

# Samsung Magician v.4.3

## Introduction and Installation Guide

2013.12 (Rev 1.2.)

# Legal Disclaimer

---

SAMSUNG ELECTRONICS RESERVES THE RIGHT TO CHANGE PRODUCTS, INFORMATION AND SPECIFICATIONS WITHOUT NOTICE.

Products and specifications discussed herein are for reference purposes only. All information discussed herein is provided on an “AS IS” basis, without warranties of any kind. This document and all information discussed herein remain the sole and exclusive property of Samsung Electronics. No license of any patent, copyright, mask work, trademark or any other intellectual property right is granted by one party to the other party under this document, by implication, estoppels or otherwise. Samsung products are not intended for use in life support, critical care, medical, safety equipment, or similar applications where product failure could result in loss of life or personal or physical harm, or any military or defense application, or any governmental procurement to which special terms or provisions may apply. For updates or additional information about Samsung products, contact your nearest Samsung office.

## Copyright © 2013

---

This material is copyrighted by Samsung Electronics. Any unauthorized reproductions, use or disclosure of this material, or any part thereof, is strictly prohibited and is a violation under copyright law.

## Trademarks & Service Marks

---

The Samsung Logo is the trademark of Samsung Electronics. Adobe is a trademark and Adobe Acrobat is a registered trademark of Adobe Systems Incorporated. All other company and product names may be trademarks of the respective companies with which they are associated.

# Introduction

---

The Samsung Magician software is designed to help users easily manage the health and performance of their Samsung SSD. In addition to providing vital SSD health status information, Magician will assist users in updating firmware, measuring performance, and optimizing the configuration of a Windows operating system installation.

Samsung Magician software is developed and distributed exclusively for owners of Samsung Solid State Drives (SSDs).

## New in Version 4.3

---

Magician 4.3 features a number of improvements over version 4.2.1:

- New model support : 840 EVO mSATA
- RAPID mode is extended : 840 PRO, 840 EVO(2.5", mSATA)
- Windows 8.1 support
- Providing Data security guideline
  - ✓ Data security informs the user about the current security feature settings and provides a guide for using the desired features.
  - ✓ User can choose class 0, TCG/Opal and Encrypted drive for one's convenience
- Fixing crash issue between Magician and SoftPerfect RAM Disk
- Fixing auto-wake up issue during hibernation mode without user's command

# System Requirements

---

Component	Requirement
Operating System	Windows XP SP2 (32bit) Windows Vista (32/64bit) Windows 7 (32/64bit) Windows 8 & 8.1(32/64bit)
Disk Capacity	minimum 95MB available for installation
Supported Partition Types	MBR, GPT
Supported Languages	English, Korean, Spanish, Deutsch, Japanese, Chinese(Simplified), French, Italian, Portuguese, Russian
SSD	The following Samsung SSDs are supported*: Samsung SSD 840 EVO (2.5", mSATA) Samsung SSD 840 PRO Samsung SSD 840 Series Samsung SSD 830 Series Samsung SSD 470 Series

\*Some features may not be supported for all models.

## RAPIDmode Requirements

---

Component	Requirement
Operating System	Windows 7 (32/64bit), Windows 8 & 8.1 (32/64bit)
SSD	Samsung SSD 840 PRO, 840 EVO, 840 EVO mSATA
Processor	1GHz or faster
System memory(DRAM)	2GB RAM or more
Free Disk Space	Minimum 50MB
File System	NTFS

\*This is the minimum system requirements of RAPIDmode. For desirable performance, 4GB or higher system memory is recommended.

2013.12 (Rev 1.2.)

# Driver Support

---

Chipset	Driver	Supported
Intel	Microsoft	Yes
	Intel	Yes
AMD	Microsoft	Yes
	AMD	No
	NVIDIA	Yes

## Precautions

---

- 1) The SSD should not be removed or disconnected while SSD Optimization or Benchmarking are in progress. Doing so could result in data corruption.
- 2) All parallel operations should be terminated before executing the SSD Optimization or Benchmarking features.
- 3) Data corruption may result if the user terminates the Magician application abnormally while SSD Optimization, Benchmarking, FW Update, or Secure Erase features are in progress.
- 4) Using the Performance Optimization feature in Magician does not guarantee performance improvement. Performance Optimization can only improve performance issues related to capacity usage and fragmentation.
- 5) There is always the risk of data loss when updating SSD firmware. It is imperative that the user backs up any important data before performing a firmware update either via Magician or via the Magician DOS Utility.
- 6) The SSD may be permanently damaged if it is unplugged while the firmware update process is in progress via the DOS Utility.

## General Limitations

---

- 1) Magician is designed specifically for Samsung-branded SSDs. SSD-specific features like Firmware Update, Disk Health Status, Secure Erase, and Total Bytes Written are not supported for non-Samsung SSDs.
- 2) Magician does not work with SSDs connected via the SCSI controller interface.
- 3) Only MBR and GPT partition types are supported. Magician may not work with other partition types.
- 4) Magician will not work on SSDs that are locked with a user password.
- 5) The user may need to manually refresh the disk list in System Information for

2013.12 (Rev 1.2.)

