

# Spinpoint F1

## Imagine a new era of Tera Byte storage

Imagine a breakthrough Tera Byte Technology with Samsung Spinpoint F1, the highest recording density, 1Tera Byte with **3** disks. Samsung Spinpoint F1 ensure an enhanced reliability and high performance for all your needs.



## World's best recording technology with **3** disks.

### Key Benefits

- World's First and Highest available density:  
3 disks solution creates 1TB capacity(32MB buffer)
- Comparing to 2x 500GB or 4 or 5 disk solution
  - Lower power consumption
  - Less weight (Higher GB/gm)
  - Fewer components
  - Better performance and lower failure rate.
- FOD (Flying on Demand) enhancing Read/Write performance and product reliability

### Key Specifications

- Max. 334GB Formatted Capacity Per Disk
- Serial ATA 3.0Gbps Interface Support
- SATA Native Command Queuing Feature set
- Enable / Disable Staggered Spin-up
- Hot-Plug and Presence Detect
- ATA S. M.A.R.T. Compliant
- ATA Automatic Acoustic Management Feature Set
- Asynchronous Notification
- NoiseGuard™
- SilentSeek™

### Special Features for CE

- Power Saving Code boosting the efficiency of power consumption in CE applications
- AV Optimized firmware feature set reducing time delay while Audio/Visual data proceeding
- SilentSeek™ and NoiseGuard™ eliminating any source of acoustic noise

### Special Features for Raid Edition

- 1.2M MTBF ensuring better reliability and long lasting operation: comparing to 0.6M MTBF
- Optional Rotational Vibration Sensor defending data against internal and external impacts



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## Features

- Max. 334GB Formatted Capacity Per Disk
- Serial ATA 3.0Gbps Interface Support
- SATA Native Command Queuing Feature set
- Enable / Disable Staggered Spin-up
- Hot-Plug and Presence Detect
- Device Initiated Power Management
- ATA S. M.A.R.T. Compliant
- ATA Automatic Acoustic Management Feature Set
- Asynchronous Notification
- PMR technology
- FOD(Flying On Demand) technology
- Optional RVC(Rotational Vibration Controller)
- NoiseGuard™
- SilentSeek™

Capacity <sup>1</sup>		320GB	500GB	750GB	1TB
Model & Buffer	8MB	HD321HJ	HD501IJ	N/A	N/A
	16MB	HD322HJ	HD502IJ	HD752LJ	HD102UJ
	32MB	N/A	N/A	HD753LJ	HD103UJ

### DRIVE CONFIGURATION

Interface	Serial ATA 3.0Gbps
Bytes per Sector	512
Buffer DRAM Size	8 / 16 / 32 MB

### PERFORMANCE SPECIFICATIONS

Read Seek Time (typ.)	
-Track to track	0.8 ms
-Average	8.9 ms
-Full Stroke	20 ms
Average Latency	4.17 ms
Rotational Speed <sup>2</sup>	7,200 rpm
Data Transfer Rate	
-Media to/from Buffer (max.)	175 MB/sec
-Buffer to/from Host (max.)	300 MB/sec
Drive Ready Time (typ.)	10 sec

### RELIABILITY SPECIFICATIONS

Non-recoverable Read Error	1 sector in 10 <sup>14</sup> bits
MTBF	600,000 POH
Start/Stop Cycles (Ambient)	50,000
Component Design Life	5 years

### ACOUSTICS (AVERAGE SOUND POWER)<sup>3</sup>

Idle	1 - disk	2.45 Bel
	2/3 - disk	2.7 Bel
Performance Seek	1 - disk	2.8 Bel
	2/3 - disk	2.9 Bel
Quiet Seek	1 - disk	2.75 Bel
	2/3 - disk	2.8 Bel

\*Notes : Design and specifications are subject to change without prior notice



### ENVIRONMENTAL SPECIFICATIONS

Temperature	
-Operating	0~60°C
-Non-operating	40 ~ 70°C
-Thermal Gradient (max.)	
	30°C/hr
Humidity (non-condensing)	
-Operating	5 ~ 90 %
-Non-operating	5 ~ 95 %
Linear Shock (1/2 sine pulse)	
-Operating, 2ms	70 G
-Non-operating, 2ms	1 - disk 350 G
	2/3 - disk 300 G
Altitude (relative to sea level)	
-Operating	-1,000 to 10,000 feet
-Non-operating	-1,000 to 40,000 feet

### POWER REQUIREMENTS

Voltage	+5V±5%	+12V±10%
Spin Up Current (12V)	1 - disk	2.0 A
	2/3 - disk	2.3 A
Seek <sup>4</sup>	1 - disk	9.5 W
	2/3 - disk	13.4 W
Read/Write	1 - disk	8.0 W
	2/3 - disk	9.5 W
Idle	1 - disk	5.4 W
	2/3 - disk	8.2 W
Standby <sup>5</sup>	1 - disk	1.0 W
	2/3 - disk	1.2 W
Sleep <sup>5</sup>	1 - disk	1.0 W
	2/3 - disk	1.2 W

### PHYSICAL DIMENSION

Height	26.10 mm
Length	147.00 mm
Width	101.60 mm
Weight	610 gram

1. 1MB=1,000,000 Bytes 1GB=1,000,000,000 Bytes  
\*Accessible capacity may vary as some OS uses binary numbering system for reported capacity
2. 7,200 RPM class. Actual speed can be different a little
3. Averaged value with a high performance cover
4. Random seek with 30% duty cycle
5. Power consumption with/without slumber mode