Addendum for ST330610A, ST315312A, ST310213A

This manual describes the functional, mechanical and interface specifications for the ST330610A, ST315312A and ST310213A. These drives provide the following key features:

- 8.9 msec seek time, 5,400-RPM and 2 Mbyte buffer combine for excellent desktop performance
- Low power consumption
- High instantaneous (burst) data-transfer rates (up to 100 Mbytes per second) using Ultra DMA mode 5
- Giant magnetoresistive (GMR) recording heads and GPRML technology, which provide the drives with increased areal density
- State-of-the-art cache and on-the-fly error-correction algorithms
- Full-track multiple-sector transfer capability without local processor intervention
- Quiet operation
- 350 Gs nonoperating shock
- The innovative, shock-absorbing SeaShield® cover protects the drive against electrostatic discharge (ESD) and other handling damage. It also includes installation instructions and jumper settings.
- SeaTools diagnostic software performs a drive self-test that eliminates unnecessary drive returns.
- Support for S.M.A.R.T. drive monitoring and reporting
- Support for drive self-test (DST) with S.M.A.R.T. Execute Off-line Immediate
- Support for Read Multiple and Write Multiple commands
- Support for autodetection of master/slave drives that use cable select (CSEL)

Publication Number: 100153584, Rev. A, April 2001
Addendum to 100129581, Rev. A

Specification summary table

The specifications listed in this table are for quick reference. For details on specification measurement or definition, see the appropriate section of this manual.

Drive Specification	**ST330610A**	**ST315312A**	**ST310213A**
Formatted Gbytes ($\times 10^6$ bytes)	30.6	15.3	10.2
Guaranteed sectors	58,633,344	29,336,832	20,005,650
Bytes per sector	512		
Default sectors per track	63		
Default read/write heads	16		
Default cylinders	16,383		
Physical read/write heads	2	2	2
Discs	1	1	1
Recording density BPI (bits/inch max)	562,436		
Track density TPI (tracks/inch)	58,000		
Areal density (Mbits/inch^2 max)	32,622		
Spindle speed (RPM)	5,400		
Internal data-transfer rate (Mbits/sec max)	436		
I/O data-transfer rate (Mbytes/sec max)	100		
ATA data-transfer modes supported	PIO modes 0–4 Multiword DMA modes 0–2 Ultra DMA modes 0–5		
Cache buffer (Mbytes)	2		
Height (mm max)	26.1		
Width (mm max)	101.85		
Length (mm max)	147.0		
Weight (typical)	550 grams (1.2 lb)		
Track-to-track seek time (msec typical)	1.2 (read) 2.0 (write)		
Average seek time (msec typical)	8.9		

Publication Number: 100153584, Rev. A, April 2001
Addendum to 100129581, Rev. A

Drive Specification	ST330610A	ST315312A	ST310213A
Average seek read (msec typical)	9.9		
Average seek write (msec typical)	10.9		
Full-stroke seek time (msec typical)	22.0 (read) 24.0 (write)		
Average latency (msec)	5.55 msec		
Power-on to ready (sec typical)	6.5 sec		
Standby to ready (sec typical)	6.5 sec		
Spindown (sec typical)	10 sec		
Startup current (typical) 12V (peak)	2.0/2.5 amps		
Seek power (typical)	7.5 watts		
Read/Write power	7.5 watts		
Idle mode (typical)	5.0 watts		
Standby mode (typical)	1.2 watts		
Sleep mode (typical)	0.9 watts		
Voltage tolerance (including noise)	5V ± 5%, 12V ± 10%		
Ambient temperature	0° to 60°C (op.), –40° to 70°C (nonop.)		
Temperature gradient (°C per hour max)	20°C		
Relative humidity (op. and nonop.)	5% to 90% (op.) 5% to 95% (nonop.)		
Relative humidity gradient	30% per hour max		
Wet bulb temperature (°C max)	29.4 (op.), 40.0 (nonop.)		
Altitude, operating	–60.96 m to 3,048 m (–200 ft to 10,000+ ft)		
Altitude (meters below mean sea level, max)	–121.92 m to 12,192 m (–400 ft to 40,000+ ft)		
Shock, operating (Gs max at 2 msec)	63		
Shock, nonoperating (Gs max at 1 and 2 msec)	350 Gs		
Vibration, operating	0.5 Gs (0 to peak, 22–350 Hz)		
Vibration, nonoperating	5 Gs (0 to peak, 22–350 Hz)		

Publication Number: 100153584, Rev. A, April 2001
Addendum to 100129581, Rev. A

Drive Specification	ST330610A	ST315312A	ST310213A
Drive acoustics Sound power in bels Idle mode Quiet Seek Performance Seek	3.0 (typical), 3.3 (max) 3.2 (typical), 3.5 (max) 3.4 (typical), 3.7 (max)		
Nonrecoverable read errors	1 per 10^{13} bits read		
Mean time between failures (power-on hours)	600,000		
Contact start-stop cycles (25°C, 40% relative humidity)	50,000		
SeaShield	Yes		

Electromagnetic compatibility

Korean RRL

If these drives have the Korea Ministry of Information and Communication (MIC) logo, they comply with paragraph 1 of Article 11 of the Electromagnetic Compatibility control Regulation and meet the Electromagnetic Compatibility (EMC) Framework requirements of the Radio Research Laboratory (RRL) Ministry of Information and Communication Republic of Korea. These drives have been tested and comply with the Electromagnetic Interference/Electromagnetic Susceptibility (EMI/EMS) for Class B products. Drives are tested in a representative, end-user system by a Korean-recognized lab.

- EUT name (model numbers): ST330610A, ST315312A, ST310213A
- Certificate numbers: E-H011-01-0713 (B), E-H011-01-0715 (B), E-H011-01-0709 (B)
- Trade name or applicant: Seagate Technology
- Manufacturing date: April, 2001
- Manufacturer/nationality: Singapore

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Addendum to 100129581, Rev. A