ADATA ASP900S3-256GM-C

ADATA Premier Pro SP900 256GB SSD User Manual

Model: ASP900S3-256GM-C

1. INTRODUCTION

The ADATA Premier Pro SP900 256GB Solid State Drive (SSD) is designed to enhance your computer's performance with high-speed data transfer capabilities. This 2.5-inch SATA III SSD offers significant improvements in boot times, application loading, and overall system responsiveness compared to traditional hard disk drives.

Key features include:

- High-speed sequential read/write performance of up to 555/530 MB/s.

- Maximum random 4K write speeds of 85,000 IOPS.

- Support for the Windows TRIM command to optimize data transfer and maintain performance over time.

- Utilizes superior NAND Flash technology for enhanced stability and performance.

- Offers increased storage capacity compared to some common SSDs using SandForce controllers.
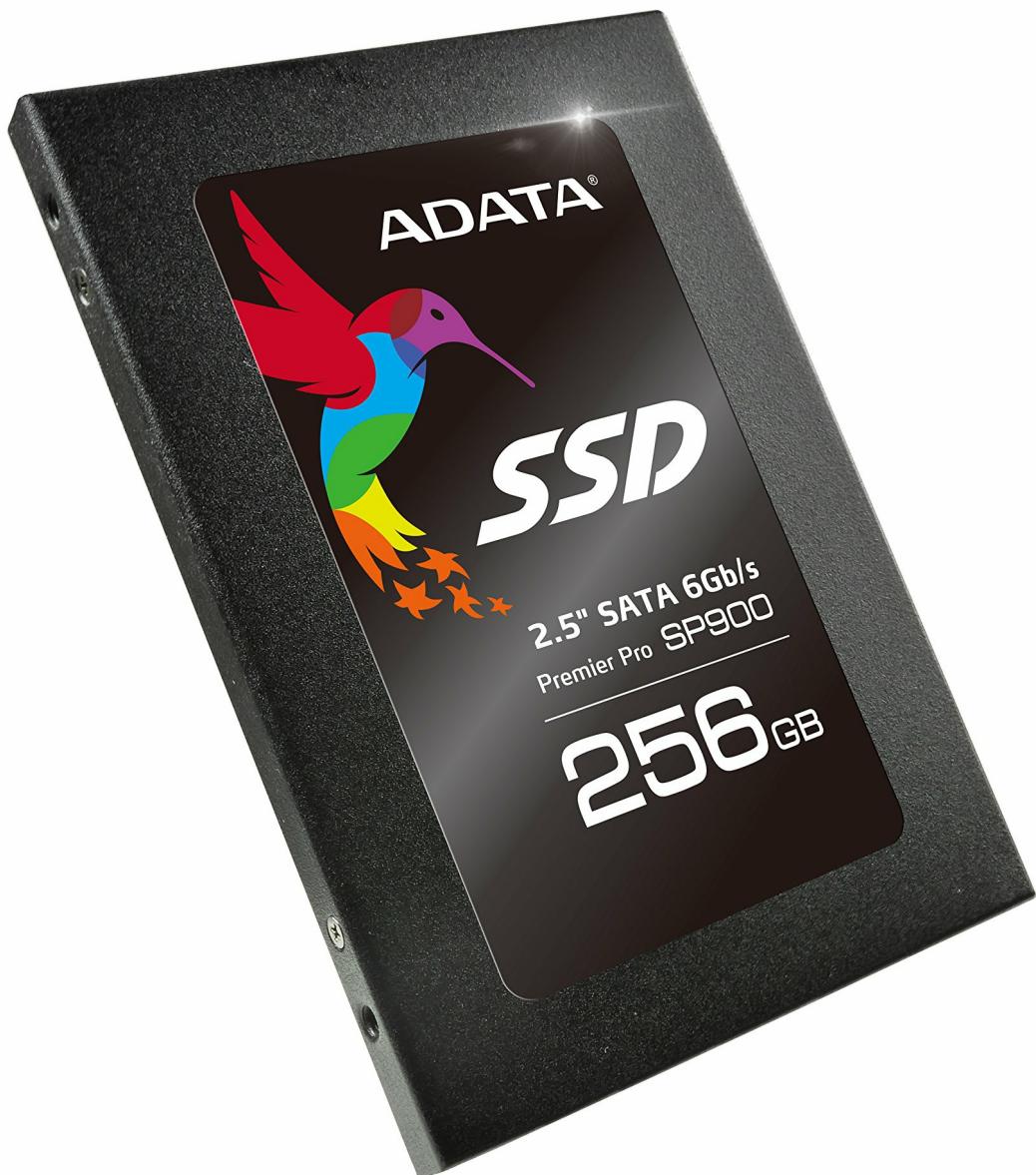
Image 1: Front view of the ADATA Premier Pro SP900 256GB SSD.

