

SAMSUNG

# Product Presentation

## SSD 870 **EVO**



Confidential - for internal usage only  
December, 2020

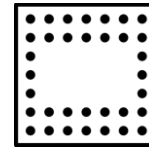
# Introduction

# SSD | In-house, seamless integration. For all our SSDs.



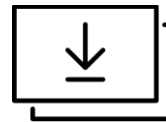
## NAND

Samsung's latest V-NAND technology



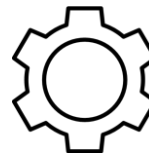
## DRAM

World's leading DRAM supplier for over 20 years



## Firmware

In-house software algorithm for seamless connectivity and fast troubleshooting



## Controller

In-house Samsung controller

# Samsung SATA SSD: A decade of success

## 470/830/840 Series (2011/2012/2013)



- Market launch in Germany
- Brand awareness
- Performance standard
- Industry-wide, leading reliability
- PRO: Unrivaled performance for professional users
- EVO: World premiere of an SSD with 3-bit MLC NAND flash

## 850 Series (2014)



- Bestselling SSD in the world
- PRO: World premiere of an SSD with V-NAND flash
- EVO: World premiere of an SSD with V-NAND flash and 3-bit MLC

## 860 Series (2018)



- Fourth generation V-NAND technology
- Highest performance and TBW specification in the 2.5" SATA segment

## 860 QVO (2019)



- One of the first SATA SSDs with 4-bit MLC NAND flash

## 870 QVO (2020)



- First SATA SSD with up to 8TB on the consumer market
- Affordable high capacity SSD to reach a broader target audience

## 870 EVO (2021)



- Samsung's latest model of the world's best-selling SSD series
- Best in-class SATA performance
- New MXK controller

From 2013:

- 1 TB capacity
- RAPID mode/TurboWrite

# 860 EVO Market Feedback

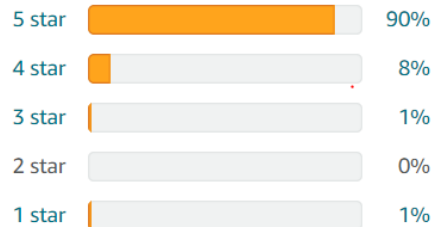
860 EVO has received overwhelmingly positive feedback from customers and tech media in regards to performance and quality of the product.

## Amazon.de Customer Reviews

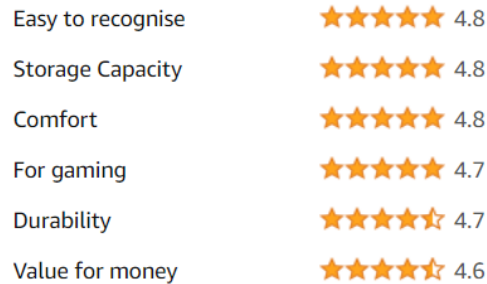
### Customer reviews

★★★★★ 4.9 out of 5

42,647 global ratings



### By feature



"Loading times are about 30% less with the 860 EVO SSD. Copying and starting data is also much faster. Definitely worth for every gamer. The installation is very easy. Samsung SSDs have never disappointed me before."

"The 860 Evo SSD drive is super fast and the price is fully justified. I wanted to discard my 6 years old laptop but after I installed the SSD the laptop is as fast as never before!"

## Tech Media Reviews



"The 860 EVO has received five stars from all readers in the core disciplines of writing and reading speed, noise level and processing - which means that there is no room for improvement!"



"The SATA SSD 860 EVO from Samsung stores and reads data with a top speed. The price is quite attractive for a new SSD of this size and performance."



Awards from left to right:

Computer Testsieger sehr gut (1,3), 01/2020, zu SSD 860 EVO 1TB; im Test | CHIP: Sehr gut (1,0), 02/2020, zu SSD 860 EVO 2TB; No license purchased - must not be used | CHIP: Sehr gut (1,1), 09/2020, zu SSD 860 EVO 4TB; im Test; No license purchased - must not be used! |

# 870 EVO in a nutshell



## Excellence in Performance

Maximum SATA interface sequential speeds of 560/530 MB/s, improved random speed & sustainable performance



