

Notebooks Store More: Hitachi Releases 100-Gigabyte Notebook Hard Drives

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Native Serial ATA Support and Enhanced Availability Broaden Capabilities of Hitachi 2.5-inch Hard Drives

[Hitachi](#) Global Storage Technologies is bringing to market the best combination of notebook hard-drive attributes in its new Travelstar 5K100 for standard notebook applications and E5K100 for more demanding data-access applications. The 100-gigabyte (GB*) hard drives offer the broadest capacity points, the highest shock tolerance and the lowest power consumption in their category. In addition, these new drives offer native Serial ATA (SATA) support.

Hitachi's newest 5400 RPM Travelstar products are also environmentally friendly. The drives are more than a year ahead of schedule in complying with the European Commission's RoHS directive for eliminating certain hazardous materials in the manufacturing of electronic equipment.

The leadership attributes of the Travelstar 5K100 and E5K100 help Hitachi to meet the varying needs of end-users, from consumer to enterprise**. In addition to achieving industry-leading specifications for

power, shock and capacity offerings, Hitachi has also maintained excellent performance, acoustics and reliability characteristics on its new drives.

"The combination of these characteristics has produced the most comprehensive offerings in the 2.5-inch, 5400 RPM hard drive category, which gives customers tremendous value for their investment," said Bob Holleran, general manager, 2.5-inch/1.8-inch Consumer & Commercial HDDs, Hitachi Global Storage Technologies. "In the past, increased storage capacity was the primary measure of technology advancement for hard disk drives; and while capacity still matters a great deal today, it's sharing the spotlight with other attributes that address the full range of end-user requirements."

The notebook landscape is rapidly changing, and Hitachi's approach to the 2.5-inch hard drive is changing with it. With notebooks quickly becoming a desktop-replacement solution, Hitachi is modifying attributes of the Travelstar drives to be more like a desktop (high capacity, high performance) in some respects, and more like a notebook in others (longer battery life, better acoustics, higher shock resistance). In yet another category, miniaturization and the need for around-the-clock data access in lower transaction environments is driving the requirement for enhanced-availability products in smaller footprints, which Hitachi is addressing with the addition of the Travelstar E5K100 model at 5400 RPM.

Welcoming SATA on 2.5-inch

The 2.5-inch hard drive segment is preparing to embrace the new SATA interface to increase data throughput beyond 100 Mbits/second. Already adopted by the 3.5-inch community, SATA is just beginning to take shape and show potential for the 2.5-inch segment.

Hitachi is offering native SATA support on both the Travelstar 5K100

and E5K100 to lead the transition to this new interface, which is intended to offer higher data transfer speeds and more simplified network configurations. The new SATA drives will use a compact cabling structure and smaller connectors that are designed to enhance air flow and reduce system complexity. The blade server category, for example, is expected to see the greatest benefit from SATA support on 2.5-inch drives.

Enhanced Availability

With the current Travelstar E5K100, Hitachi is now on its third generation of 2.5-inch hard drives for high-availability applications. The E5K100's smaller size and lower heat emission makes it an industrial-strength 2.5-inch hard drive to take on the more demanding data-access cycles typical of blade-server, Internet data center, Web hosting, server pre-processing and telephony applications. Users who require high data-availability will benefit from the E5K100's more aggressive power-on-hour attribute of 730 per month.

High-Growth Segment

Hitachi has also enhanced attributes of the Travelstar 5K100 to appeal to the fastest growing segment of the notebook market - the consumer buyers.

"The strongest driver for increased notebook capacity and better acoustics and power management is the consumer segment," Holleran noted.

Whereas notebooks were once a must-have exclusively for corporate road-warriors, the mobility and wireless convenience of notebooks are increasingly appealing to today's tech savvy consumers. In this scenario, the hard drive becomes even more important as consumers -- wanting to store more/better video, pictures, music, games and keeping them at arm's reach -- are looking for much higher storage capacity than the 40

GB typical of average corporate notebooks. Lower drive acoustics are also more important to this audience with increased usage of notebooks for gaming and audio/video enjoyment.

Both the parallel-ATA and SATA versions of the 5K100 will begin shipping to customers in the fourth quarter in 40, 60, 80 and 100-GB capacities. The E5K100, enhanced-availability model will also ship within this year.

Technical Specifications

Travelstar 5K100 & E5K100 (PATA & SATA)

40/60/80/100 GB

9.5 mm in height

5,400 rpm

70/70/70/86 billion bits per square inch maximum areal density

1/2/2/2 glass disk platter(s)

2/3/4/4 GMR recording head(s)

1000 G/1ms non-operating shock,

300 G/2ms operating shock

5.5 ms average latency

12 ms average seek time

0.85W active idle (PATA); 1.2 W (SATA) (not applicable for E5K100)

0.60W low-power idle (PATA); .85 W (SATA) (not applicable for E5K100)

ATA-6 Ultra DMA (mode-5) 100 MB/sec maximum interface transfer rate

95/102/102/102 weight in grams

2.2/2.5/2.5/2.5 Bels typical idle acoustics

2.4/2.7/2.7/2.7 Bels typical operating acoustics

*1 gigabyte = 1 billion bytes

** enterprise applications that are not heavily transaction oriented such as blade server, network routers,

point-of-sale terminals, telephone networking systems

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