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› Samsung SSD 860 EVO 1TB 2.5 Inch SATA III Internal SSD User Manual

Samsung 860 EVO (MZ-76E1T0B/AM)

Samsung SSD 860 EVO 1TB 2.5 Inch SATA III Internal SSD User Manual

Model: 860 EVO (MZ-76E1T0B/AM) | Brand: Samsung

1. INTRODUCTION

The Samsung 860 EVO is a high-performance 2.5-inch SATA III internal Solid State Drive designed to enhance the speed and responsiveness of mainstream PCs and laptops. Utilizing advanced V-NAND technology, this SSD delivers consistent speeds and improved endurance for various computing tasks, from everyday use to handling large 4K video and 3D data files.



Figure 1: Front view of the Samsung 860 EVO SSD, showcasing its sleek black design with the Samsung Solid State Drive logo.

Key features include sequential read speeds of up to 550MB/s and sequential write speeds of up to 520MB/s, supported by Intelligent TurboWrite technology. The drive also offers robust data protection through AES 256-bit hardware-based encryption, compliant with TCG Opal and IEEE 1667 standards. Its enhanced endurance ensures reliability for demanding applications and long-term data storage.

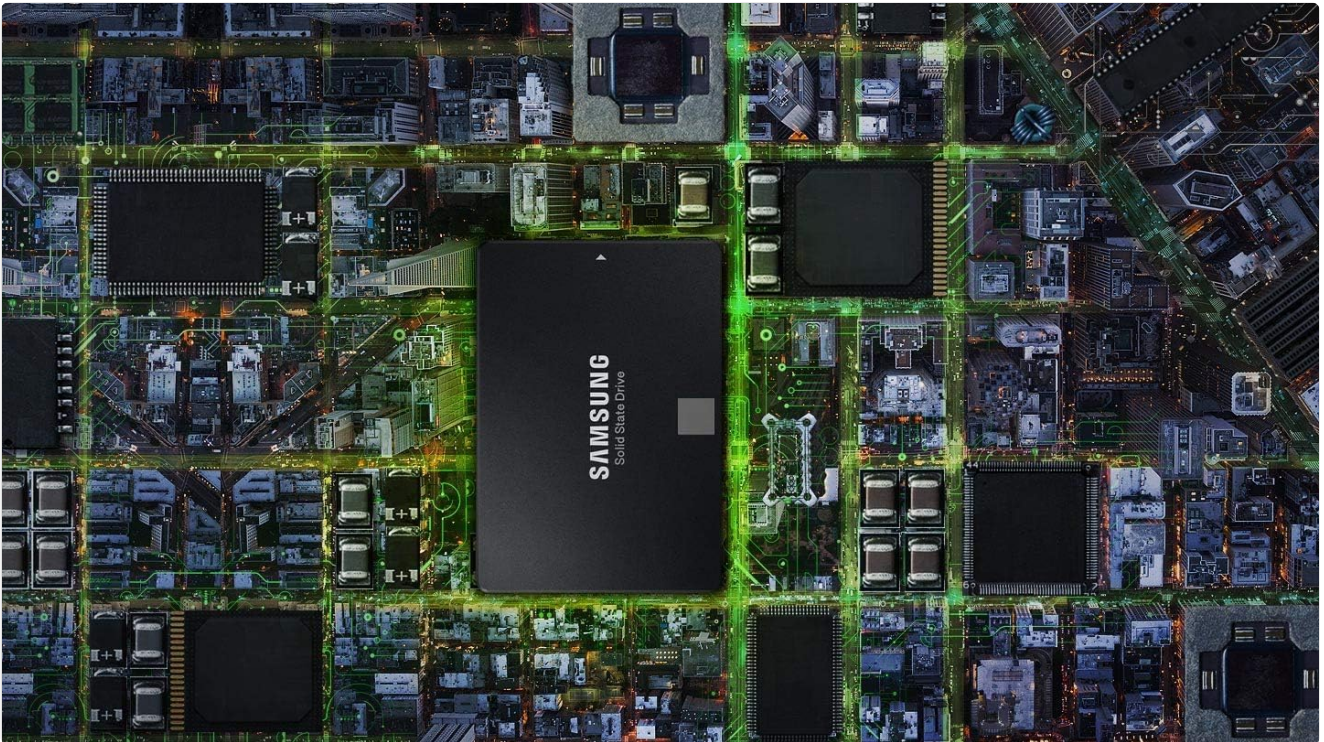


Figure 2: Conceptual image of the Samsung 860 EVO SSD integrated within a complex circuit board, illustrating its role as a core component in modern computing systems.

