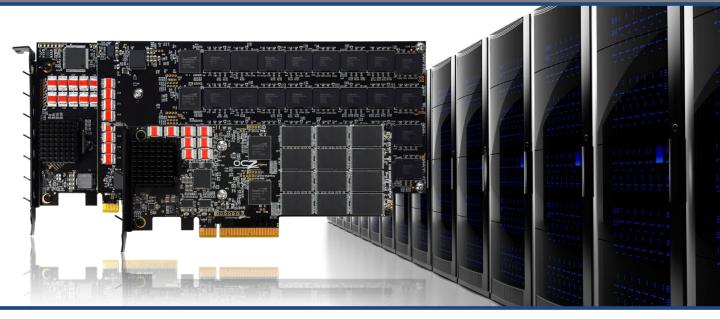# OCZ enterprise

Z-Drive PCI Express Storage Solutions

Z-Drive R4 RS Series Solid State Drives

R Series at a Glance

- Innovative storage system that melds hardware & software managed solutions with integrated proprietary technology
- Cost-effective SLC-based design with best-in-class endurance & reliability
- Advanced feature-set includes power loss data protection
- Available in half height and full height configurations

The Pinnacle of Storage Performance

- Delivers the performance of thousands of hard disk drives in a single server
- Eliminates I/O and bandwidth bottlenecks
  - *Up to 2,800 MB/s and 500,000 IOPS (per SuperScale controller)*

Proprietary Virtualized Controller Architecture™ (VCA) 2.0

- Multifaceted virtualization layer that interfaces with host system
- Enables TRIM, SCSI unmap, & SMART monitoring for system administrators

SuperScale™ Storage Accelerator Unique to OCZ

- Facilitates scalable performance in enterprise & datacenter applications
- Unique complex command queuing structure plus queue balancing algorithms
- Provides highly efficient performance aggregation while reducing the burden on host resources

Superior Reliability, Endurance, & Security Features

- DataWrite Assurance™ (data preservation in case of sudden power loss)
- Data fail recovery ensures superior reliability
- Intelligent block management & wear-leveling for increased endurance
- Advanced security with 128-bit AES encryption support
- Strong error correction for enhanced data integrity

KEY DIFFERENTIATORS:

- Highest performing enterprise PCIe solution on the market

- Merges the best features of pure hardware and software based approaches to data management and overcomes the inherent weaknesses of both

- Bootable as a direct-attach device

- Ultra-high endurance for enterprise applications (increases drive life by up to five times the rated P/E cycles of the NAND)

- Only PCIe drive with complete power fail protection & drive-level recovery

- Maintains user-configurable flexibility not found in other devices

- Only virtualization layer in the industry with TRIM and SCSI unmap support

enterprise

OCZ enterprise
Z-Drive R4 RS Series Specifications

PHYSICAL	RS84 Version	RS88 Version
Usable Capacities (IDEMA)	150GB, 300GB, 600GB	400GB, 800GB, 1.6TB
NAND Components	Single-Level Cell (SLC)	Single-Level Cell (SLC)
Interface	PCI Express Gen. 2 x8	PCI Express Gen. 2 x8
Form Factor	PCIe half height, half length compliant	PCIe full height, ¾ length compliant
Storage Controller	OCZ SuperScale™	OCZ SuperScale™
NAND Controller	SandForce® 2582 x 4	SandForce® 2582 x 8
Dimensions (L x W x H)	168.55 x 68.91 x 17.14 mm	265 x 98.4 x 17.14 mm
Weight	131g	345g

PERFORMANCE		
Max Read	up to 2,000 MB/s	up to 2,900 MB/s
Max Write	up to 2,000 MB/s	up to 2,900 MB/s
Random Write Operations (4kB)	250,000 IOPS	410,000 IOPS
Random Write Operations (8kB)	160,000 IOPS	275,000 IOPS
Maximum IOPS	260,000 IOPS	500,000 IOPS

