

# NyTRO™ XP6200 Series

## APPLICATION ACCELERATION CARDS Data Sheet

### Key Benefits

- Cost-effective for low-latency applications
- Offload architecture minimizes requirements on host CPU and memory
- Plug and Play—no user configuration required
- Enterprise quality and reliability

### Performance and Reliability Features

- DuraWrite™ advanced wear leveling technology minimizes NAND wear
- Ultra-low write amplification provides consistent high performance
- Self-healing from block and page level failures—helps reduce field failures
- Battery-less power fail protection reduces maintenance
- Optimized design for reduced thermal dissipation and power requirements

### Integration Features

- PCIe 2.0 x8 supports up to 2GB/s throughput
- Bootable solutions with both Legacy and Unified Extensible Firmware Interface (UEFI) support
- In-box drivers for most operating systems
- S.M.A.R.T. monitoring and TRIM support
- Advanced Secure Erase support protects sensitive data

Purpose-built for the demanding hyperscale and mega datacenters, the Seagate® NyTRO XP6200 series delivers accelerated performance for read-intensive applications, optimized power and thermals, and an overall lower cost per gigabyte PCIe flash solution. By plugging flash directly into the server's PCIe backplane, these cards can help improve performance and reduce the physical space needed to support high-density enterprise applications.

### Accelerate Read-Intensive Applications

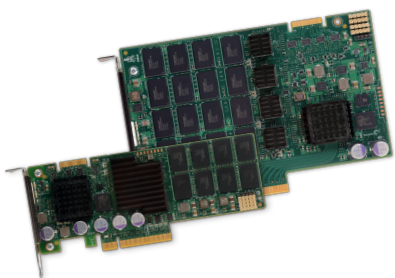
Hyperscale datacenters require cost-effective scaling to thousands of servers to meet the compute and storage demands of Web 2.0, cloud computing and big data analytics applications. These applications, which search data for content or comb data for trends, are primarily reading data from storage. NyTRO XP6200 flash accelerator cards are designed to reduce latency and deliver high performance by connecting flash closer to the CPU. Multiple NyTRO XP6200 cards can be installed in the same server to get even higher application performance.

### Reduce Power, Cooling and Resource Overhead

Delivering leading endurance and reliability using low-cost flash, this new design is optimized for low power and thermal characteristics. The NyTRO XP6200 series requires up to 30% less power than similar cards using MLC flash technology. Unlike other cards with flash memory, this efficient design does not require heat sinks to control temperature. The lower power and cooling translates into lower OpEx. The NyTRO XP6200 cards require minimal resources from the CPU and host memory when compared with other cards. The NyTRO XP6200 storage controllers offload storage management tasks and use enterprise hardened, standard drivers that are typically in-box with most operating systems.

### Enterprise Flash Management With SandForce® Technology

The NyTRO XP6200 cards use SandForce flash controllers and are designed to deliver consistently high levels of performance, endurance, and reliability under demanding workload conditions. Seagate DuraWrite™ technology optimizes the number of program cycles to the flash storage, effectively extending its rated write endurance by 8× or more, depending on the use case, when compared to standard controllers for compressible data.



Nytro™ XP6200 Card Specifications		
Product Specification	XP6209	XP6210
Usable Capacity	930GB <sup>1</sup>	1.86TB <sup>1</sup>
Form Factor	Half Height (half-length, MD2)	Full Height (half-length, MD2)
Host Bus Type	x8 lane PCIe 2.0	x8 lane PCIe 2.0
Read Bandwidth (256K)	2.0GB/s	2.0GB/s
Write Bandwidth (256K)	1.27GB/s	1.27GB/s
Read IOPS (8K)	155,000	185,000
Write IOPS (8K)	110,000	120,000
Average Latency (Microseconds)	<50	<50
NAND Petabyte Writes	>3	>6
Flash Memory Type	MLC	MLC
End-of-Life Data Retention	>3 months	
Operating Temperature/Airflow	0°C to 50°C @ 250 LFM	
Product Health Monitoring	Self-Monitoring, Analysis and Reporting Technology (S.M.A.R.T.) commands, plus additional SSD monitoring	
Management Tools	CLI, MSM (GUI-based)	
Operating System Support	RHEL : 5.0-5.10, 6.0-6.4; CentOS: 5.3-5.10, 6.0-6.4; OEL: 5.4-5.9, 6.0-6.4; SLES: 10 SP0-SP4, 11 SP1-SP3; Debian: 6.0.5, 6.0.7; Fedora: 17, 18; Ubuntu: 10.04, 11.1, 12.04; Windows: XP SP2, Windows7-SP1, 8, Windows Server: 2003 R2 SP2, 2008 R2-SP1, 2012; Solaris 10U10, 11 (x86 & SPARC); FreeBSD: 7.2, 7.4, 8.2, 8.3, 9; VMware: ESX4.0U4, 4.1U2, 5.0 U1, 5.1	
Regulatory Compliances	Safety: US/Canada UL, Europe CB Agency Certifications: CE mark, C-Tick mark, Canadian Compliance Statement, KCC, HF, Taiwan BSMI, Japan VCCI, Russia GOST, FCC Class B, and CISPR Class B	
Environmental Compliance	RoHS, WEEE	

Nytro XP6200 Card Ordering Information				
Product	Model Number	Capacity <sup>1</sup>	Flash Type	Form Factor
XP6209	ST932KN0002	930GB	MLC	Half Height, Half Length
XP6210	ST1863KN0002	1.86TB	MLC	Full Height, Half Length
XP6210	ST1863KN0042	1.86TB	MLC	Half Height, Half Length

<sup>1</sup> One gigabyte, or GB, equals one billion bytes and one terabyte, or TB, equals one trillion bytes when referring to product capacity.

[www.seagate.com](http://www.seagate.com)

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