## The World's favorite SSD

The latest model in the world's best-selling SSD series



## New packaging

870 EVO comes in a new package design. With the vertical look, it appears nice and sleek.



## Attractive pricing




870 EVO comes at the same price level as 860 EVO



# Value Proposition & Focus

## USPs

# SATA SSD | Product Positioning (1 TB)

	Product Focus	Key-Feature	Performance Read/Write (up to)	Reliability (TBW)*
Professional	 <p><b>860 PRO</b></p>	<p>Professional Performance</p>	<p>Ultimate reliability &amp; enduring high MLC performance even with heavy workloads</p>	<p>560 / 530 MB/s</p> <p>1,200 TB</p>
Professional users, for high-end computing				
Performance	 <p><b>870 EVO</b></p>	<p>SATA SSD for mainstream usage and intensive computing</p>	<p>Maximum SATA interface sequential speeds and the industry-defining reliability that comes with the market's highest TBW rating</p>	<p>560 / 530 MB/s</p> <p>600 TB</p>
Mainstream PC users (for better PC performance) and Intensive computing users (IT professionals, Gamers and heavy content creators)				
Value	 <p><b>870 QVO</b></p>	<p>Fast high-capacity alternative to a HDD</p>	<p>Ideal price/performance ratio and highest capacity SATA SSD on the consumer market.</p>	<p>560 / 530 MB/s</p> <p>360 TB</p>
General users, who require cost effective SSD with high capacity				

\*1 TB capacity, exp. RRP Jan 2021



**SAMSUNG**

# SSD 870 EVO

Ein zuverlässiger  
Allrounder unter  
den SSDs



# SSD 870 EVO – Value Proposition

## 870 EVO

870 EVO is the Samsung's latest model of the world's best-selling SSD series, with the latest V-NAND technology and the new MKX controller. 870 EVO proves why the EVO series has been the **favorite choice** among general users by showing the **best in-class performance, committed reliability** and **convenient usage** with a variety of features

Best In-Class Performance

Committed Reliability

Convenient Usage

# SSD 870 EVO – Focus USPs

## Best In-Class Performance



## Committed Reliability



## Convenient Usage



- 860 EVO performance reaches the limits in the SATA interface.
  - Sequential Read/Write (560/530 MB/s)
  - Random Read/Write (98/88 KIOPS)

- Up to 2,400 TBW guaranteed endurance.
- Sustained random write performance has increased up to 30%, allowing the 870 EVO to provide better performance consistently.

- Thanks to the low devslp power consumption of 870 EVO, the latest modern standby feature is available, allowing users to experience instantaneous interaction.
- Powerful software for easy upgrade and SSD management. (Samsung Data Migration 4, Magician 6)

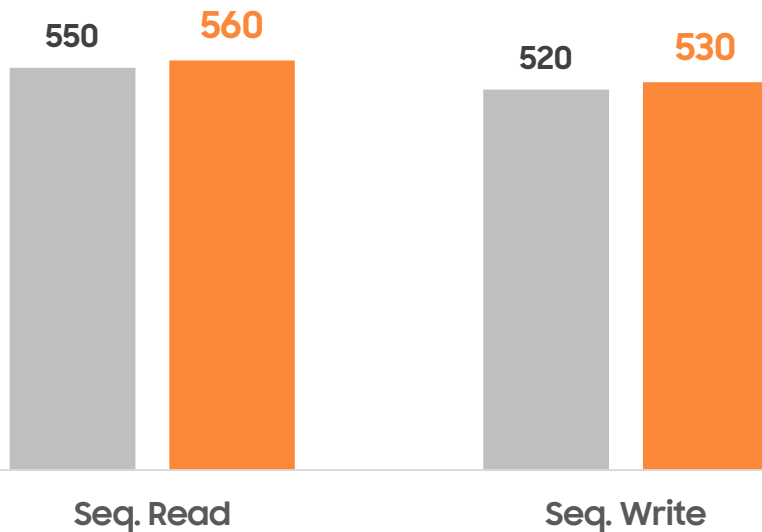
# SSD 870 EVO – Best In-Class Performance

The 870 EVO provides **best in class performance** as sequential read (up to 560 MB/s) and write (up to 530 MB/s) approaches the limits of performance available with the SATA interface. These improvements are accompanied by enhanced random performance, bringing **up to 38% higher speeds** than 860 EVO in low queue depth workloads (QD1) which makes it an **ideal solution for everyday computing experiences**.

