

SP Silicon Power P34A60

Silicon Power 2TB NVMe M.2 PCIe Gen3x4 2280 SSD (P34A60) User Manual

1. INTRODUCTION

This manual provides essential information for the installation, operation, and maintenance of your Silicon Power P34A60 NVMe M.2 PCIe Gen3x4 2280 Solid State Drive. The P34A60 is designed to offer a significant performance upgrade for compatible systems, featuring high-speed data transfer rates and reliable storage technology. Please read this manual thoroughly before proceeding with installation or use.

2. SAFETY INFORMATION

- Always handle the SSD by its edges to avoid touching the gold connectors or components.
- Ensure your system is powered off and unplugged from the power source before installation.
- Discharge any static electricity from your body by touching a grounded metal object before handling the SSD.
- Keep the SSD away from moisture, extreme temperatures, and strong magnetic fields.
- Do not attempt to disassemble or modify the SSD, as this will void the warranty.

3. PACKAGE CONTENTS

Verify that your package contains the following items:

- Silicon Power P34A60 NVMe M.2 SSD
- Quick Start Guide (this document)

Note: Mounting screws for the M.2 slot are typically provided with your motherboard or laptop.

4. INSTALLATION GUIDE

4.1 Pre-Installation Checklist

- **Compatibility:** Ensure your motherboard or laptop has an M.2 slot that supports NVMe PCIe Gen3x4 SSDs

and specifically an M-key connector. The P34A60 SSD does not have a B-notch, so a B-key slot will prevent proper insertion.

- **Tools:** A Phillips head screwdriver may be required.
- **Backup:** If you are replacing an existing drive, back up all important data before proceeding.

4.2 Physical Installation

1. Power off your computer and disconnect all cables, including the power cord.
2. Open your computer case or laptop chassis to access the motherboard. Consult your system's manual for specific instructions.
3. Locate an available M.2 slot on your motherboard. It typically looks like a small horizontal slot with a screw stand-off at the end.
4. Carefully insert the Silicon Power P34A60 SSD into the M.2 slot at a 30-degree angle, ensuring the gold connectors are fully seated.
5. Gently push the SSD down until it is parallel with the motherboard. Secure it with the M.2 screw provided with your motherboard or laptop.
6. Close your computer case or laptop chassis and reconnect all cables.

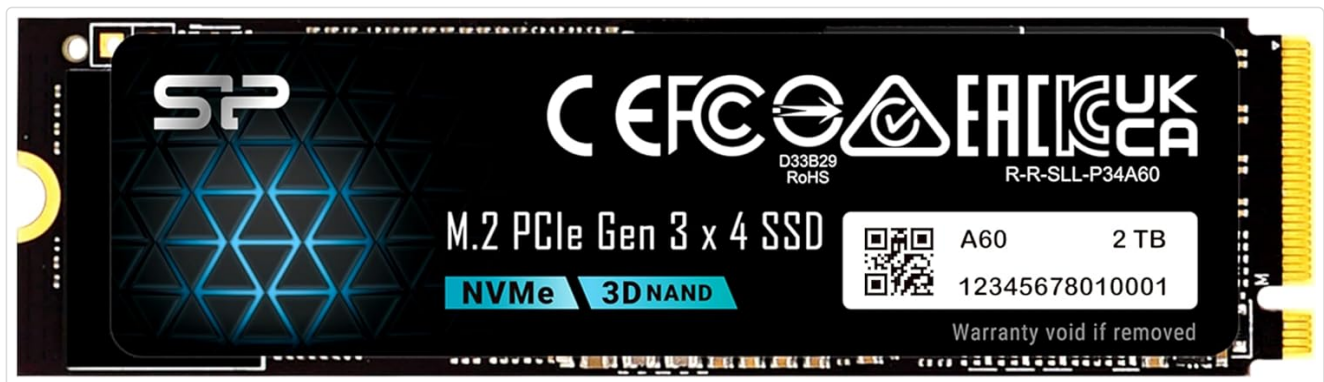


Figure 1: Top-down view of the Silicon Power P34A60 NVMe M.2 SSD, showcasing its compact form factor and labeling.

PCIe Gen 3x4 P34A60

ENHANCED PERFORMANCE

NVMe
1.3

SLC
CACHING

3D
NAND



Figure 2: The P34A60 SSD installed on a motherboard, illustrating its physical integration.

5. OPERATING INSTRUCTIONS

5.1 Initializing and Formatting the SSD

After physical installation, the SSD needs to be initialized and formatted before it can be used for storage. The steps vary slightly depending on your operating system.

For Windows:

1. Boot your computer.
2. Right-click on the Start button and select 'Disk Management'.
3. You should see your new SSD listed as 'Disk [number]' and marked as 'Unallocated'.
4. Right-click on the disk number (not the unallocated space) and select 'Initialize Disk'. Choose GPT (GUID Partition Table) for modern systems.
5. Right-click on the 'Unallocated' space of the new SSD and select 'New Simple Volume'. Follow the wizard to assign a drive letter and format the drive (NTFS is recommended).

For Linux:

1. Boot your computer.
2. Open a terminal and use a disk utility likefdisk or gparted to identify and partition the new SSD.
3. Create a new partition table (e.g., GPT).
4. Create new partitions as desired and format them with a suitable filesystem (e.g., ext4).
5. Mount the new partitions to your desired mount points.

