it provides a good balance between data security and storage capacity.



Figure 5: Visual representation of supported RAID configurations.

- **Robust Design:** Features a durable aluminum-alloy shell and low-noise cooling fans, ensuring excellent heat dissipation and quiet operation, contributing to the product's reliability and longevity.

Next-Gen NAS Performance Powered by TOS 6



Figure 6: The D5-300's aluminum casing, designed for durability and efficient cooling.

TECHNICAL SPECIFICATIONS

Attribute	Detail
Model Number	D5-300-US
Brand	TERRAMASTER
Material	Aluminum
Drive Bays	5-Bay
Compatible Drive Types	3.5" SATA HDD, 2.5" SATA HDD, SSD
Max Capacity (Total)	Up to 100TB (using 5 x 20TB drives)
Interface	USB 3.1 (Gen1) Type-C
Hardware Interface	SATA 6.0 Gb/s, USB 3.1 Type C
Data Transfer Rate	Up to 220MB/s (RAID 0, tested)
Supported RAID Modes	RAID 0, RAID 1, RAID 5, RAID 10, CLONE, JBOD, Single Disk
Compatible Operating Systems	Windows, Mac (not macOS 14+), Linux
Product Dimensions (L x W x H)	8.9 x 8.86 x 6.06 inches
Item Weight	6.8 Pounds

SETUP GUIDE

1. Package Contents Verification

Before proceeding, ensure all components are present in the package:

- TERRAMASTER D5-300 Enclosure
- USB Type-C to Type-A Cable
- Power Adapter
- Accessory Kit (screws, screwdriver)
- Quick Installation Guide



Figure 7: Product packaging, indicating model and serial number.

2. Hard Drive Installation

1. Gently pull the front panel of the D5-300 to access the drive bays.
2. Slide out an empty drive tray from the enclosure.
3. Mount your 3.5-inch or 2.5-inch SATA hard drive/SSD onto the drive tray using the provided screws. Ensure the connectors align correctly.
4. Carefully slide the loaded drive tray back into the empty bay until it clicks into place.
5. Repeat for all desired drives.

Note: The drive trays are made of plastic. Handle with care during installation.

Universal Compatibility

Perfect for 2.5/3.5 inch HDD and SSD up to 18TB

Hard drives are not included, please purchase as needed.



Figure 8: Illustrates the process of inserting a hard drive into a bay.

3. Connecting to Your Computer

1. Connect one end of the provided USB Type-C cable to the Type-C port on the back of the D5-300.
2. Connect the other end of the USB cable to an available USB 3.1 (Gen1) Type-C or Type-A port on your computer. If your computer only has Type-A ports, use the appropriate adapter or cable.
3. Connect the power adapter to the D5-300's power input and then plug it into a power outlet.
4. Press the power button on the front of the D5-300 to turn on the device. The power indicator light will illuminate.

RAID CONFIGURATION

The TERRAMASTER D5-300 supports various hardware RAID modes, allowing you to optimize for performance, data redundancy, or a balance of both. Configuration is typically done via switches on the device or through a utility provided by TERRAMASTER.

Available RAID Modes:

- **Single Disk:** Each drive operates independently.
- **JBOD (Just a Bunch Of Disks):** Drives are concatenated to form one large volume. No redundancy.
- **RAID 0 (Striping):** Data is striped across all drives for maximum performance and capacity. No redundancy.
- **RAID 1 (Mirroring):** Data is mirrored between two drives for redundancy. Capacity is limited to the smallest drive. Requires at least two drives.
- **RAID 5 (Striping with Parity):** Data is striped across drives with parity information for redundancy. Offers good performance and data protection. Requires at least three drives.

- **RAID 10 (RAID 1+0):** Combines mirroring and striping for both performance and redundancy. Requires at least four drives.
- **CLONE:** Creates an exact duplicate of one drive onto another.