### Sequential Performance

(Unit: MB/s)

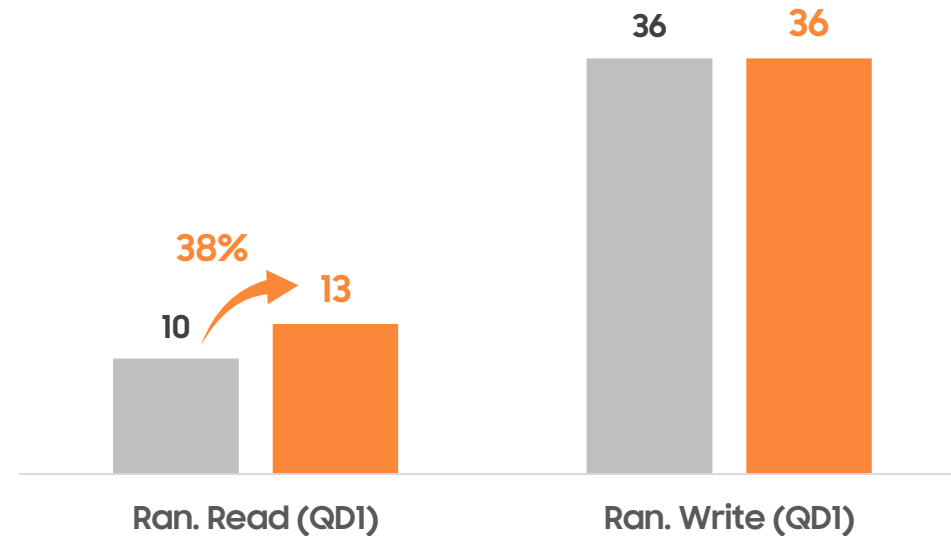
■ 860 EVO ■ 870 EVO



### Random Performance

(Unit: K IOPS)

