

Western Digital WD102PURP

Western Digital 10TB WD Purple Pro Surveillance Hard Drive (WD102PURP) User Manual

Model: WD102PURP

1. INTRODUCTION

The Western Digital 10TB WD Purple Pro Surveillance Internal Hard Drive (model WD102PURP) is engineered for advanced, AI-enabled surveillance systems. This 3.5-inch SATA 6 Gb/s HDD features a 512 MB cache and is designed for 24/7 operation in high-definition security environments. It supports high-capacity storage with enhanced performance and workload capabilities for next-generation recorders, video analytics appliances, and deep-learning servers.

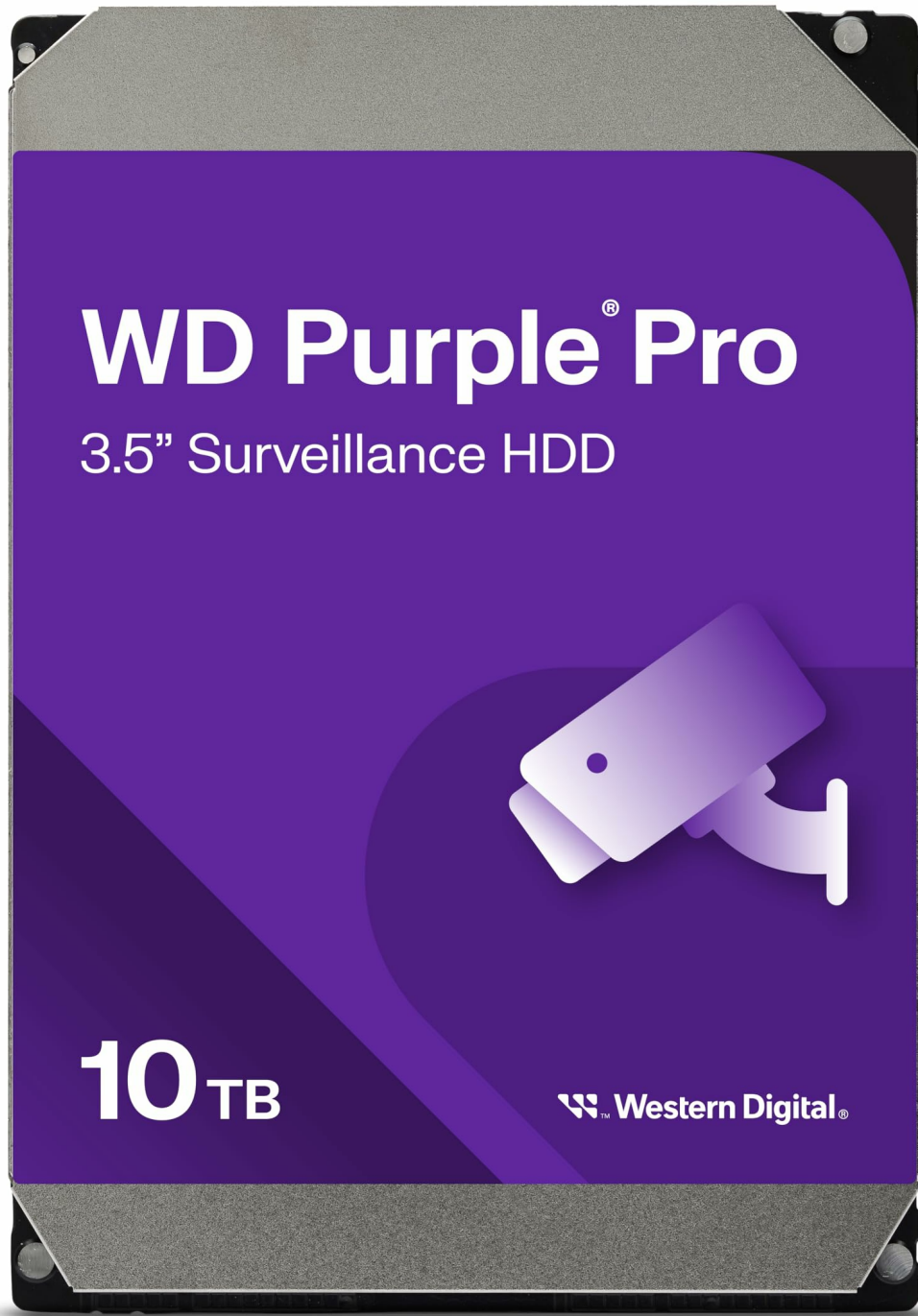


Image 1.1: Front view of the WD Purple Pro 10TB Surveillance Hard Drive.

2. KEY FEATURES

- **High Capacity:** Offers 10TB of storage, suitable for extended video retention in surveillance systems.
- **Optimized for Surveillance:** Designed for 24/7, always-on, high-definition surveillance systems.
- **AllFrame AI Technology:** Helps reduce frame loss, improves overall video playback, and supports up to 32 AI streams per drive for deep learning analytics.

- **High Workload Rating:** Rated for 550TB per year, ensuring durability and reliability in demanding environments.
- **Enterprise-Class Reliability:** Provides robust performance and data integrity, especially in larger-scale systems with operational vibration.
- **Western Digital Device Analytics (WDDA):** Proactive health management for enhanced system stability.