2. SETUP AND INSTALLATION

This section provides instructions for installing your ADATA Premier Pro SP900 SSD into a desktop or laptop computer.

2.1 Before Installation

- **Backup Data:** Always back up important data from your existing drive before performing any hardware

changes.

- **Power Off:** Ensure your computer is completely powered off and disconnected from the power source.
- **Static Protection:** Wear an anti-static wrist strap or periodically touch a grounded metal object to discharge static electricity.

2.2 Physical Installation (Desktop)

1. Open your computer case.
2. Locate an available 2.5-inch drive bay. If your case only has 3.5-inch bays, use the included 2.5-inch to 3.5-inch mounting bracket (if provided) to secure the SSD.
3. Slide the SSD into the drive bay and secure it with screws.
4. Connect a SATA data cable from the SSD to an available SATA port on your motherboard.
5. Connect a SATA power cable from your power supply unit to the SSD.
6. Close your computer case.

2.3 Physical Installation (Laptop)

1. Refer to your laptop's manual for instructions on how to access the drive bay.
2. Remove the existing hard drive.
3. Carefully slide the ADATA Premier Pro SP900 SSD into the drive bay, ensuring the SATA connector aligns correctly.
4. Secure the SSD with any screws or clips provided by your laptop manufacturer.
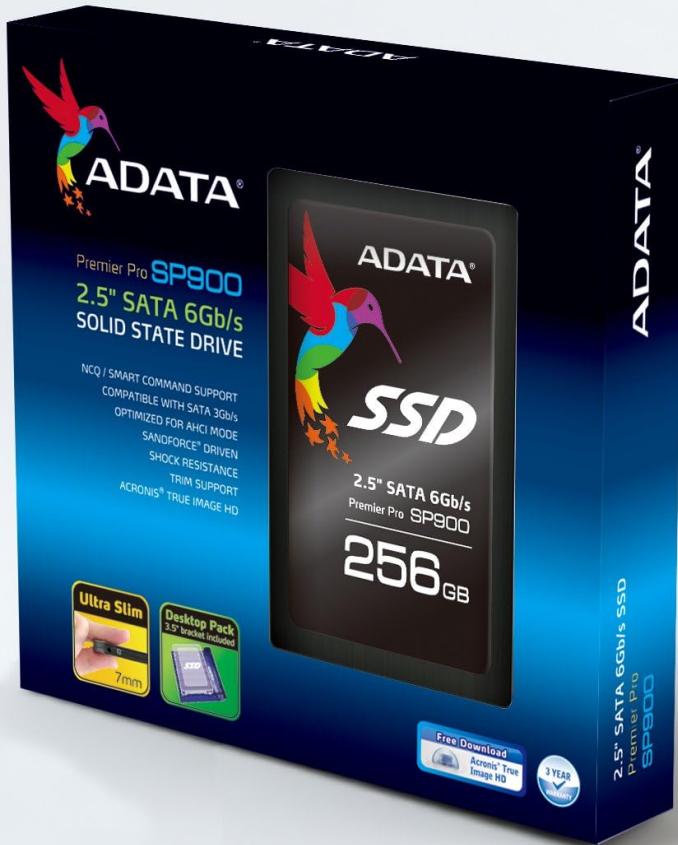5. Reassemble your laptop.

Image 2: ADATA Premier Pro SP900 SSD packaging, often including a desktop mounting kit.

2.4 Operating System Installation/Migration

After physical installation, you will need to install an operating system (OS) or migrate your existing OS to the new SSD. ADATA may provide utility software for OS migration; check their official website for downloads.

- **Clean OS Install:** Boot from your OS installation media (USB or DVD) and follow the prompts to install the OS on the new SSD.
- **OS Migration:** Use cloning software to transfer your existing OS and data from your old drive to the new SSD.

3. OPERATING THE SSD

Once installed and configured, your ADATA Premier Pro SP900 SSD will function as your primary storage device. Here are some operational considerations:

3.1 TRIM Command

The ADATA Premier Pro SP900 supports the Windows TRIM command. TRIM is an ATA command that

allows the operating system to inform the SSD which data blocks are no longer in use and can be wiped. This helps the SSD's garbage collection process, preventing performance degradation over time and extending the drive's lifespan.

