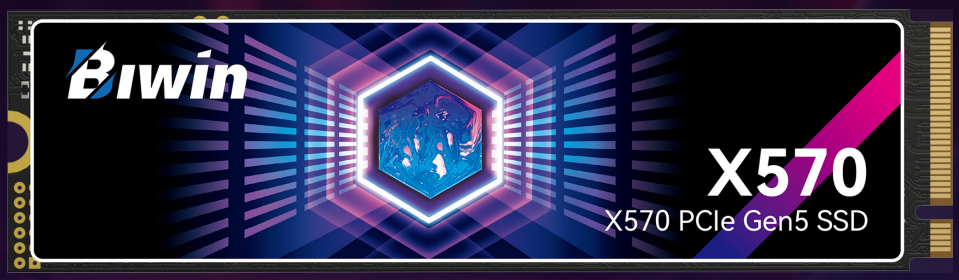
Black Opal X570 SSD



PCIe Gen5×4, NVMe 2.0

Read/Write Speeds Up to 14500/11000 MB/s

Large Capacity Up to 4 TB

Premium TLC NAND

The Biwin X570 PCIe Gen5 x4 NVMe 2.0 SSD delivers impressive sequential read/write speeds up to 14500 MB/s and 11000 MB/s. Built with premium 3D TLC NAND, it handles demanding tasks with ease, whether for gaming, video editing, or AI model training. With advanced thermal management, the X570 ensures a stable performance even under heavy workloads. With up to 2400 TBW and a 5-year limited warranty, the Biwin X570 offers optimized endurance with proven reliability.

Product Features

Unlock the Cutting-Edge Speeds of Gen5

Taking full advantage of PCIe Gen5x4 and NVMe 2.0, the Biwin X570 achieves ultra-fast read speeds up to 14500 MB/s—approaching the maximum limit of PCIe 5.0. Equipped with premium 3D TLC NAND, it ensures peak performance even under intense workloads. From loading massive AAA games, transferring 4K/8K footage, or accelerating AI model training, the Biwin X570 turns heavy workloads into smooth operations.

Data Acceleration with HMB & SLC Cache

The Biwin X570 uses Host Memory Buffer (HMB) and intelligent SLC cache to speed up response times. HMB allows the SSD to use the host's DRAM to improve I/O performance, while dynamic SLC cache intelligently reallocates cache blocks, optimizing SSD efficiency and extending its lifespan. This caching architecture enables faster, more stable, and improved responsive operations within an optimized DRAM-less design.

Effective Heat Management for Sustained Performance

Efficient thermal management ensures consistent performance under sustained workloads. Biwin X570 integrates a temperature control algorithm and thermal graphene pad to improve heat dissipation efficiency. Supported by Thermal Throttling and Power Management, the drive maintains optimal operating conditions during prolonged high-speed data transfer, multi-tasking, and gaming scenarios, ensuring reliable performance during even the most intensive usage cycles.

Single-Sided Design, Compatible with Multiple Devices

The Biwin X570 features a single-sided, DRAM-less design supported by advanced packaging technology that enables a slimmer profile, lower power consumption and more efficient heat dissipation. Compatible with PCIe 4.0 and PCIe 3.0, the drive fits seamlessly into a wide range of devices and platforms. It's ideal for flexible upgrades in today's systems.

Biwin Storage Black Opal Series

For decades, Biwin has made the critical storage and memory you'll find in many of the leading digital devices that have defined our digital world. The Biwin consumer brand offers the best of Biwin's experience, a range of SSDs, DRAM, memory cards, USBs, and related accessories that will help you get the most out of your devices.

Biwin Black Opal is especially designed for gamers, enthusiasts, modders, and overclockers seeking top-tier performance. It is the result of years of experience in SSDs and DRAM manufacturing. The durability matches the more strenuous needs of gamers, content providers and professional users.

Specifications

Model Name	Biwin Black Opal X570		
Form Factor	M.2 2280		
Interface	PCIe Gen5×4, NVMe 2.0		
DRAM Cache	DRAM-less		
Capacity	1 TB	2 TB	4 TB
Sequential Read (Up to)	14000 MB/s	14500 MB/s	14500 MB/s
Sequential Write (Up to)	7300 MB/s	10000 MB/s	11000 MB/s
Random Read 4K (Up to)	1600K IOPS	2000K IOPS	2000K IOPS
Random Write 4K (Up to)	1000K IOPS	1400K IOPS	1500K IOPS
Dimensions	80.00 × 22.00 × 2.45 mm (single-sided)		
Weight	≤ 9 g		
Operating Temperature	0°C to +70°C		
Storage Temperature	-40°C to +85°C		
MTBF	1,500,000 hours		
Certifications	RoHS, FCC, CE, CB, KCC, BSMI, VCCI, RCM, UKCA		
Warranty	5-Year / 600 TBW	5-Year / 1200 TBW	5-Year / 2400 TBW

1.Tested by BIWIN labs. Actual performance may vary due to systems, devices, or environment.
2.Maintenance and future updates are required throughout the product life cycle. Specifications are subject to change without notice.
3.The pictures are for illustration only. Actual products may vary due to product enhancements or changes.
4.Not all products are sold in all regions of the world.
5.As used for storage capacity, one megabyte (MB)= one million bytes, one gigabyte (GB) = one billion bytes, and one terabyte (TB) = one trillion bytes. Total accessible capacity varies depending on the operating environment. As used for buffer or cache, one megabyte (MB) = 1,048,576 bytes. As used for transfer rate or interface, megabyte per second (MB/s) = one million bytes per second, and gigabyte per second (GB/s) = one billion bytes per second.
6.MTBF = Mean Time Between Failures based on internal testing using Telcordia stress testing standard.
For more details, please visit www.biwintech.com.

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