2. SETUP AND INSTALLATION

Installing the Samsung 860 EVO SSD is a straightforward process. This SSD is designed to fit into standard 2.5-inch drive bays found in most desktop PCs and laptops. Ensure your system has a compatible SATA III (6Gb/s) interface.

2.1 Package Contents

- Samsung 860 EVO 2.5-inch (7mm) SATA III (6Gb/s) SSD
- User Manual (this document)

Note: All other necessary cables, screws, and mounting brackets are not included and must be acquired separately.

2.2 Physical Installation

1. **Preparation:** Power off your computer and disconnect all cables. For laptops, remove the battery.
2. **Access Drive Bay:** Open your computer case or laptop's drive bay compartment. Refer to your computer's manual for specific instructions.
3. **Mount the SSD:** Secure the 860 EVO SSD into an available 2.5-inch drive bay using appropriate screws. The installation type is typically screw-in.
4. **Connect Cables:** Connect a SATA data cable from the SSD to an available SATA port on your motherboard. Then, connect a SATA power cable from your power supply unit to the SSD.



Figure 3: Side view of the Samsung 860 EVO SSD, highlighting the standard SATA data and power connectors for easy integration into a computer system.

2.3 Data Migration (Optional)

If you are replacing an existing drive, Samsung provides Data Migration software to easily transfer your operating system, applications, and data to the new 860 EVO SSD. You may need a USB-to-SATA III cable to connect the SSD externally during the cloning process.

- Download the Samsung Data Migration software from the official Samsung website.
- Follow the on-screen instructions provided by the software to clone your old drive to the 860 EVO SSD.

3. OPERATING THE SSD

Once installed and configured, the Samsung 860 EVO operates as a standard storage device. Its solid-state nature provides significant performance advantages over traditional hard disk drives.

3.1 Performance Benefits

- **Faster Boot Times:** Experience significantly reduced operating system boot-up times.
- **Quick Application Loading:** Applications and programs launch much faster compared to mechanical drives.
- **Improved Responsiveness:** Overall system responsiveness is enhanced, especially during multi-tasking and heavy workloads.
- **Silent Operation:** As there are no moving parts, the SSD operates silently.

3.2 Samsung Magician Software

The Samsung Magician software is a utility designed to help users manage and optimize their Samsung SSDs. It provides features such as:

- **Performance Benchmark:** Test the read and write speeds of your SSD.
- **Firmware Update:** Keep your SSD's firmware up to date for optimal performance and stability.
- **Drive Health Check:** Monitor the health and estimated remaining lifespan of your SSD.
- **Over Provisioning:** Allocate additional space for background operations to improve endurance and performance.
- **Secure Erase:** Permanently delete data from the SSD.

Download the Samsung Magician software from the official Samsung website for the best experience.

3.3 Secure Encryption

The 860 EVO supports advanced security options, including AES 256-bit hardware-based encryption. This feature is compliant with TCG Opal and IEEE 1667 standards, providing robust protection for your data. Enable these security features through your operating system or compatible third-party software if required.

