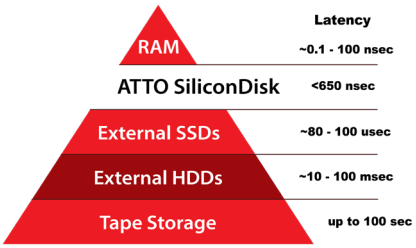
TECH SPEC



ATTO SiliconDisk

Key Features

- Deterministic latency of < 650ns
- Maximum sustained aggregate bandwidth of up to 35GB/s
- Up to 6.4M 4K IOPS
- (4) 100GbE Ethernet host ports per controller
- Host support via NVMe-oF RoCE v2
- Built-in xCORE technology for accelerated data transfers
- eCORE™ powered in-band management and analytics
- Closed-source embedded operating system (AEOS™)
- Virtualized Device Services (VDS) for device health and monitoring
- ATTO Insight Analytics™ engine for intelligence-driven optimization
- ATTO Infinite Write Endurance™ ensures unrestricted writes
- Shared block-storage access through NVMe namespaces across compute nodes in clustered environments
- Manage data demand and limit queue buildup during simultaneous requests
- Preserve data integrity with multi-layer error correction mechanisms
- Align strict compliance mandates with secure data handling



ATTO SiliconDisk™

Network-Shared Accelerated Storage

Breaking the Bottleneck Behind Idle Compute

Modern workloads are growing in scale and complexity, redefining the relationship between compute and storage. From large language models and scientific simulations to autonomous systems, spatial media, and real-time enterprise agents, these applications are putting immense pressure on data-driven organizations to deliver competitive advantage at scale while avoiding resource underutilization and costly overprovisioning.

High I/O concurrency and bursts of read/write activity can strain storage performance, leaving compute resources waiting rather than processing. Pre-staging this data onto a shared, high speed storage tier is a more practical and cost-effective approach to accelerate retrieval, absorb write bursts, and hold active working data.

ATTO SiliconDisk™ is an ultra-fast DRAM-based storage appliance that presents high-capacity memory as shared NVMe over Fabrics (NVMe-oF) block storage, accelerating access to performance-critical working data through a standard storage interface.

Advance Real-Time Capabilities with Faster Data Access

Built into the architecture, **ATTO xCORE™** Processor accelerates data movement while reducing I/O processing overhead. Four 100GbE ports provide up to 400Gb/s of aggregate connectivity with access times under 650ns delivering lower media latency than flash, resulting in predictable application response times.

SiliconDisk gives multiple compute servers, including accelerator equipped-nodes access to hot working data through NVMe-oF via RDMA. This extends storage options beyond locally attached flash or host-bound resources, especially in large inference clusters and high-performance computing.

Infinite Write Endurance™ makes the SiliconDisk well suited for write-intensive working sets, frequent checkpoints, model swapping, and short-duration ingest bursts. For metadata and write logs that govern warm and cold repositories, it retains intermediate updates in shared-DRAM based storage, thereby reducing write traffic while preserving flash endurance in downstream storage layers.

Hardware-assisted logic combines in-band and out-of-band management with **Insight Analytics™** to help identify changes in system behavior, guide diagnosis, and support performance optimization and service continuity.

Target Use Cases

ATTO SiliconDisk is designed for ecosystems that demand high-performance storage connectivity for latency sensitive decision-making and write-intensive data services across enterprise IT, AI/ML training, HPC databases, media processing, multi-tenant platforms, and distributed compute infrastructure.

