

# Samsung SSD 750 EVO

Data Sheet, Rev.2.1 (October, 2016)



## Summary

- SATA 6Gb/s SSD for Client PCs
- 2.5 inch form factor
- Samsung NAND Flash Memory
- Samsung Magician Software for SSD management
- Samsung Data Migration Software

## Bring heightened performance, reliability and security to PC storage.

### Boost productivity with ultrafast computing speeds

The Samsung 750 EVO boasts a fast random read/write (R/W) performance of

up to 97K/88K Input/Output Operations Per Second (IOPS). With TurboWrite, write speeds for the 750 EVO are significantly accelerated during data transfers by creating a high-performance write buffer in the SSD. If a consecutive write operation (i.e. no idle time) exceeds the size of the buffer, the transfer will exit TurboWrite and be processed at "After TurboWrite" speeds. Once the buffer is cleared, TurboWrite performance will resume. However, the buffer size for TurboWrite is more than sufficient for everyday PC use, and you should experience accelerated speeds for most workloads.

### Work worry-free anywhere with solid reliability

With no moving parts, the NAND flash-based 750 EVO provides superb durability and is lightweight, making it the ideal choice for working on the go. It is also

shock and vibration resistant for worry-free operation. Guaranteeing up to 100 Terabytes Written (TBW) or up to 3 years\* with 1.5 million Mean Time Between Failures (MTBF), the 750 EVO provides outstanding reliability.

\* 3 years or TBW (see page 3), whichever comes first.

## Secure priceless data with advanced data encryption

Data security is of the utmost importance for businesses and personal PC use as well.

The 750 EVO ensures it remains safe with Samsung SED technology. It includes an AES 256-bit hardware-based encryption engine to ensure that your personal files remain secure. Being hardware-based, the encryption engine secures your data without performance degradation that you may experience with a software-based encryption.

## Convenient Samsung Software

The Samsung Data Migration software is simple to use – yet provides a very powerful “Custom Cloning” feature that makes migration work even when source data is greater than the SSD’s capacity.

The magician software eliminates the confusion and uncertainties of SSD management, making it simple for users to maximize the performance and lifetime of their Samsung SSD. In addition to its performance optimization features, Magician also provides 750 EVO users the option to enable RAPID mode (Real time Accelerated Processing of Input-output Data) – an innovative performance enhancement that processes data on a system level by using free DRAM memory as a cache. Once enabled in Magician, RAPID mode provides an overall PC performance boost

## Technical Specifications

Samsung SSD 750 EVO	
Usage Application	Client PCs
Capacity	120GB, 250GB, 500GB
Dimensions (LxWxH)	100 x 69.85 x 6.8 (mm)
Interface	SATA 6Gb/s (compatible with SATA 3Gb/s and SATA 1.5Gb/s)
Form Factor	2.5 inch
Controller	Samsung MGX controller
NAND Flash Memory	Samsung NAND Flash Memory
DRAM Cache Memory	256MB DDR3 for 120GB and 250GB, 512MB LPDDR3 for 500GB
Performance*	Sequential Read: Max. 540 MB/s
	Sequential Write** : Max. 520 MB/s
	4KB Random Read (QD1): Max. 10,000 IOPS
	4KB Random Write(QD1): Max. 40,000 IOPS
	4KB Random Read(QD32): Max. 94,000 IOPS (120GB) Max. 97,000 IOPS (250GB) Max. 98,000 IOPS (500GB)
	4KB Random Write(QD32): Max. 88,000 IOPS
Data Security	AES 256-bit Full Disk Encryption (FDE)
Weight	Max. 45g
Power Consumption***	Active (Average, Type): Max. 3.7W Idle: 50mW Device Sleep: 5mW
Supporting features	TRIM (Required OS support), Garbage Collection, S.M.A.R.T
Temperature	Operating: 0°C to 70°C Non-Operating: -40°C to 85°C
Humidity	5% to 95%, non-condensing
Vibration	Non-Operating: 20~2000Hz, 20G
Shock	Non-Operating: 1500G , duration 0.5m sec, 3 axis
Reliability	MTBF: 1.5 million hours
TBW	120GB: 35 TBW(Tera-Bytes Written) 250GB: 70 TBW 500GB: 100 TBW
Warranty	3 years limited

\* Sequential performance measurements based on CrystalDiskMark v.3.0.1. Random performance measurements based on Iometer1.1.0. Performance may vary based on SSD's firmware version, system hardware & configuration.

Test system configuration : Intel Core i7-4790K @ 4.0GHz, DDR3 1600MHz 8GB, OS – Windows7 Ultimate x64 SP1, IRST 13.0.3.1001, Chipset : Intel® Z97PRO

\*\* Sequential Write performance measurements based on TurboWrite technology. . The sequential write performances after TurboWrite region are 130MB/s(120GB), 250MB/s(250GB) and 300MB/s(500GB).

\*\*\* Power consumption measured with Iometer 1.1.0 with Intel i7-4770K, DDR3 8GB, Intel®DH87RL OS- Windows7 Ultimate x64 SP1

## Product Lineup

Density	Model Name	Box Contents	Model Code
120 GB*	MZ-750120	Samsung SSD 750 EVO 120GB Warranty statement	MZ-750120BW MZ-750120B/CN MZ-750120B/KR
250 GB*	MZ-750250	Samsung SSD 750 EVO 250GB Warranty statement	MZ-750250BW MZ-750250B/CN MZ-750250B/KR
500 GB*	MZ-750500	Samsung SSD 750 EVO 500GB Warranty statement	MZ-750500BW MZ-750500B/CN MZ-750500B/KR

\* GB: 1GB = 1,000,000,000 bytes. A certain portion of capacity may be used for system file and maintenance use, thus the actual capacity may differ that indicated on the product label.

For more information, please visit

[www.samsung.com/ssd](http://www.samsung.com/ssd) and

[www.samsungssd.com](http://www.samsungssd.com).

To download the latest software & manuals, please visit [www.samsung.com/samsungssd](http://www.samsung.com/samsungssd)

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