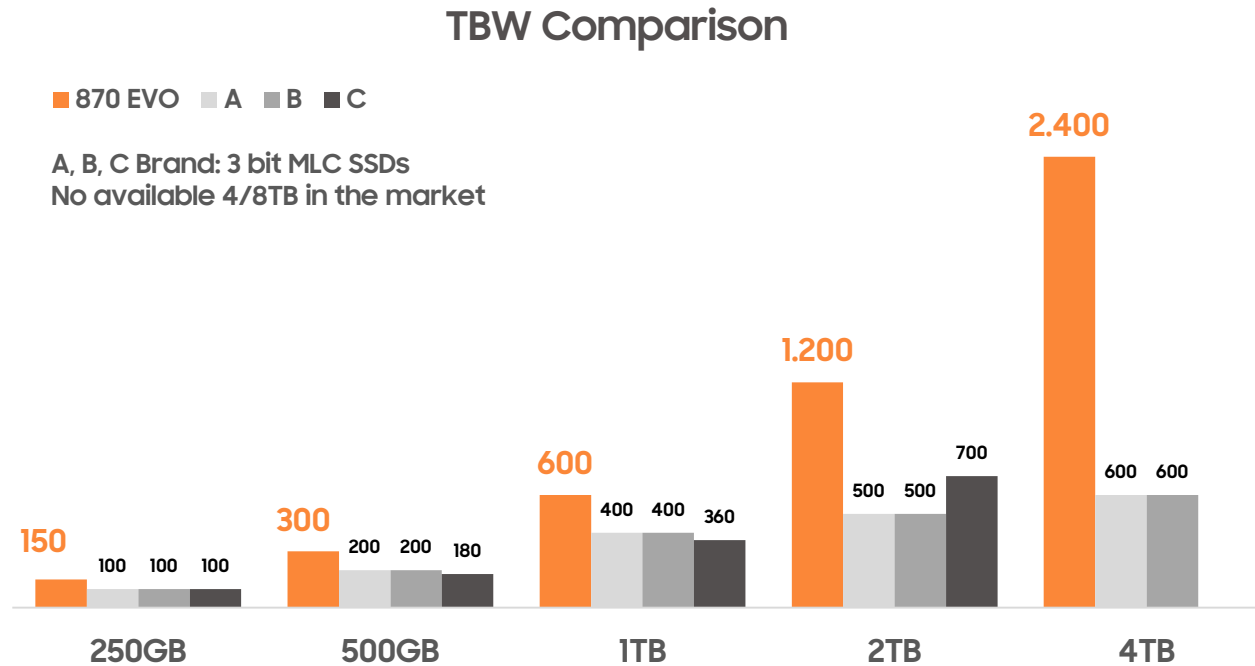
■ 860 QVO ■ 870 QVO



Performance measured on Windows 10 system

# SSD 870 EVO – Committed Reliability – Guaranteed Endurance

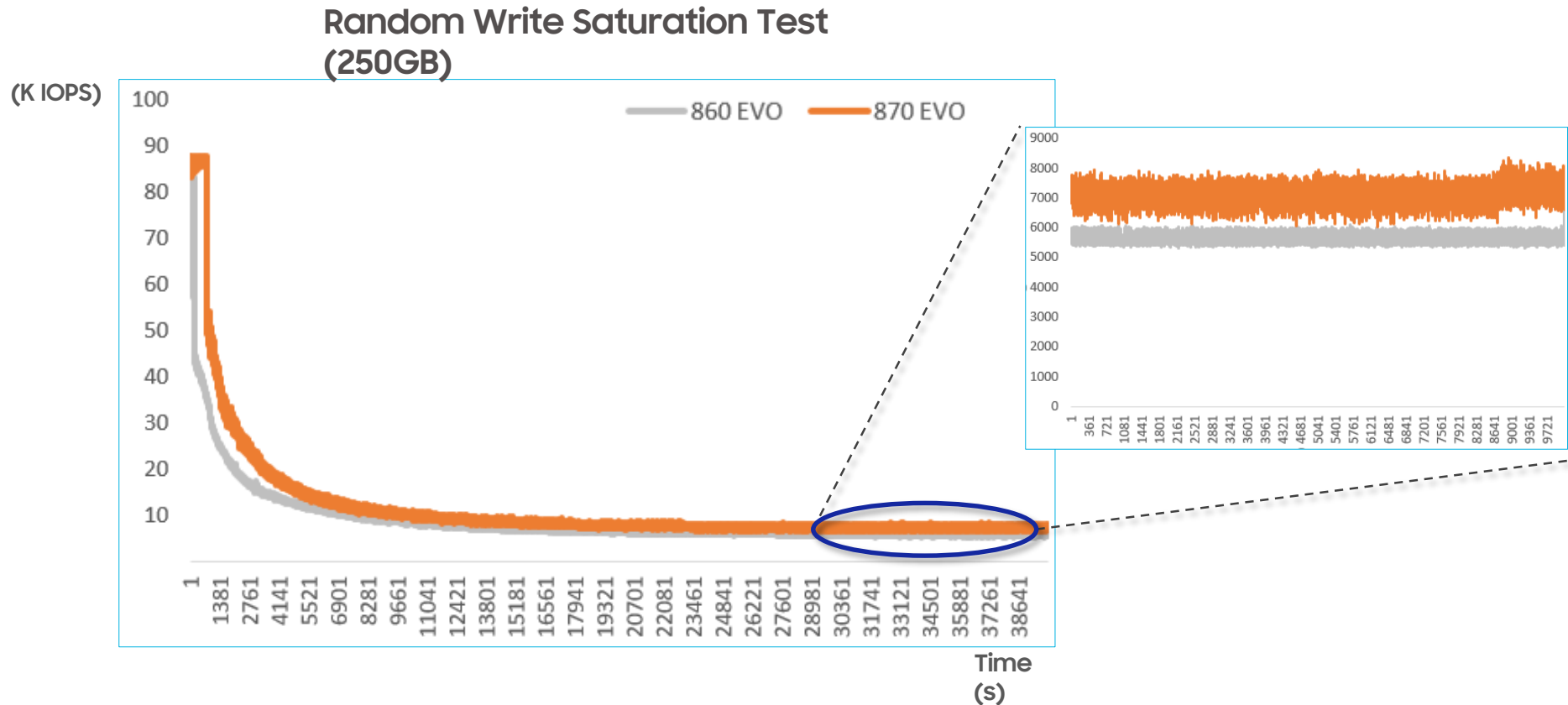
870 EVO provides an **industry leading** amount of up to **2,400 TBW**, which is sufficient enough for daily use. 870 EVO guarantees both the endurance and the performance within TBW and comes along with a **5-year limited warranty**.



\* All documented endurance test results are obtained in compliance with JESD218 Standards. Please visit [www.jedec.org](http://www.jedec.org) for detailed information on JESD218 Standards

# SSD 870 EVO - Committed Reliability - Sustained Performance

Sustained random write performance has **increased up to 30%\***, allowing the 870 EVO to provide better performance consistently.