ENVIRONMENTAL		
Power Consumption	Idle: 14.5 W Active: 16 W	Idle: 23 W Active: 26 W
Operating Temperature	0°C ~ 70°C	0°C ~ 70°C
Storage Temperature	-45°C ~ 85°C	-45°C ~ 85°C
Airflow Requirement	100 Linear Feet/Minute (LFM)	100 Linear Feet/Minute (LFM)
Certifications	RoHS, CE, FCC	RoHS, CE, FCC

RELIABILITY/SECURITY	
Data Fail Recovery	Recovers data from up to one NAND flash block per NAND controller
Power Fail Protection	DataWrite Assurance™ Technology (capacitance power back-up to ensure data hardening)
Data Path Protection	ECC: Up to 55 bits correctable per 512-byte sector; Data path parity protection
Data Reliability	Read Unrecoverable Bit Error Rate (UBER) 10e-17
Data Encryption	128-bit AES-compliant
Product Health Monitoring	SMART support w/ enterprise attributes

COMPATIBILITY	
PCI Express	PCI Express x8 or x16 slot; Fully compliant with the PCI Express Electromechanical Specification Rev. 2.0, and PCI Express Base Specification Rev. 2.0
Operating Systems	Windows 7 32-bit/64-bit; Windows Server 2003 & 2008 R2 64-bit; Red Hat Enterprise Linux, CentOS, Oracle Enterprise Linux, SUSE Linux Enterprise Server, Ubuntu Server and Desktop
Power Requirements	PCI Express 12V & 3.3V

ADDITIONAL FEATURES	
Flash Virtualization Layer	OCZ VCA (Virtualized Controller Architecture™) 2.0
Caching & Virtualization	Supports OCZ SANRAD VXL software
Performance Optimization	TRIM/SCSI unmap (requires OS support)
Service & Support	3-Year Warranty; Dedicated FAE/FSE support (includes PM/engineer support through validation cycle)

Dramatically Accelerating Enterprise Applications

The OCZ Z-Drive R4 Series represents a turning point in the evolution of PCIe attached solid state storage by merging the best feature sets of both the pure hardware and pure software based approaches to data management. Designed and manufactured for a wide range of enterprise environments including cloud computing and data centers, the Z-Drive R4 features OCZ's Virtualized Controller Architecture (VCA) 2.0, providing the utmost in performance, flexibility, durability and enhanced reliability, allowing data centers to rely on a PCIe-based SSD as their primary tier one storage solution for the first time. Additionally, the Z-Drive R4's level of concentrated performance enables system architects to design more productive infrastructures while lowering operating costs associated with hard drive technology.

VCA 2.0 supports the industry standard SCSI command set and, among a litany of other things, provides highly efficient performance aggregation due to our proprietary Complex Command Queuing Structure (CCQS), that handles balancing with OCZ's unique Queue Balancing Algorithm, that extends the NAND flash life at a block level, manages redundancy, and is the software interface with the host system.

Z-Drives integrate seamlessly with servers at the system bus and kernel level, creating a new flash memory tier and dramatically increasing throughput and application performance all while slashing capital and operating costs.

RS88 – Full Height Form Factor

RS84 – Half Height Form Factor

PRODUCT		CAPACITY			ORDERING	
NAME	FORM FACTOR	RAW	IDEMA	WRITE ENDURANCE	PART NUMBER	UPC
Z-Drive R4 RS84	Half Height	192GB	150GB	Up to 150PB	ZD4RS84-HH-150G	842024027317
Z-Drive R4 RS84	Half Height	384GB	300GB	Up to 300PB	ZD4RS84-HH-300G	842024027324
Z-Drive R4 RS84	Half Height	768GB	600GB	Up to 600PB	ZD4RS84-HH-600G	842024027331
Z-Drive R4 RS88	Full Height	512GB	400GB	Up to 400PB	ZD4RS88-FH-400G	842024027409
Z-Drive R4 RS88	Full Height	1024GB	800GB	Up to 800PB	ZD4RS88-FH-800G	842024027416
Z-Drive R4 RS88	Full Height	2048GB	1600GB	Up to 1600PB	ZD4RS88-FH-1.6T	842024027423

Need a custom solution? Contact oemsales@oczenterprise.com