4. MAINTENANCE AND LONGEVITY

To ensure the long-term performance and reliability of your Samsung 860 EVO SSD, consider the following maintenance practices:

- **TRIM Support:** Ensure your operating system has TRIM enabled. TRIM helps the SSD manage its storage space efficiently, preventing performance degradation over time. Most modern operating systems enable TRIM by default for SSDs.
- **Avoid Defragmentation:** Unlike traditional HDDs, SSDs do not benefit from defragmentation. Performing defragmentation on an SSD can reduce its lifespan by increasing unnecessary write cycles.
- **Keep Sufficient Free Space:** While not strictly necessary, maintaining some free space on your SSD can help optimize its performance and endurance.
- **Firmware Updates:** Regularly check for and install firmware updates using the Samsung Magician software. Firmware updates can improve performance, fix bugs, and enhance compatibility.
- **Reliability:** The 860 EVO boasts a Mean Time Between Failures (MTBF) of 1.5 million hours and boosted endurance of up to 8x higher Terabytes Written (TBW) compared to its predecessor, the 850 EVO. This indicates a high level of durability for typical usage scenarios.

5. TROUBLESHOOTING

If you encounter issues with your Samsung 860 EVO SSD, consider the following common troubleshooting steps:

5.1 SSD Not Detected

- **Check Connections:** Ensure the SATA data and power cables are securely connected to both the SSD and

the motherboard/power supply.

- **BIOS/UEFI Settings:** Verify that the SATA port to which the SSD is connected is enabled in your system's BIOS/UEFI settings. Also, ensure the SATA mode is set to AHCI for optimal SSD performance.
- **Disk Management (Windows):** If the SSD is new, it might need to be initialized and formatted in Disk Management (right-click 'This PC' > 'Manage' > 'Disk Management').
- **Try Different Port/Cable:** Test the SSD with a different SATA port and/or a different set of SATA data and power cables.

5.2 Performance Issues

- **TRIM Status:** Confirm that TRIM is enabled for your operating system.
- **Firmware:** Ensure your SSD's firmware is up to date using Samsung Magician software.
- **SATA III Port:** Verify that the SSD is connected to a SATA III (6Gb/s) port on your motherboard, not an older SATA II (3Gb/s) port, to achieve maximum speeds.
- **Operating System Compatibility:** The 860 EVO is compatible with Windows 8/7/Server 2003 (32-bit and 64-bit), Vista (SP1+), XP (SP2+), MAC OSX, and Linux. Ensure your OS is supported.

5.3 Data Corruption or Instability

- **Power Supply:** Ensure your power supply unit provides stable and sufficient power to all components, including the SSD.
- **System Drivers:** Keep your motherboard chipset drivers updated.
- **Run Diagnostics:** Use Samsung Magician's diagnostic tools to check the SSD's health.

6. SPECIFICATIONS

Detailed technical specifications for the Samsung 860 EVO 1TB SSD:

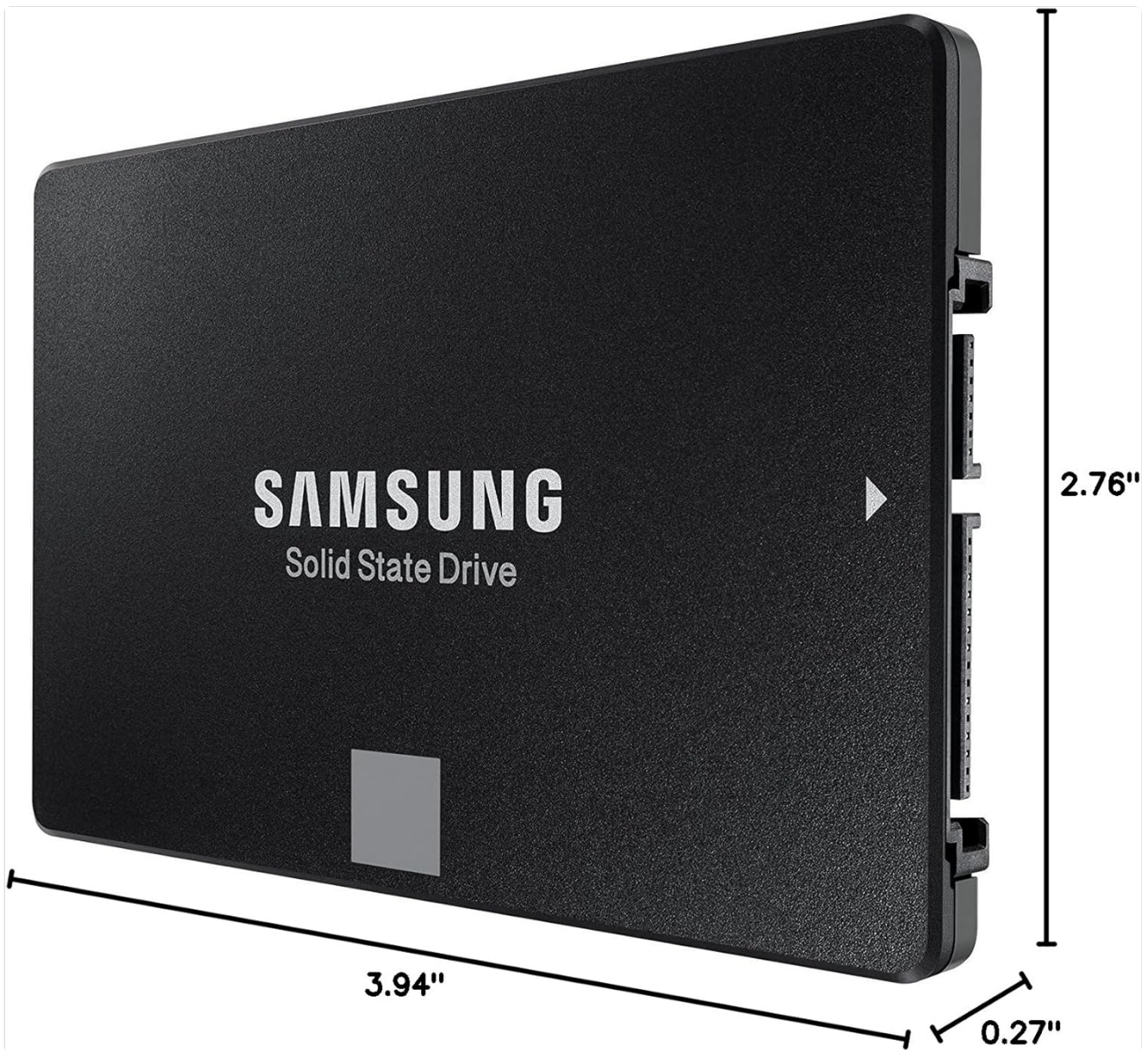


Figure 4: Diagram illustrating the physical dimensions of the Samsung 860 EVO SSD: 3.94 inches (length) x 2.76 inches (width) x 0.27 inches (height).

Feature	Detail
Model Name	860 EVO
Part Number	MZ-76E1T0B/AM
Digital Storage Capacity	1 TB
Hard Disk Interface	SATA 6 GB/s (SATA III)
Form Factor	2.5 Inches
Sequential Read Speed	Up to 550 MB/s
Sequential Write Speed	Up to 520 MB/s
Flash Memory Size	1000 GB
Item Weight	1.8 ounces (approx. 51 grams)
Product Dimensions (LxWxH)	3.94 x 2.76 x 0.27 inches (100 x 70 x 6.8 mm)

Color	Black
Hardware Platform	PC, Mac
Operating System Compatibility	Windows 8/7/Server 2003 (32-bit and 64-bit), Vista (SP1+), XP (SP2+), MAC OSX, Linux
Manufacturer	Samsung Electronics DAV
MTBF (Mean Time Between Failures)	1.5 Million Hours
Encryption	AES 256-bit Hardware-based Encryption (TCG Opal, IEEE 1667)

7. WARRANTY AND SUPPORT

7.1 Warranty Information

The Samsung 860 EVO SSD comes with a **5-year limited warranty**. This warranty covers defects in materials and workmanship under normal use. Please retain your proof of purchase for warranty claims.

7.2 Official User Manual (PDF)

For a more detailed official user manual in PDF format, please refer to the following link [Samsung 860 EVO User Manual \(PDF\)](#)

7.3 Customer Support

For further assistance, technical support, or warranty inquiries, please visit the official Samsung support website or contact their customer service. Specific contact details can be found on the Samsung website for your region.

8. PRODUCT VIDEOS

No official seller videos were provided for this product in the available data.