\* For 250 GB model | Performance measured on Windows 10 system

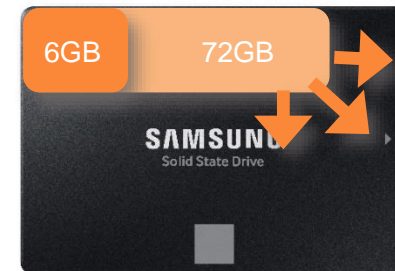
# SSD 870 EVO – Intelligent TurboWrite Technology

870 EVO provides Intelligent TurboWrite to **improve the user experience**. Intelligent TurboWrite **accelerates write speeds** and maintains **long-term high performance** by using a pre-allocated SLC buffer.

Capacity	Total Region	Default Region	Intelligent Region
250GB	12GB	3GB	9GB
500GB	22GB	4GB	18GB
1TB	42GB	6GB	36GB
2TB	78GB	6GB	72GB
4TB	78GB	6GB	72GB



Light workload



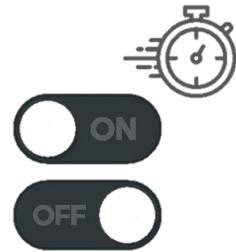
Heavy workload

870 EVO allocates up to 78GB Intelligent TurboWrite region

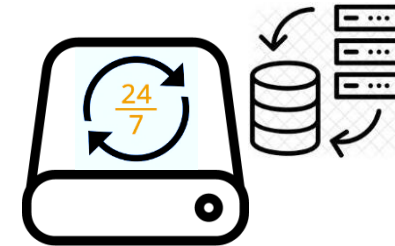
# SSD 870 EVO – Convenient Usage – Modern Standby

Thanks to the low device sleep power (under 5mW) of 870 EVO, the latest modern standby feature is available, allowing users to **experience instantaneous interaction** similar to that of smartphones.

Modern Standby User Experience (Win 8 & 10, SATA 3.2 interface)



① **Instant On/Off** user experience between sleep and active mode



② **Background activity in sleep mode** with low power consumption (Stay up-to-date)

\* System Requirement for modern standby : <5mW power for device, <100ms exit latency, OS ver Win 8 or higher, SATA 3.2 interface

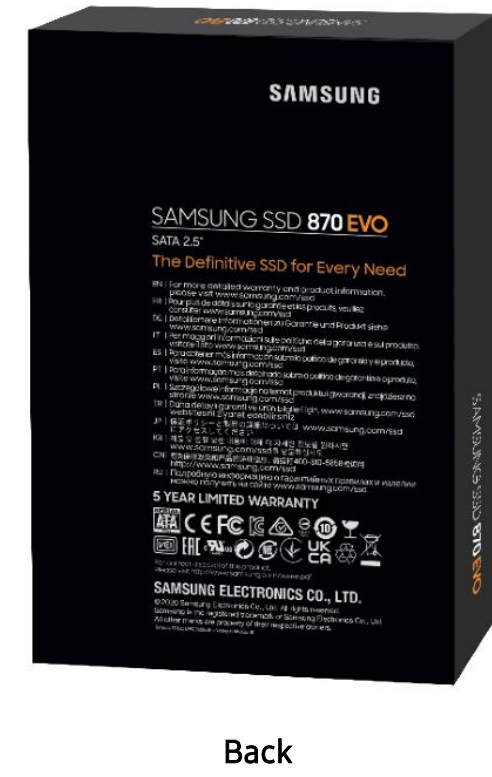
\* 870 EVO 250GB to 2TB models support modern standby

\* Introduction for Modern Standby(Microsoft) : <https://docs.microsoft.com/en-us/windows-hardware/design/device-experiences/modern-standby>



