PCIe® 4.0 NVMe™ SSD
990 PRO|990 PRO with Heatsink

Blistering speed, endless victory

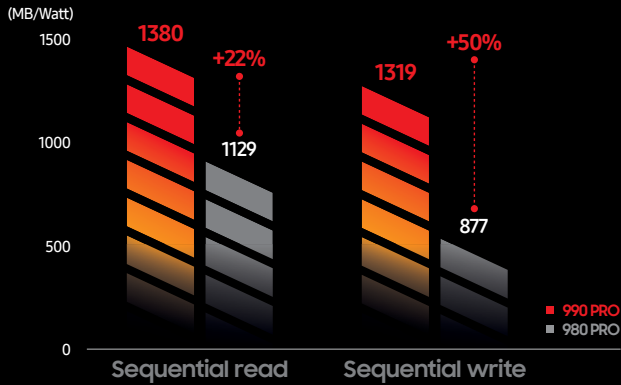V-NAND SSD
990 PRO
PCIe®4.0 NVMe™ M.2 SSD
www.samsung.com/ssd
SAMSUNG ELECTRONICS CO., LTD.

SAMSUNG

WORLD'S
No.1
FLASH MEMORY
SINCE 2003
SAMSUNG

* Source: 2003–2021 IHS Markit data:
NAND suppliers' revenue market share.

7,450 MB/s   X2.1   X13.3

3,500 MB/s

560 MB/s

PCIe 4.0 SSD
990 PRO

PCIe 3.0 SSD

SATA
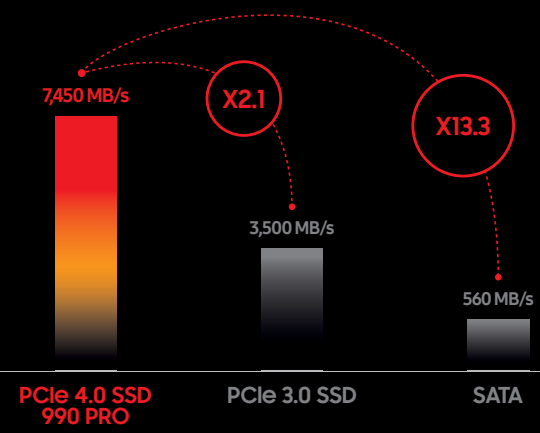
The ultimate SSD for an immersive gameplay experience

The best gameplay experience.
Sequential read/write speeds up to 7450/6900 MB/s reach near max performance of PCIe® 4.0.
Up to 55% improvement in random performance enables faster loads for ultimate gaming realism on PS5 and DirectStorage PC games.
The 990 PRO provides an optimal balance of speed, power efficiency and reliability making it an ideal solution for heavy gaming as well as creative tasks.

Bar chart (MB/Watt):
- Sequential read: 990 PRO 1380 (+22%), 980 PRO 1129
- Sequential write: 990 PRO 1319 (+50%), 980 PRO 877
- Legend: ■ 990 PRO, ■ 980 PRO

Breakthrough power efficiency

More power-efficient performance.
Higher performance usually consumes more power. But, built on a low-power architecture, Samsung's newly designed controller dramatically improves SSD's power efficiency by up to 50% compared to the 980 PRO.

* Based on internal test results of the 1TB model.

Smart thermal solution

Sink that heat.
The slim heatsink dissipates heat to prevent performance drops from overheating. Get stable heat control, and minimal fan noise for heavy-graphic gaming. The thin body is compatible with PlayStation® 5, desktops, and laptops meeting the PCI-SIG® D8 standard. The heatsink's futuristic design adds style to heat control, now with RGB lights.

Heatsink Top
Top TIM (thermal interface Material)
Nickel Coated Controller
Bottom TIM
Heatsink Bottom
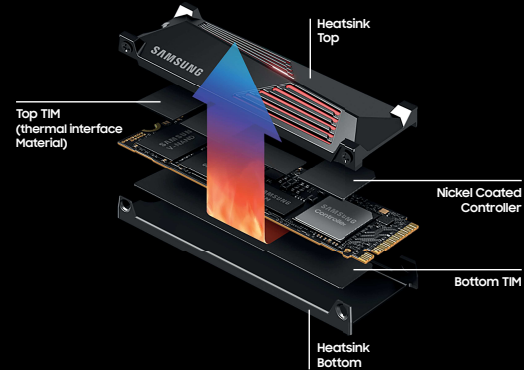
Technical Specifications

		990 PRO			990 PRO with Heatsink		
Model Code		MZ-V9P1T0BW	MZ-V9P2T0BW	MZ-V9P4T0BW	MZ-V9P1T0CW	MZ-V9P2T0CW	MZ-V9P4T0CW
General Feature	Capacity	1TB	2TB	4TB	1TB	2TB	4TB
	Form Factor	M.2 (2280)					
	Interface	PCIe Gen 4.0 x 4, NVMe 2.0					
	Dimension (WxHxD)	80.00 x 22.00 X 2.30 (mm)			80.00 x 24.30 X 8.20 (mm)		
	Weight	Max 9.0 g			Max 28.0 g		
	Storage Memory	Samsung V-NAND 3bit TLC					
	Controller	Samsung in-house controller					
	DRAM Cache Memory	1GB LPDDR4	2GB LPDDR4	4GB LPDDR4	1GB LPDDR4	2GB LPDDR4	4GB LPDDR4
Performance	Sequential Read (MB/s)	7,450	7,450	7,450	7,450	7,450	7,450
	Sequential Write (MB/s)	6,900	6,900	6,900	6,900	6,900	6,900
	Random Read (IOPS)	1,200K	1,400K	1,400K	1,200K	1,400K	1,400K
	Random Write (IOPS)	1,550K	1,550K	1,550K	1,550K	1,550K	1,550K
Software	Management Software	Samsung Magician Software					
Warranty	TBW	600	1200	2400	600	1200	2400
	Period	5-year limited warranty					