

# Samsung F1R RAID-Class HDD



## Key Benefits for Enterprise Customers

<b>High Reliability</b>	<ul style="list-style-type: none"> <li>» 24x7 100% duty cycle, 1.2 million hours MTBF</li> <li>» Industry's best 7-year limited warranty</li> </ul>		
<b>Low Power</b>	<ul style="list-style-type: none"> <li>» Under 8 watts in R/W mode</li> <li>» 0.5 watts in standby mode</li> <li>» 0.8 watts in sleep mode</li> </ul>		
<b>Industry-Leading Performance</b>	<ul style="list-style-type: none"> <li>» Best-in-class media transfer rates: up to 175 MB/s</li> <li>» SATA II, 3 Gb/s Interface</li> <li>» Rotational vibration sensor for vibration tolerance</li> </ul>		
<b>World's First 1TB Drive with Only 3 Platters</b>	<b>Capacity</b>	<b>Model #</b>	<b>Buffer</b>
	1TB	HE103UJ	32MB
	750GB	HE753LJ	
	640GB	HE642JJ	16MB
	500GB	HE502IJ	
	320GB	HE322HJ	
250GB	HE252HJ		

## Applications

- » IT Infrastructure: Email, Database, Web Server, File Server
- » High-performance Computing: Data Warehousing, Life Sciences, Geosciences and Engineering Supercomputing
- » Software Compilers and Engineering Computing
- » Video Surveillance and Call Centers
- » Broadcast Video and Pro Audio
- » Backup, ILM, VTL and Content-addressable Storage

For more information go to: [www.samsung.com/hdd](http://www.samsung.com/hdd)



# Frequently Asked Questions

## What are the advantages of a Samsung RAID-class drive vs. a regular desktop drive?

- » Samsung F1R hard drives are engineered and manufactured for 24x7 server-class reliability.
- » F1R RAID-class drives are subjected to extensive testing to insure higher tolerances on key durability and quality assurance standards.
- » F1R RAID-class drives are backed by an industry's best 7-year limited warranty.

## What is Command Completion Time Limit (CCTL) and why do I need it?

- » CCTL, industry-standard firmware, is designed for error handling coordination with RAID adapters.
- » CCTL has been widely adopted on SCSI platforms and is now implemented on the F1R.
- » SATA-based CCTL eliminates long error recovery attempts that lead the RAID system to drop a drive out of the array thus issuing a false failure.
- » CCTL allows RAID controllers to function with higher reliability and increased uptime by limiting the drive's error recovery time.

## What makes the Samsung F1R a low-power drive?

- » The Samsung F1R offers best-in-class low power consumption with an average of less than 8 watts.
- » For systems designed with a power-saving sleep mode, the Samsung F1R can wake up in a shorter time period than any other drive in this class.
- » The F1R drive is capable of both DIPM (device-initiated power management) and HIPM (host-initiated power management).
- » Less power creates less heat, which improves overall system cooling, improving overall system reliability and lowering energy costs.

## Do all enterprise-class drives provide equal performance?

- » The Samsung drive is more efficient in moving large amounts of data (sequential transfers, read and write) than any other drive in its class.
- » *Tom's Hardware* recently compared high-performance RAID drives and the Samsung F1 was 18% faster than the nearest competitor.

## In RAID environments, does a SATA connection offer the same data integrity and end-to-end data protection as SCSI?

- » With 32-bit CRC error checking, the F1R communicates from the computer to the drive interface to insure complete data integrity for commands, data and system status.
- » The F1R confirms that every bit sent by the computer accurately moves through the buffer and matches the bits received by the drive.
- » ECC (Error Correction Codes) allows the drive to confirm that the originally written data is accurately stored and retrieved.

## How does the Samsung F1R handle system vibration?

- » The F1R includes rotational vibration sensors to correct for environmental vibration from other drives or fans.
- » Sophisticated firmware processes the input from the sensors to adjust the head tracking to compensate for environmental vibration.
- » RV sensors keep heads on track for better overall performance by reducing read/write misses and retries.

