



Marketing Bulletin

Drive Selection Guide

A Comparison of Seagate® 7200-RPM Drives

Selecting the right 7200-RPM hard drive is best done when the decision is based on application usage, technology requirements and drive design considerations. The information here works in conjunction with the 7200-RPM Drive Specification Comparison (MB578) to help your customers select the most effective drive for their environment.

	Barracuda®	Constellation®	Constellation ES	SV35 Series™
Usage Optimization	PC and personal external storage	2.5-inch business server and external storage arrays	3.5-inch business server and external storage arrays	Video surveillance applications
Typical Data Type	Desktop computing, files, databases, applications	Files, databases, applications, centralized surveillance and cloud storage	Files, databases, applications, centralized surveillance and cloud storage	Surveillance digital video and associated metadata
Primary Applications	Personal computers and personal external storage, workstations and low-cost personal servers ^{1,3}	Business servers, blade servers and JBOD/RAID storage systems ^{2,4}	Business servers and JBOD/RAID storage systems ^{2,4}	Surveillance digital video recorders
Typical Environment	Home and office	IT datacenter and small- to medium-sized business	IT datacenter and small- to medium-sized business	Broad range from home to industrial or commercial businesses
Environments	Dedicated desk area in office or home	Temperature- and humidity-controlled datacenters, and multi-drive systems	Temperature- and humidity-controlled datacenters, and multi-drive systems	Indoor
Usage Profile/Power-On Hours	On as needed, 8x5	Always on, 24x7	Always on, 24x7	Always on, 24x7
Capacity per Drive	160GB to 1.5TB	250GB to 1TB	500GB to 3TB	500GB to 2TB
Value Propositions	<ul style="list-style-type: none"> • Purpose built for personal external storage and desktop computers • Thirteenth generation delivers the industry's most reliable drive with the highest capacity and performance • Lowest power consumption in the desktop performance class—even with the best benchmark performance 	<ul style="list-style-type: none"> • Purpose-built for multdrive JBOD/RAID in 2.5-inch servers and external storage • Delivers the highest capacity reliability and optimized/tested for enterprise 2.5-inch server and storage • Lowest power option for 24x7 enterprise-ready Tier 2/nearline environments 	<ul style="list-style-type: none"> • Purpose-built drive for multdrive JBOD/RAID in 3.5-inch servers and external storage • Delivers the highest capacity and reliability for 3.5-inch hard drives • Best-in-class \$/GB value for 24x7 enterprise-ready Tier-2/nearline environments 	<ul style="list-style-type: none"> • Purpose-built drive for 24x7 surveillance digital video recording • Supports simultaneous video streams from multiple surveillance cameras • Optimized for surveillance, it conserves power, reduces heat and extends system life

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Application Usage				
Mainstream PC performance	•			
Home PC (gaming, multimedia, home theatre)	•			
Personal external storage (USB, FireWire, eSATA)	•			
Workstations	•			
Entry-level, low-cost desktop servers ¹	•			
Entry-level, low-cost business servers ²		•	•	
Desktop RAID/JBOD storage ³	•			
External storage (JBOD/RAID, DAS, SAN, NAS, VTLA) ⁴		•	•	
Small and medium business (SMB) server		•	•	
Video surveillance digital video recorder (SDVR) ⁵				•
Surveillance network digital video recorder (SNVR) ⁵				•
Centralized surveillance		•	•	
Technologies				
SATA interface (6Gb/s)		•	•	
SATA interface (3Gb/s)	•	•	•	•
SAS interface (6Gb/s)	•	•	•	•
SAS interface (3Gb/s)		•	•	
Reliability				
Typical operation hours	5x8	24x7	24x7	24x7
Mean time between failures (MTBF)		1.4M Hours	1.2M Hours	
Operation duty cycle	Low	High	High	High
Offline scan	•	•	•	
Workload management		•	•	
Idle read after write (IRAW)		•	•	
Quick and robust firmware download (QNR)		•	•	
Full IOECC/IOEDC for improved data integrity ⁶		•	•	
Improved error reporting ⁶		•	•	
Full duplex, dual port I/O ⁶		•	•	
Protection Information ⁶		•	•	
Performance				
Native Command Queuing	•	•	•	•
Video streaming firmware		•	•	•
ATA-7 video command support				•
Rotation vibration (RV) improves data accuracy and accessibility in multi-drive environments		•	•	
Dual-port for fail-over and data recovery in shared storage environments ⁶		•	•	
Multi-host support (16 hosts) ⁶		•	•	
Two concurrent data channels ⁶		•	•	
RAID Support	0, 1	0, 1, 3, 4, 5, 6, 10	0, 1, 3, 4, 5, 6, 10	0, 1, 3, 4, 5, 6, 10
RV Tolerance		•	•	
Commands				
Smart command transport (SCT)		•	•	

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Power				
Drive current-spin-up ceiling	•	•	•	•
PowerChoice™ on-demand power saving options		•	•	
PowerTrim™ technology power savings	•	•	•	
Lowest-power surveillance				•
Development Tools				
Error injection feature		•	•	
Tuneable mode pages ⁵		•	•	
RAID Rebuild™ feature		•	•	
One-step microcode download		•	•	
Compatibility testing with desktop infrastructure partners	•			
Compatibility testing with enterprise infrastructure partners		•	•	
Security				
Self-Encrypting Drives (SED) option		•	•	
Self-Encrypting Drives (SED FIPS Certified) option		•	•	
Acoustics				
SoftSonic™ motor technology	•			•
Form Factor				
3.5-inch form factor	•		•	•
2.5-inch form factor		•		

- 1 Low-cost desktop server is designated as single-drive personal server.
- 2 Low cost business server is designated as multi-drive business server.
- 3 Desktop RAID 0+1/JBOD with less than two drives
- 4 RAID/JBOD (typically with two or more drives)
- 5 Recommend Constellation ES or Constellation drive for SDVR and SNVR with RAID implementations.
- 6 Constellation ES and Constellation SAS drives only

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