3. SETUP AND INSTALLATION

This section outlines the general steps for installing the WD Purple Pro hard drive into a compatible surveillance system (e.g., NVR, DVR, or server). Always refer to your system's specific manual for detailed installation instructions.

3.1 Safety Precautions

- Ensure the system is powered off and unplugged before installation.
- Wear an anti-static wrist strap to prevent electrostatic discharge (ESD) damage to the drive and system components.
- Handle the hard drive by its edges; avoid touching the circuit board or connector pins.

3.2 Physical Installation Steps

1. **Open System Enclosure:** Carefully open your NVR/DVR or server enclosure according to its manufacturer's instructions.
2. **Locate Drive Bay:** Identify an available 3.5-inch drive bay.
3. **Mount the Drive:** Slide the WD Purple Pro drive into the drive bay. Secure it using the provided screws from your system's enclosure. Ensure the drive is firmly seated to prevent vibration.
4. **Connect Cables:**
 - Connect a SATA data cable from the hard drive to an available SATA port on your system's motherboard or controller card.
 - Connect a SATA power cable from your system's power supply to the hard drive.
5. **Close Enclosure:** Once cables are securely connected and the drive is mounted, close the system enclosure.



Image 3.1: Back label of the WD Purple Pro 10TB Hard Drive, indicating model and serial information.

3.3 Initial System Configuration

1. **Power On:** Plug in and power on your surveillance system.
2. **Access System Settings:** Access your NVR/DVR's operating system or BIOS/UEFI settings to ensure the hard drive is detected.
3. **Initialize and Format:** The system will likely prompt you to initialize and format the new hard drive. Follow the on-screen instructions. This process prepares the drive for recording.
4. **Configure Recording:** Set up recording schedules, motion detection, and other surveillance parameters within your system's software.

4. OPERATING INSTRUCTIONS

The WD Purple Pro drive operates continuously within your surveillance system, managing video streams and data storage. Its operation is largely automated once configured.

- **Continuous Recording:** The drive is designed for 24/7 recording from multiple high-definition cameras.
- **AI Stream Support:** Leveraging AllFrame AI, the drive efficiently handles concurrent AI streams for advanced analytics without compromising video integrity.
- **Data Management:** Your surveillance system's software will manage how video data is written, stored, and overwritten on the drive.
- **Video Playback:** Access recorded footage through your NVR/DVR interface. The drive's performance ensures smooth playback.

5. MAINTENANCE

While WD Purple Pro drives are built for reliability, regular system maintenance is crucial for optimal performance and longevity.

- **System Monitoring:** Regularly check your surveillance system's health status, including hard drive status. Many NVR/DVRs provide alerts for drive issues.
- **Firmware Updates:** Keep your NVR/DVR firmware updated. These updates often include improvements for hard drive compatibility and performance.
- **Environmental Control:** Ensure your system operates within recommended temperature and humidity ranges to prevent premature drive failure.
- **Power Management:** Use a reliable power supply and consider an uninterruptible power supply (UPS) to protect against power fluctuations and sudden shutdowns.
- **Data Backup (Optional):** For critical data, consider implementing a backup strategy, although surveillance footage is typically managed by the NVR/DVR's overwrite policy.

6. TROUBLESHOOTING

This section addresses common issues you might encounter with your hard drive.

6.1 Drive Not Detected

- **Check Cables:** Ensure both SATA data and power cables are securely connected to the drive and the system.
- **Verify Power:** Confirm the system's power supply is functioning correctly.
- **BIOS/UEFI Settings:** Check your system's BIOS/UEFI to see if the drive is recognized. Ensure SATA ports are enabled.

- **System Compatibility:** Confirm your NVR/DVR system supports 10TB drives and the SATA 6 Gb/s interface.

6.2 Poor Video Playback or Frame Loss

- **System Workload:** Ensure your NVR/DVR is not overloaded with too many cameras or high-resolution streams beyond its capacity.
- **Drive Health:** Use WDDA or your system's diagnostic tools to check the drive's health status.
- **Firmware:** Update your NVR/DVR firmware to the latest version.

6.3 Unusual Noises from Drive

- **Vibration:** Ensure the drive is securely mounted in its bay. Loose mounting can cause rattling.
- **Diagnostic Check:** If the noise is a clicking, grinding, or repetitive sound, it may indicate a drive failure. Immediately back up any critical data (if possible) and contact Western Digital support.

7. SPECIFICATIONS

Feature	Specification
Model Number	WD102PURP
Capacity	10 TB
Form Factor	3.5-inch
Interface	SATA 6 Gb/s
Cache	512 MB
Rotational Speed	7200 RPM
Workload Rating	550 TB/year
Dimensions (LxWxH)	5.91 x 5.91 x 7.87 inches
Item Weight	1.65 pounds
Operating Voltage	28 Volts <i>(Note: This value is as provided in product data; typical HDDs use 5V/12V.)</i>

8. WARRANTY AND SUPPORT

Western Digital products come with a limited warranty. For specific warranty terms and conditions, please refer to the warranty information included with your product or visit the official Western Digital website.

For technical support, troubleshooting assistance, or to inquire about warranty claims, please visit the Western Digital support portal:

<https://support.wdc.com>

When contacting support, have your product model number (WD102PURP) and serial number ready. The serial number is typically located on a label on the drive itself (refer to Image 3.1).

