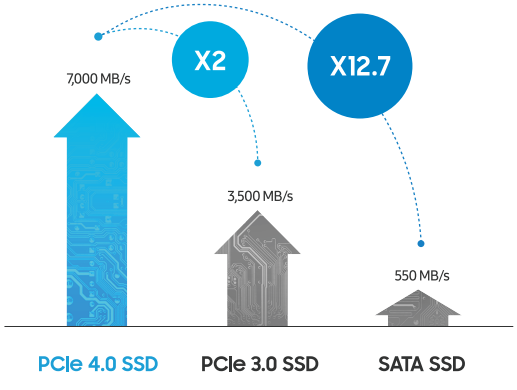
SAMSUNG

NVMe SSD 980 | 980 PRO

Unstoppable speed

Unleash the power of the Samsung SSD 980 PRO, Samsung's first consumer PCIe 4.0 NVMe SSD, for next-level computing experiences. Designed for graphics-intensive games and heavy-duty applications, the 980 PRO leverages Samsung's custom controller and PCIe 4.0 to deliver double the data transfer rate of PCIe 3.0, while backward compatibility and its compact M.2 form factor provide versatility and flexibility for diverse high-performance computing solutions.



Next-level NVMe SSD performance

Powered by Samsung's custom Elpis controller for PCIe 4.0 SSDs and the latest V-NAND and DRAM technology, all components and firmware of the 980 PRO are designed and manufactured in-house by Samsung to maximize performance and speed. Together with the impressive power of PCIe 4.0, which offers a bandwidth of around 16GT/s per lane, the 980 PRO delivers sequential read and write speeds of up to 7,000 MB/s and 5,100 MB/s respectively as well as random read and write speeds of up to 1,000K IOPS. Compared to previous generation SSDs, the 980 PRO is about 2 times faster than PCIe 3.0 SSDs and 12.7 times faster than SATA SSDs.

A winning combination

Designed with hardcore gamers, creative professionals, and tech-savvy users in mind, the 980 PRO offers high-performance band-width and throughput for heavy-duty applications in gaming, graphics, data analytics, and more. It's fast at loading games for both PCs and consoles, allowing you to play more and wait less, while its performance is also optimized to deliver seamless 4K and 8K content processing. The 980 PRO comes in a compact M.2 2280 form factor, which can be easily plugged into desktops and laptops for maximum board design flexibility. The drive's optimized power efficiency makes it ideal for high-performance computing systems.

Sequential Reads up to **7,000 MB/s**
Sequential Writes up to **5,100 MB/s**

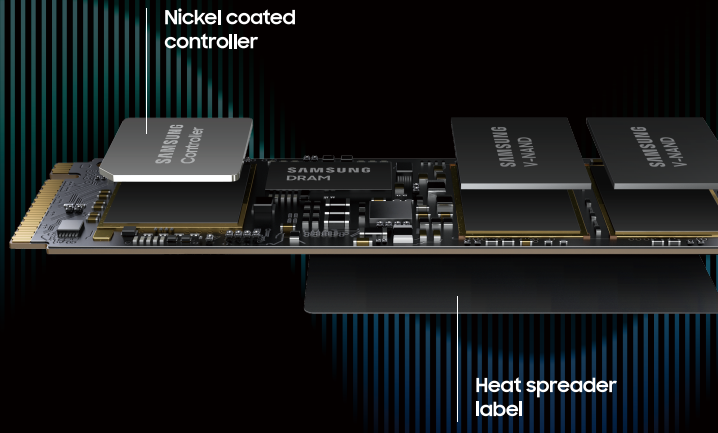
Random Reads up to **1,000K IOPS**
Random Writes up to **1,000K IOPS**

Intelligent Turbowrite

nvm EXPRESS™

Smart, reliable thermal control

The 980 PRO's next-level performance is supported by exceptional thermal control. The SSD uses nickel coating instead of an external copper casing to help manage the controller's temperature and employs a heat spreader label to provide effective thermal control for the NAND chip. Embedded with Samsung's cutting-edge Dynamic Thermal Guard technology, the 980 PRO manages heat on its own automatically to ensure durable and reliable performance. To minimize performance fluctuations in the long haul, Samsung's Dynamic Thermal Guard technology monitors 980 PRO's temperature continuously and keeps it at the optimal level.