- Ensure your operating system (Windows 7 or later) has TRIM enabled. It is usually enabled by default.
- For optimal performance, ensure your SATA controller is set to AHCI mode in your system's BIOS/UEFI settings.

3.2 Performance Expectations

The SSD delivers high sequential read/write speeds and impressive random 4K performance, significantly reducing load times for the operating system and applications. Actual performance may vary based on your system's hardware, software, and workload.

4. MAINTENANCE

Proper maintenance ensures the longevity and optimal performance of your ADATA Premier Pro SP900 SSD.

- **Do Not Defragment:** Unlike traditional hard drives, SSDs do not benefit from defragmentation. Defragmenting an SSD can reduce its lifespan by increasing unnecessary write cycles.
- **Keep TRIM Enabled:** Regularly verify that the TRIM command is active in your operating system.
- **Firmware Updates:** Periodically check the ADATA official website for any available firmware updates for your SSD model. Firmware updates can improve performance, stability, and compatibility.
- **Monitor Health:** Use SSD monitoring tools (often provided by ADATA or third-party software) to check the drive's health and remaining lifespan.
- **Maintain Free Space:** Avoid filling the SSD to its absolute maximum capacity. Leaving some free space (e.g., 10-15%) allows the SSD's internal garbage collection and wear-leveling algorithms to function more efficiently.

5. TROUBLESHOOTING

If you encounter issues with your ADATA Premier Pro SP900 SSD, refer to the following troubleshooting tips:

5.1 SSD Not Detected by System/BIOS

- **Check Cables:** Ensure both the SATA data and power cables are securely connected to the SSD and the motherboard/power supply.
- **Verify BIOS/UEFI Settings:**
  - Enter your system's BIOS/UEFI setup (usually by pressing DEL, F2, F10, or F12 during boot).
  - Confirm that the SATA port the SSD is connected to is enabled.
  - Ensure the SATA controller mode is set to AHCI (Advanced Host Controller Interface) for optimal SSD performance and TRIM functionality.
- **Try Another Port/Cable:** Test the SSD with a different SATA data cable, power cable, or motherboard SATA port.
- **Test on Another System:** If possible, test the SSD in another computer to rule out a system-specific issue.

5.2 Performance Issues

- **TRIM Status:** Verify that TRIM is enabled in your operating system.
- **SATA Mode:** Confirm that your motherboard's SATA controller is operating in AHCI mode, not IDE mode.
- **SATA III Port:** Ensure the SSD is connected to a SATA III (6Gb/s) port on your motherboard for maximum speed. Connecting to a SATA II (3Gb/s) port will limit performance.
- **Driver Updates:** Update your motherboard's SATA controller drivers.
- **Firmware:** Check for and install any available firmware updates for the SSD.

5.3 Operating System Errors / Instability

- **Reinstall OS:** If issues persist after basic troubleshooting, consider a clean reinstallation of your operating system on the SSD.
- **Check for Bad Sectors:** Use ADATA's utility software or other diagnostic tools to check the SSD for errors.
- **Data Backup:** Always maintain regular backups of your data to prevent loss in case of drive failure.

6. SPECIFICATIONS

Below are the technical specifications for the ADATA Premier Pro SP900 256GB SSD (Model: ASP900S3-256GM-C).

Feature	Specification
Model Number	ASP900S3-256GM-C
Capacity	256 GB
Form Factor	2.5 Inch
Interface	SATA III 6Gb/s (backward compatible with SATA II 3Gb/s)
NAND Flash	MLC (Multi-Level Cell)
Sequential Read Speed	Up to 555 MB/s
Sequential Write Speed	Up to 530 MB/s
Random 4K Write Speed	Up to 85,000 IOPS
Dimensions (L x W x H)	5.12 x 5.43 x 0.98 inches (Product Dimensions)
Weight	5.3 ounces
Compatible Devices	Desktop, Laptop
Special Feature	Portable

7. WARRANTY INFORMATION

For detailed warranty terms and conditions, please refer to the official ADATA website or the warranty card included with your product packaging. Warranty periods and coverage may vary by region and product. Keep your proof of purchase for warranty claims.

8. SUPPORT

For further assistance, technical support, driver downloads, or utility software, please visit the official ADATA website:

ADATA Official Website

You may also find helpful resources and FAQs on their support pages.