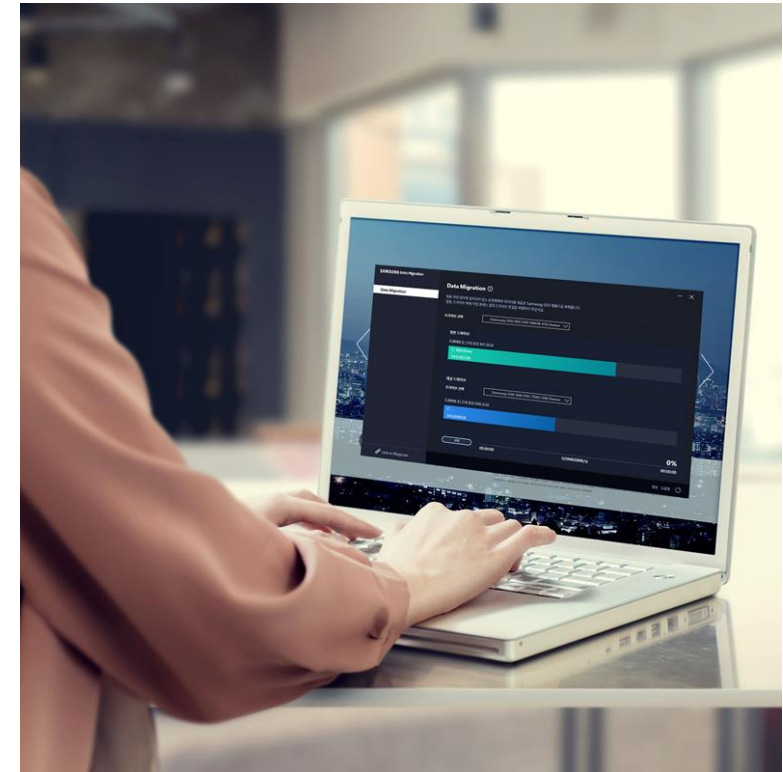
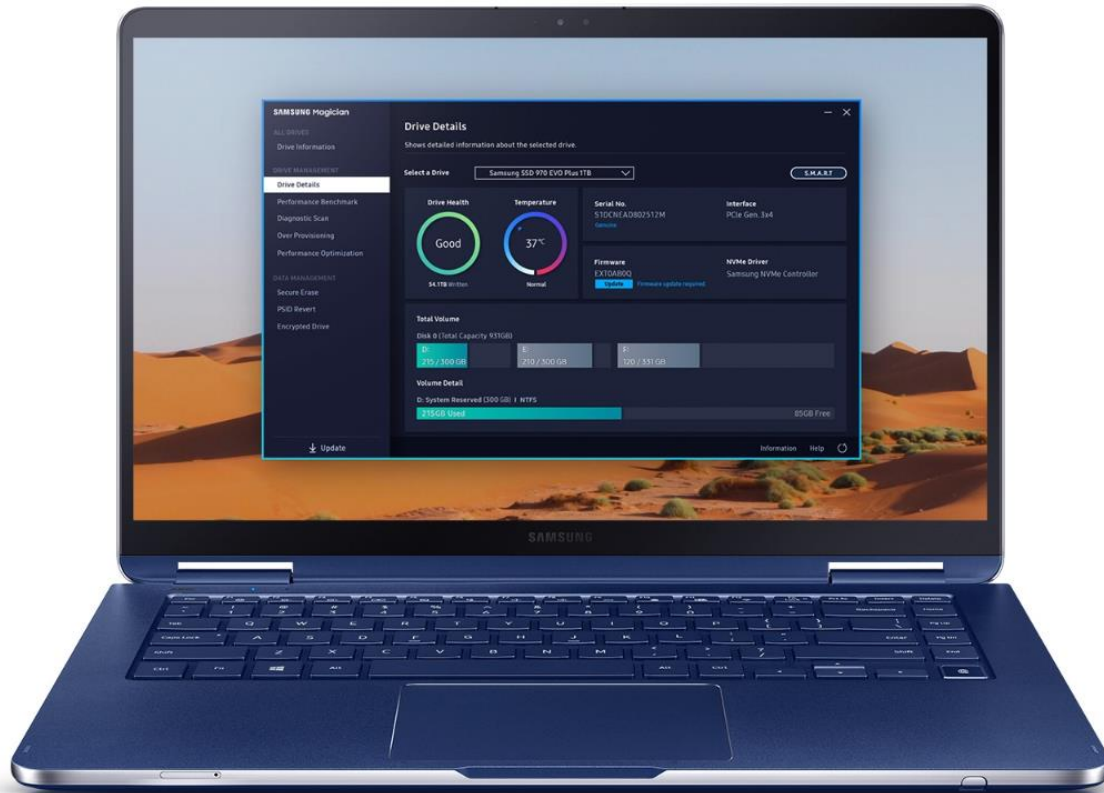
# SSD 870 EVO – Package Details

Package Design is changed to a **vertical look** for better visibility on retail shelves.