Technical Specifications

		980 PRO				980		
Model Code		MZ-V8P2T0	MZ-V8P1T0	MZ-V8P500	MZ-V8P250	MZ-V8V1T0	MZ-V8V500	MZ-V8V250
General Feature	Capacity	2TB	1TB	500GB	250GB	1TB	500GB	250GB
	Form Factor	M.2 (2280)				M.2 (2280)		
	Interface	PCIe Gen 4.0 x4, NVMe 1.3c				PCIe Gen 3.0 x4, NVMe 1.4		
	Dimension (WxHxD)	80.15 x 22.15 x 2.38 (mm)				80.15 x 22.15 x 2.38 (mm)		
	Weight	Max. 9.0 g Weight				Max 8.0 g Weight		
	Storage Memory	Samsung 12xlayer V-NAND 3-bit MLC				Samsung 12xlayer V-NAND 3-bit MLC		
	Controller	Samsung Elpis Controller				Samsung Pablo Controller		
	DRAM	2GB LPDDR4	1GB LPDDR4	512MB LPDDR4		-		
Performance	Sequential Read	Up to 7,000 MB/s	Up to 7,000 MB/s	Up to 7,000 MB/s	Up to 6,400 MB/s	Up to 3,500 MB/s	Up to 3,100 MB/s	Up to 2,900 MB/s
	Sequential Write	Up to 5,100 MB/s	Up to 5,000 MB/s	Up to 5,000 MB/s	Up to 2,700 MB/s	Up to 3,000 MB/s	Up to 2,600 MB/s	Up to 1,300 MB/s
	Random Read (QD32)	Up to 1,000K IOPS	Up to 1,000K IOPS	Up to 800K IOPS	Up to 500K IOPS	Up to 500K IOPS	Up to 400K IOPS	Up to 230K IOPS
	Random Write (QD32)	Up to 1,000K IOPS	Up to 1,000K IOPS	Up to 1,000K IOPS	Up to 600K IOPS	Up to 480K IOPS	Up to 470K IOPS	Up to 320K IOPS
Software	Management Software	Samsung Magician Software						
Warrenty	TBW	1,200TB	600TB	300TB	150TB	600TB	300TB	150TB
	Warranty (years)	5-Year Limited Warranty						

* The NVM Express® design mark is a registered trademark of NVM Express, Inc.
* Results are based on a comparison with Samsung PCIe 3.0 NVMe SSDs and SATA SSDs.
* Performance may vary depending on the SSD's firmware version and the system hardware & system configuration.
. [980 PRO] Performance measurements are based on IOmeter 1.1.0. The write performances were measured with Intelligent TurboWrite technology being activated. The sequential write performances after Intelligent TurboWrite region are: up to 500 MB/s(250GB), 1,000 MB/s(500GB) and 2,000 MB/s(1TB,2TB).
Test system configuration: AMD Ryzen 9 3900X 12-Core Processor CPU@3.79GHz, DDR4 2666MHz 16GBx2, OS-Windows 10 Pro 64bit, Chipset-ASUS-X570-ROG CROSSHAIR VIII FORMULA.
. [980] Performance measurements are based on IOmeter 1.1.0. The write performances were measured with Intelligent TurboWrite technology being activated. The sequential write performances after Intelligent TurboWrite region are: up to 250 MB/s(250GB), 500 MB/s(500GB) and 900 MB/s(1TB).* 1GB=1,000,000,000 bytes by IDEMA. A certain portion of capacity may be used for system file and maintenance use, so the actual capacity may differ from what is indicated on the product label.
* Five years or TBW, whichever comes first. For more information on the warranty, please find the enclosed warranty document in the package.
* Samsung Electronics shall not be liable for any loss, including but not limited to loss of data or other information contained on Samsung Electronics product or loss of profit or revenue which may be incurred by user. For more information on the warranty, please visit samsung.com/ssd.

For more information about the Samsung SSD, visit samsung.com/ssd or samsungssd.com.