**970 PRO NVMe® M.2 SSD 512GB**

**MZ-V7P512 /MZ-V7P512BW**

* • Ultimate NVMe® Read/Write performance
* • V-NAND reliability backed by up to 5 yr. warranty

**Storage**

**[1TB](https://www.samsung.com/us/computing/memory-storage/solid-state-drives/ssd-970-pro-nvme-m2-1tb-mz-v7p1t0bw/" \t "_self)**

[$269.99](https://www.samsung.com/us/computing/memory-storage/solid-state-drives/ssd-970-pro-nvme-m2-1tb-mz-v7p1t0bw/" \t "_self)

**[512GB](https://www.samsung.com/us/computing/memory-storage/solid-state-drives/ssd-970-pro-nvme-m2-512gb-mz-v7p512bw/" \l "benefits" \t "_self)**

[$159.99](https://www.samsung.com/us/computing/memory-storage/solid-state-drives/ssd-970-pro-nvme-m2-512gb-mz-v7p512bw/" \l "benefits" \t "_self)

* Type

**Product Type**

NVMe SSD

**Storage Type**

Internal

**Interface**

PCIe Gen 3.0 x4, NVMe 1.3

**Read/Write Speeds**

3,500/2,300 MB/s

**Usage Application**

Client PCs

**Series**

SSD 970 PRO

* Storage

**Capacity**

512 GB

* Key Features

**Sequential Read Speed**

Up to 3,500 MB/s \* Performance may vary based on system hardware & configuration

**Sequential Write Speed**

Up to 2,300 MB/s \* Performance may vary based on system hardware & configuration

**Random Read Speed**

Random Read (4KB, QD32): Up to  
370,000 IOPS Random Read  
  
Random Read (4KB, QD1): Up to  
15,000 IOPS Random Read  
  
\*Performance may vary based on system hardware & configuration

**Random Write Speed**

Random Write (4KB, QD32): Up to  
500,000 IOPS Random Write  
  
Random Write (4KB, QD1): Up to  
55,000 IOPS Random Write  
  
\* Performance may vary based on system hardware & configuration

**Controller**

In-house

**NAND Flash**

Samsung V-NAND 2-bit MLC

**Trim Support**

Supported

**AES Encryption**

AES 256-bit Encryption (Class 0)TCG/Opal IEEE1667 (Encrypted drive)

**Security**

AES 256-bit Full Disk Encryption, TCG/Opal V2.0, Encrypted Drive (IEEE1667)

**S.M.A.R.T. Support**

Supported

**GC (Garbage Collection)**

Auto Garbage Collection Algorithm

**Device Sleep Mode Support**

Yes

**Internal Storage**

Yes

**Temperature proof**

Yes

**NVMe**

Yes

**Gaming SSDs**

Yes

* General

**Average Power Consumption (system level)**

\*Average: 5.2 W  
\*Maximum: 8.5 W (Burst mode)  
\*Actual power consumption may  
vary depending on system  
hardware & configuration

**Power consumption (Idle)**

Max. 30 mW  
\*Actual power consumption may  
vary depending on system  
hardware & configuration

**Voltage**

3.3 V ± 5 % Allowable voltage

**Reliability (MTBF)**

1.5 Million Hours Reliability (MTBF)

* Environmental Specs

**Operating Temperature**

0 - 70 ℃ Operating Temperature

**Shock**

1,500 G & 0.5 ms (Half sine)

* Form Factor

**Product**

M.2 (2280)

* Dimensions (W x H x D)

**Product**

3.16" x 0.87" x 0.09"

* Weight

**Product**

0.28oz.

* Software

**Management SW**

Magician Software for SSD management

* Warranty

**Product**

5-Year Limited Warranty or 600 TBW Limited Warranty