# Samsung Magician 6.1 & Data Migration 4.0

Renewed with a unified design, Magician 6.1 & Data Migration 4.0 provides **powerful features & convenient upgrade experience** to Samsung SSD users.



# Samsung Magician 6.

Magician 6 was **wholly renewed** with a new intuitive user experience and support for new features – Diagnostic Scan, PSID Revert.

## Main Features

### Drive Health Check

Get an instant diagnosis of your drive, including Total Bytes Written, to assess the overall health of your SSD.

### Performance Benchmark

Inspect your SSD's sequential and random read/write speed, and compare the scores with past results.

### Performance Optimization

Restore the performance of the SSD from degradation by TRIM and achieve faster performance through RAPID Mode.

## New Features

### PSID Revert

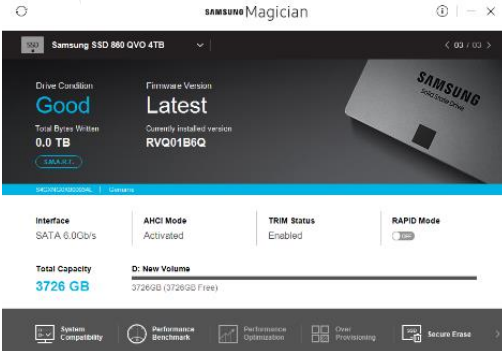
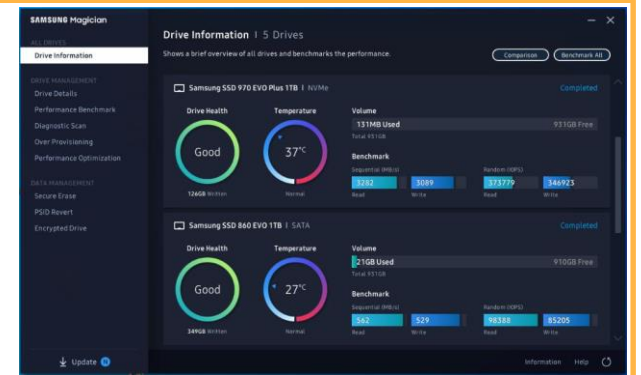
Unlock and reset your drive to its factory setting by entering the 32-character PSID password printed on the drive label.

### Diagnostic Scan

Identify and fix potential problems with partial or full scans to maintain your drive's capabilities.

## UX Changes

### Magician 6



Magician 5

# Appendix

# Package Information

- Package Dimension

Package	L (mm)	W (mm)	H (mm)	Weight (g)				
				250GB	500GB	1TB	2TB	4TB
Product	100.0	69.9	6.8	44.6	44.6	44.8	45.6	47.6
Basic Box (with Product)	143.4	98.1	22.1	88.4	88.4	88.6	89.4	91.4

# Specification

Confidential

		870 EVO	860 EVO
Interface		SATA 6Gbps	SATA 6Gbps
Form Factor		2.5"	2.5", mSATA, M.2
Hardware	NAND	1XXL V-NAND 3bit MLC	9XL V-NAND 3bit MLC
	Controller	MKX	MJX
	DRAM	4GB LPDDR4 (4TB) 2GB LPDDR4 (2TB) 1GB LPDDR4 (1TB) 512MB LPDDR4 (250/500GB)	4GB LPDDR4 (4TB) 2GB LPDDR4 (2TB) 1GB LPDDR4 (1TB) 512MB LPDDR4 (250/500GB)
Available User capacity		4TB, 2TB, 1TB, 500GB, 250GB	4TB, 2TB, 1TB, 500GB, 250GB
Seq. Read/Write (MB/s)		Up to <b>560 / 530</b>	Up to 550 / 520
Ran. Read/Write (IOPS)	QD1	Up to 13,000 / 36,000	Up to 13,000 / 36,000
	QD32	Up to 98,000 / 88,000	Up to 98,000 / 88,000
Device sleep		2.5 mW support (Up to 6.5 mW for 4TB)	2 mW support (Up to 8 mW for 4TB)
Data encryption		Class 0 (AES 256) TCG/Opal v2.0, MS eDrive (IEEE1667)	Class 0 (AES 256) TCG/Opal v2.0, MS eDrive (IEEE1667)
Total Bytes Written		Up to 2,400 TBW	Up to 2,400 TBW
Warranty		5 year limited	5 year limited

※ Performance measured on Windows 10 system

**Thank you**

**Marketing**  
IM Storage

# Data Security

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