6. PERFORMANCE FEATURES

The Silicon Power P34A60 SSD is engineered for enhanced system responsiveness and faster data handling.

- **PCIe Gen3x4 Interface:** Utilizes four lanes for simultaneous data transmission, offering significantly higher bandwidth compared to SATA SSDs.
- **High Speeds:** Achieves sequential read speeds up to 2,200 MB/s and write speeds up to 1,600 MB/s.
- **NVMe 1.3 Support:** Leverages the Non-Volatile Memory Express protocol for optimized performance and lower latency.
- **3D NAND Flash:** Employs advanced 3D NAND technology for higher storage density, improved endurance, and better power efficiency.
- **SLC Caching:** Features an SLC (Single-Level Cell) cache to boost burst write performance.
- **Data Integrity:** Incorporates LDPC (Low-Density Parity Check) coding, ECC (Error Correction Code), End-to-End Data Protection, and RAID Engine support for enhanced data reliability and stability.

Speed Up Your System

READ Up to **2200** MB/s  WRITE Up to **1600** MB/s 



Figure 3: An illustrative image highlighting the read speeds up to 2200 MB/s and write speeds up to 1600 MB/s of the P34A60 SSD, emphasizing system performance improvement.

Enhanced Data Integrity and Stability



LDPC



ECC



E2E Data
Protection



RAID Engine

Figure 4: An image depicting the P34A60 SSD with a shield graphic, representing its data integrity and stability features such as LDPC, ECC, End-to-End Data Protection, and RAID Engine support.

7. MAINTENANCE AND BEST PRACTICES

- **Firmware Updates:** Periodically check the Silicon Power official website for firmware updates for your SSD. Firmware updates can improve performance, stability, and compatibility.
- **TRIM Support:** Ensure TRIM is enabled in your operating system. TRIM helps maintain the performance and longevity of your SSD by allowing the OS to inform the SSD which data blocks are no longer in use and can be wiped.
- **Avoid Defragmentation:** Unlike traditional HDDs, SSDs do not benefit from defragmentation. Defragmenting an SSD can reduce its lifespan without improving performance.
- **Leave Some Free Space:** It is recommended to leave at least 10-15% of the SSD's capacity free to allow for optimal performance and wear leveling.
- **Regular Backups:** While SSDs are reliable, no storage device is infallible. Regularly back up your important data to prevent loss.

8. TROUBLESHOOTING

8.1 Common Issues and Solutions

- **Drive Not Showing Up in OS:**
 - Verify physical connection: Ensure the SSD is correctly seated in the M.2 slot and secured.
 - Check BIOS/UEFI: Enter your system's BIOS/UEFI settings to confirm the M.2 slot is enabled and the SSD is detected.
 - Initialize and Format: For new drives, follow the 'Initializing and Formatting the SSD' steps in Section 5.1.
 - Driver Issues: Ensure your operating system has the latest NVMe drivers.
- **Formatting Errors:**
 - Try a different partition scheme (GPT is recommended for modern systems).
 - Ensure you have administrative privileges to perform disk operations.
 - Check for bad sectors using disk utility tools (though rare for new SSDs).
- **Performance Issues (Slower than expected):**
 - Confirm PCIe Gen3x4 operation: Check your motherboard's specifications and BIOS/UEFI settings to ensure the M.2 slot is operating at full PCIe Gen3x4 speed.
 - TRIM Status: Verify TRIM is enabled in your operating system.
 - SSD Health: Use a diagnostic tool (if available from Silicon Power) to check the SSD's health and temperature.
 - System Resources: Ensure your CPU, RAM, and other components are not bottlenecking the SSD's performance.
- **Flashing Red Light on Motherboard (near M.2 slot):**
 - Some motherboards feature diagnostic LEDs. A flashing red light near the M.2 slot or general POST (Power-On Self-Test) indicators can signify a hardware issue, such as an improperly seated SSD, incompatible M.2 slot configuration, or a power delivery problem.
 - Consult your motherboard's manual to interpret the specific meaning of diagnostic LEDs.
 - Re-seat the SSD, check for bent pins, and ensure the M.2 slot is correctly configured in BIOS/UEFI.

9. SPECIFICATIONS

Feature	Specification
Digital Storage Capacity	2 TB
Hard Disk Interface	NVMe
Connectivity Technology	PCIe Gen3x4
Brand	SP Silicon Power
Special Feature	SSD
Hard Disk Form Factor	2280 Inches
Hard Disk Description	Solid State Drive

Compatible Devices	Laptop, PC
Installation Type	Internal Hard Drive
Item Model Number	P34A60
Item Weight	0.705 ounces
Product Dimensions	0.63 x 4.37 x 4.92 inches
Manufacturer	SP Silicon Power
TBW (Total Bytes Written)	1200

10. WARRANTY AND TECHNICAL SUPPORT

Silicon Power SSDs come with a limited warranty. The warranty terms are based on whether the warranty length or the Total Bytes Written (TBW) limit occurs first. Please refer to the official Silicon Power website for the most current and detailed warranty information specific to your region and product model.

For technical assistance, troubleshooting, or warranty claims, please contact Silicon Power U.S. Tech Support:

- **Email:** USTech@silicon-power.com

Our U.S. tech team can assist with common issues such as drive not showing up, formatting errors, or device malfunction.

For additional resources and product information, visit the official [SP Silicon Power 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