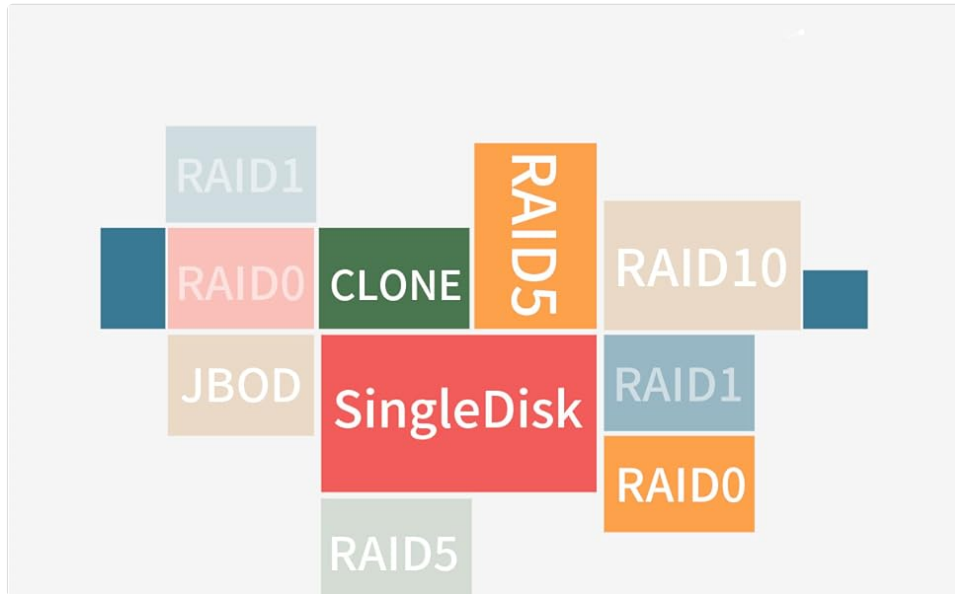


Figure 9: Visual guide to various RAID modes and their structure.

Configuration Steps:

Refer to the specific instructions provided in the Quick Installation Guide or the TERRAMASTER official website for detailed steps on setting your desired RAID mode. This typically involves setting physical switches on the device and then initializing the RAID volume through your operating system's disk management utility.

Important: Changing RAID modes will erase all data on the drives. Always back up your data before reconfiguring RAID.

OPERATION

Power On/Off

- **Power On:** Press the power button on the front panel. The power indicator will light up.
- **Power Off:** Safely eject the device from your operating system first, then press and hold the power button for a few seconds until the device powers down.

Drive Status Indicators

The front panel features LED indicators for each drive bay and for power. These indicators provide visual feedback on the status of your drives and the enclosure:

- **Power LED:** Indicates the power status of the enclosure.
- **HDD 1-5 LEDs:** Indicate the activity and health status of individual hard drives. Refer to the Quick Installation Guide for specific LED patterns (e.g., solid, blinking, color) and their meanings.

Data Transfer

Once connected and recognized by your operating system, the D5-300 will appear as an external drive or multiple drives, depending on your RAID configuration. You can then drag and drop files, use backup software, or access data as you would with any other storage device.

MAINTENANCE

- **Keep Clean:** Regularly wipe the exterior of the enclosure with a soft, dry cloth. Avoid using liquid cleaners or aerosols.
- **Ventilation:** Ensure the enclosure's ventilation holes and fans are not obstructed to maintain proper airflow and prevent overheating. The D5-300 features low-noise fans for efficient cooling.
- **Firmware Updates:** Periodically check the TERRAMASTER official website for firmware updates. Keeping the firmware updated can improve performance, stability, and add new features.
- **Data Backup:** While RAID provides data redundancy (depending on the mode), it is not a substitute for a comprehensive backup strategy. Regularly back up critical data to another location.
- **Safe Ejection:** Always safely eject the D5-300 from your operating system before disconnecting the USB cable or powering off the device to prevent data corruption.

TROUBLESHOOTING

Issue: Device not recognized by computer.

- Ensure the USB cable is securely connected to both the D5-300 and your computer.
- Verify the power adapter is connected and the device is powered on.
- Try a different USB port on your computer.
- Test with a different USB cable if available.
- Check your computer's Disk Management (Windows) or Disk Utility (Mac) to see if the drives are detected but uninitialized or unformatted.

Issue: Slow data transfer speeds.

- Ensure you are connected to a USB 3.1 (Gen1) or higher port on your computer. Older USB 2.0 ports will result in significantly slower speeds.
- The actual speed can vary based on the type and speed of the installed hard drives/SSDs and the RAID mode configured. RAID 0 offers the highest theoretical speeds.
- Close any background applications that might be consuming system resources or disk I/O.

Issue: Drive indicator lights are not behaving as expected.

- Refer to the Quick Installation Guide for a detailed explanation of LED behaviors for your specific RAID mode.
- A solid red or blinking red light often indicates a drive error or failure within a RAID array. If a drive has failed, replace it according to the instructions for your RAID type to rebuild the array.
- Ensure drives are properly seated in their bays.

Issue: Enclosure is hot to the touch.

- Ensure the enclosure is placed in a well-ventilated area and that the fan vents are not blocked.
- The aluminum casing is designed to dissipate heat, so some warmth is normal during operation, especially

under heavy load.

- If overheating persists or the device shuts down, contact TERRAMASTER support.

WARRANTY AND SUPPORT

The TERRAMASTER D5-300 comes with a manufacturer's warranty. For specific warranty terms and conditions, please refer to the warranty card included with your product or visit the official TERRAMASTER website.

For technical support, product registration, or to download the latest drivers and firmware, please visit the official TERRAMASTER support page:

[TERRAMASTER Official Website](#)

When contacting support, please have your product model number (D5-300-US) and serial number ready. The serial number can typically be found on a label on the bottom or back of the enclosure, or on the product packaging.

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Information in this manual is subject to change without notice.