- Model Loading/Replica Startup
- Context Inference & KV-cache Reuse
- Checkpoint Capture and Restart
- OLTP & Transaction-Log processing
- Trading Analytics & Historical Tick-data Querying
- Rendering & Video Processing
- Training Data Staging

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Connectivity

Host Network Port Specifications

- 4x 100Gb/s Ethernet QSFP+ (or)
- IPv4 Support
- RDMA via RoCEv2

NVMe-oF Specifications

- NVMe-oF version 1.1

Management Tools

- Dedicated 1Gb/s Ethernet RJ45 port
- IPv4 Support
- DHCP, SFTP, and ICMP
- CLI over SSH
- USB-B Serial management
- Error and event log analysis (up to 25,000 events)
- Built-in thermal monitoring
- Status Indicator LEDs
  - Power
  - Ready/Fault
  - Activity
  - Ethernet
- Field updatable via 1GbE RJ45, Serial USB, or in-band
- Dual Firmware Image Support
- Port management & statistics
- Cable management

Platform Operating System

- ATTO Embedded Operating System™ (AEOS)

Form Factor

- Desktop/Rackmountable

Product Dimensions

- 1.75" H x 17" W x 18" L
- 8.48 lbs *(10.91 lbs with side rails)*

Operating System Support

- OS independent

Power

- Typical Power 125W, Max Power 150W

Operating Environment

- Temperature 5˚C - 40˚C at 10,000 ft
- Humidity 10-90% non-condensing
- Typical BTU 427/hr, Max BTU 512/hr

Reliability

- MTBF > 100,000 hrs

Agency Approvals & Compliance

Safety

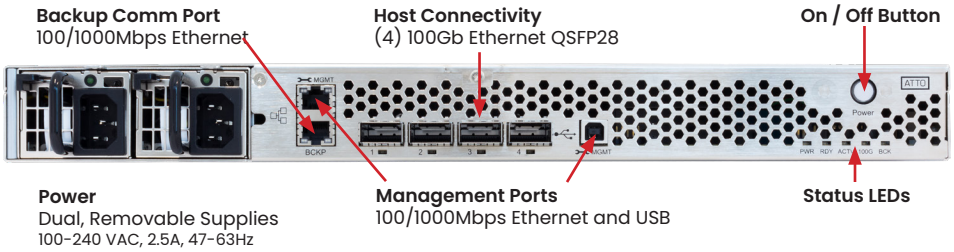
UL 62368-1:2014, EN 62368-1:2014+A11:2017, CAN/CSA-C22.2 62368-1-14, AS/NZS 62368.1:2018

EMI/EMC

- FCC Part 15 Class A, EN55032 Class A, EN55035, EN61000 Class A/B/C, ICES-003 Class A, AS/NZS CISPR Class A, VCCI Class A, BSMI Class A
- RoHS Directive 2011/65/EU, 2015/863/EU

Warranty

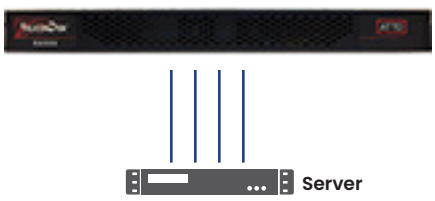
- Three-Year Standard Warranty



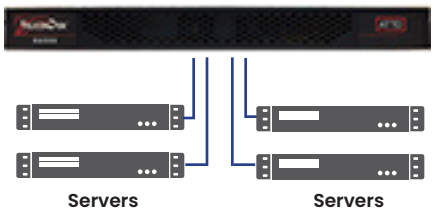
ATTO SiliconDisk Specifications	
Network Interface[1]	(4) 100Gb/s Ethernet
Access Latency	<650 ns
Max. Aggregate Throughput	Up to 400Gb/s
Sustained Bandwidth	35GB/s
Random IO Performance	Up to 6.4M IOPs
Memory Capacity[2]	512 GB SDSK-0512-000 1024 GB SDSK-1024-000
Storage Media	High-Speed DDR4 Arrays
Form Factor	1U Rackmount
Weight	8.5lbs
Power	Up to 150W

1 Transceiver modules are included. Contact ATTO sales for long range options.

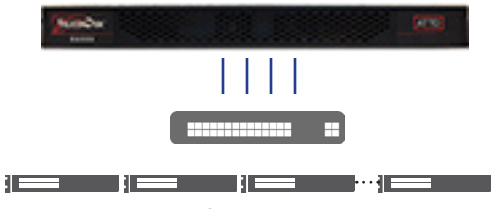
2 For larger capacities contact ATTO sales.



Direct-attached for 400GbE performance.



Switch-less direct connect server configuration



Fabric-attached for greater scalability