

## Momentum

The First 5400-RPM Notebook Drive to Combine High Performance With 4200-like Power



Harness the power of experience, commitment and innovation from the industry's only independent supplier of notebook disc drives.

### **BIG PERFORMANCE IN A SMALL PACKAGE**

Five seconds feel like an eternity when your customers are waiting for an application or file to open on their notebook computers. And along with a rise in demand for notebook computers is a demand for increased performance. After all, many people are utilizing docking stations to simulate the look and feel of their old desktop. Seagate® Momentum™ unlocks the power of notebook computers with a 5400-RPM spin speed and optional 8-Mbyte cache buffer, so your customers don't have to sacrifice performance for mobility.

### **BATTERY-SAVING POWER**

Up until now, a faster drive wasn't practical in notebook computers because it consumed the battery too quickly. The ideal notebook would have a high-performance hard drive with the type of power consumption your customers are used to. Thanks to Seagate, this is no longer just an ideal—it's a reality. Seagate Momentum delivers desktop-like performance while preserving the battery as if the system had a 4200-RPM drive.

### **TOUGH AND RUGGED DESIGN**

The profile for notebook users has expanded beyond just business people and the office. Notebook computers go everywhere now—planes, trains, cars, classrooms and more. They get powered-up, powered-down,

opened, closed, bumped and nudged several times a day. This requires every component in the system, including the hard disc drive, to withstand the stress of everyday use. Mobility requires ruggedness, and Seagate Momentum delivers the reliability and shock tolerance to protect your reputation and your customers' data.

### **INAUDIBLE ACOUSTICS**

Can you hear your notebook computer? Some notebook hard disc drives are loud and tend to be audible even when they idle. And when the drive seeks, it becomes even more noticeable. Seagate Momentum is completely inaudible at idle—actually below the human threshold of hearing.

The clicking sound a notebook makes when it's been sitting idle for a while can also be bothersome. That's because the drive has gone into standby to conserve battery power and has loaded the heads up onto the ramp. In order to eliminate that bothersome sound, Momentum offers QuietStep™ ramp load technology. It not only features whisper-quiet load/unload acoustics, but it's also more rugged because the heads are parked safely off the disc. Now you can build systems for your customers that can be seen and not heard.

## 5400-RPM ADVANTAGES OVER 4200-RPM

Test (in seconds)*	4200 RPM	5400 RPM	5400 Advantage
WinXP start-up and open WordPad	46.7	35.5	24%
WinXP shut-down	10.7	5.8	47%
170-Mbyte folder copy	51.4	36.2	30%
Open 12-Mbyte Excel file	6.2	3.3	47%

\* Both drives tested had a 2-MB cache. 5400-RPM results with an 8-MB cache would perform up to 10 percent faster, depending on operating system.

## HELPING YOUR CUSTOMERS WORK FASTER

It's proven! The increase in performance is significant, and a drive that spins faster helps your customers work faster. Your customers will see their notebook performance efficiency improve by 20 to almost 50 percent. Seagate Momentus enables you to offer your customers performance that is noticeably different from what they're used to.

## DESKTOP PERFORMANCE WITH AN 8-MBYTE CACHE

Why stop at just the faster spin speed, when you can offer your customers performance they might only expect from a desktop PC? Seagate Momentus is also available with an 8-Mbyte cache on top of its already fast 5400-RPM performance, so your customers can enjoy up to 10 percent more speed on their notebook computers.

## FASTER DRIVE OR FASTER PROCESSOR?

If you want to build a faster notebook, you can do it one of two ways. You can upgrade the processor or build with a 5400-RPM drive. Either way you will get the same performance, but the cost delta between the two is considerably different. Building with the faster drive will always save you money.

## MAKE THE TRANSITION

Don't make your customers choose between performance and mobility. Offer them desktop performance, long battery life and awesome durability. Seagate Momentus is here!

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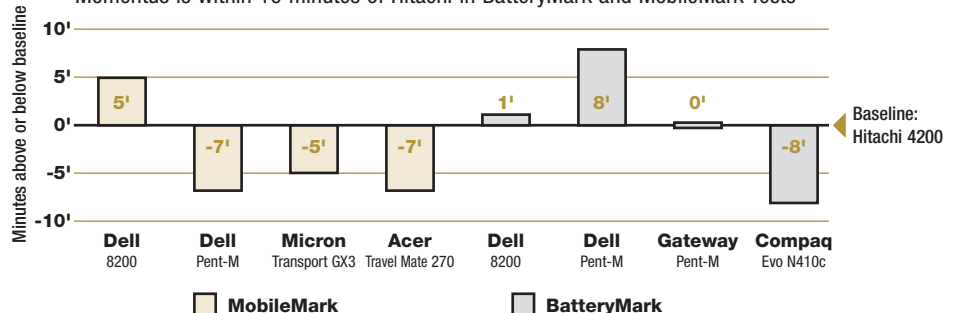


Momentus	40GB <sup>1</sup>	20GB <sup>1</sup>
Model Number	ST94011A, ST94811A	ST92011A, ST92811A
Interface/External Transfer Rate (Mbytes/sec)	Ultra ATA/100	Ultra ATA/100
<b>Performance</b>		
Transfer Rate		
Maximum Internal (Mbytes/sec)	48.25	48.25
Maximum External (Mbytes/sec)	100	100
Sustained Transfer Rate (Mbytes/sec)	34.5	34.5
Cache, Multisegmented (Mbytes)	2, 8	2, 8
Average Seek (msec)	10.0	10.0
Average Latency (msec)	5.6	5.6
Spindle Speed (RPM)	5,400	5,400
<b>Configuration/Organization</b>		
Discs/Heads	1/2	1/1
Bytes per Sector	512	512
Logical CHS	16,383/16/63	16,383/16/63
Recording Method	RLL 0,11	RLL 0,11
<b>Reliability/Data integrity</b>		
Head-Rest Method	QuietStep ramp load	QuietStep ramp load
3D Defense System™	Yes	Yes
Nonrecoverable Read Errors per Bits Read	1 per 10 <sup>14</sup> bits read	1 per 10 <sup>14</sup> bits read
<b>Power Management</b>		
+5 VDC ±5% (amps max)	1.0	1.0
Power Management (watts) Seek	2.4	2.4
Read/Write	2.4	2.4
Low Power Idle/Standby	.97/.36	.97/.36
<b>Environmental</b>		
Temperature, Operating (°C)	5 to 55	5 to 55
Temperature, Nonoperating (°C)	-40 to 65	-40 to 65
Shock, Operating: 2 msec (Gs)	225	225
Shock, Nonoperating: 1 and 2 msec (Gs)	800	800
Acoustics		
Idle (bels—sound power)	2.2	2.2
Quiet Seek (bels—sound power)	2.5	2.5
Performance Seek (bels—sound power)	3.0	3.0
<b>Physical</b>		
Height (in/mm)	.374/9.5	.374/9.5
Width (in/mm)	2.75/69.85	2.75/69.85
Depth (in/mm)	3.945/100.2	3.945/100.2
Weight (lb/g)	.218/99	.218/99

<sup>1</sup> Capacity calculated as 1 Gbyte = 10<sup>9</sup> bytes

## HIGH PERFORMANCE & BATTERY LONGEVITY: Seagate Momentus vs. Competitors' 4200-RPM

Momentus is within 10 minutes of Hitachi in BatteryMark and MobileMark Tests



Seagate Momentus offers a 5400-RPM spin speed and all of its advantages while drawing the same amount of power as the competitors' 4200-RPM drives!

All Seagate 5400-RPM drives are within ten minutes of competitors' 4200-RPM drives.