- Magician to accurately reflect all connected/removed disks.
- 6) Benchmarking results are for a Queue Depth of 32.
  - 7) It may be necessary to manually refresh the disk list in System Information before performing benchmarking or performance optimization on a newly attached disk.
  - 8) The Performance Optimization feature relies on the ATA PASS THROUGH feature to pass the TRIM command to the SSD. This feature may be disabled by Windows XP/2003 if your SSD is less than 137GB in size. Microsoft provides a hot fix for this issue at <http://support.microsoft.com/kb/934205>.
  - 9) Secure Erase is not supported for Windows 8 and 8.1 systems.
  - 10) Performance Optimization supports only the NTFS file system.
  - 11) Over Provisioning may fail, even though enough free space is available, if your system suffers from cluster misalignment.
  - 12) Benchmarking may not work with some removable storage devices.
  - 13) If User can not span or shrink volume size through disk management of OS administration tool, it is possible not to work Dynamic over-provisioning properly.
  - 14) When the IRST driver is enabled / Installed in system. Then enabling of Write cache buffer/flushing in SSD may fail (OS Optimization).
    - \* Also, when a specific or latest IRST driver (For Magician 4.3, IRST 12.6.0.1033) is installed, the authentication function may not work correctly. In this case, rollback to the older version.
  - 15) RAID on mode in SATA configuration is not supported by Samsung magician and DOS application.
  - 16) PC will be shut down automatically after firmware update (Magician counts down 20 seconds before shutdown)
  - 17) Security mode(Class 0, TCG/Opal or Encrypted Drive) must be disabled(unlocked) before removing and installing onto another PC.

## DOS Utility Limitations

---

- 1) The DOS Utility is not compatible with pure SCSI or SATA NVIDIA/LSI/AMD chipset drivers.
- 2) AHCI or ATA mode must be enabled in the BIOS during PC boot up.
- 3) The DOS utility may not work consistently on PCs with chipsets other than the ones listed above.
- 4) The DOS Utility may hang if the SSD is removed on PCs that do not support the hot plug feature (e.g. ICH5/6 chipsets).
- 5) The DOS Utility will not work with devices attached via SATA 6Gbps (SATA III) operating in IDE mode.

# RAPIDmode Limitations

---

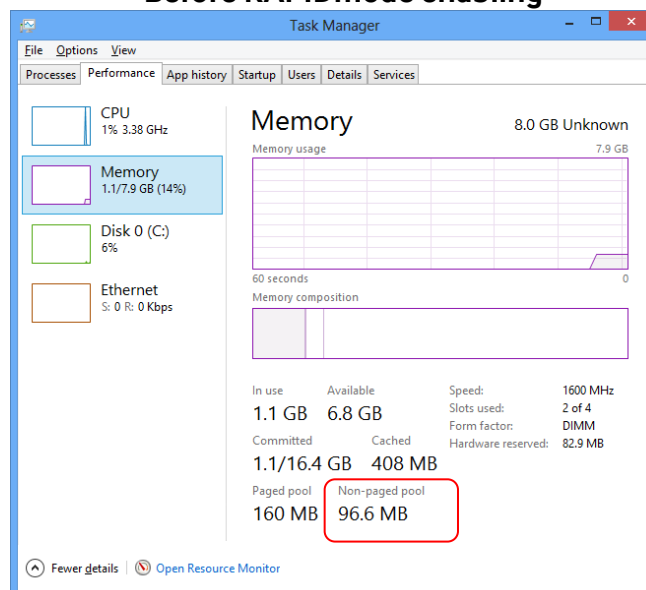
- 1) RAPIDmode accelerates only one SSD even though user has several Samsung SSDs(840 PRO, 840 EVO, and 840 EVO mSATA).
- 2) If there are two identical SSDs connected, RAPIDmode may accelerate the incorrect SSD.
- 3) RAIDmode sets is not supported as an accelerated drive.
- 4) After uninstalling RAPIDmode, if the system is restored to a prior state in which RAPIDmode was installed, RAPIDmode will be started in a disabled state.
- 5) NVIDIA Storage controller is not supported.
- 6) During RAPIDmode Enable/Disable operation: Do not disconnect the target SSD, Do not kill the application.
- 7) F/W download and Secure Erase is not allowed in case of RAPIDmode enabled SSD.
- 8) If fast startup is enabled on windows 8 and 8.1 machines, RAPIDmode enable/disable requires system restart. Shutdown followed by turning-on the power will not activate RAPIDmode enable/disable. By default fast startup is enabled.
- 9) Flush command of operating system and/or application may cause variation in performance when RAPIDmode is enabled(especially when Write-Cache Buffer Flushing is On).

## Operational Check of RAPIDmode

---

RAPIDmode starts its operation 45 seconds after OS booting. Please make sure the increased size of non-paged pool using “task manager → performance → memory tab” to ensure it is fully operational.

### \* Before RAPIDmode enabling



2013.12 (Rev 1.2.)

**\* After RAPIDmode enabling**

