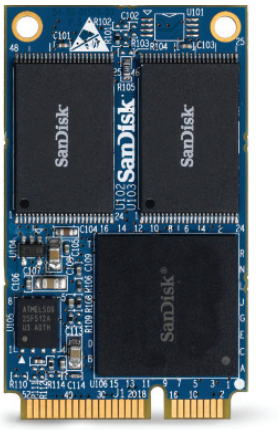
SanDisk® Vaulter™ Disk

Advanced Storage System Solution

High Performance with Parallel Transactions

Low Cost per GB



SanDisk® Vaulter™ Disk, a flash-based PCI Express (PCIe) module tucked away inside a consumer laptop, represents a new system approach to high-performance and high-capacity data storage. Enabled by predefined SanDisk software scripts, Vaulter Disk cleverly controls the distribution of storage data between itself and a high-capacity hard disk drive (HDD). All personal data and program files are stored on the HDD, while in parallel the Windows operating system (OS) is stored on Vaulter Disk.

This unique storage concept transparently speeds up data retrieval for boot and application load operations, as well as for unexpected user access to new files.

Main Features and Benefits

High User Responsiveness

Vaulter Disk was designed with consumer laptop users in mind. It consistently boosts user responsiveness by taking advantage of the best, native characteristics of the flash-based Vaulter Disk and the HDD. At the same time, it enables users to enjoy high-capacity HDD storage at a low cost per Gigabyte.

Vaulter Disk heightens user responsiveness when randomly accessing many small files. Users can feel the difference in speed both when performing repeated operations, such as opening frequently used applications, as well as for unexpected behavior, such as retrieving new applications or entries on the Internet.

Enhanced Performance with Parallel Transactions

Unlike caching solutions that are based on serial transactions, Vaulter Disk consistently boosts the speed of data retrieval using parallel transactions.

Vaulter Disk operates in parallel to the HDD to optimize data transfer to the host. Vaulter Disk handles small Read files, representing the majority of system file transfers. The HDD handles application files and user data.

When loading a typical application such as Microsoft® Word, for instance, Vaulter Disk reads the thousands of small OS kernel files while the HDD reads the hundreds of heavy program and data files. This parallel activity boosts Read performance by over 25% as compared with a HDD-only configuration.

High Reliability

SanDisk patented flash management technology brings top data reliability to Vaulter Disk, even during power loss.

SanDisk®

Vaulter Disk Specifications

High Performance[1]

- Sequential transfer[2] Read: 63 MB/sec
  Write: 25 MB/sec
- Random transfer[4] Read: 22 MB/sec
  Write: 3.5 MB/sec

Compatibility and Certifications

- Cross-PC open platform: requires no changes to the Microsoft stack storage driver
- Interface: PCI Express (PCIe), Rev 1.1, supports
  - Superior power management architecture as compared with USB or CompactFlash
  - Native boot and "return from hibernation"
- RoHS compliant

High Reliability

- Unlimited Read cycles
- Dynamic and static wear-leveling
- Dynamic bad block management
- Advanced error detection and correction code (EDC/ECC)

Technical Specifications

- Form factor: Full mini PCIe module
- Dimensions (L x W x H): 2.00in x 1.18in x 0.16in
  (50.95mm x 30mm x 3.85mm)
- Weight: 7g
- Temperature[5]
  - Operating 0˚C to +75˚C
  - Storage -40˚C to +85˚C
- Operating shock[5]: 50g, 11msec, half sine
- Non-operating shock[5]: 1500g, 0.5msec, half sine
- Operating vibration[5]: 2.17g RMS
  (7Hz to 700Hz)
- Non-operating vibration[5]: 3.08g RMS
  (8Hz to 500Hz)

Electrical Specifications[5]

- DC supply voltage: 3V ± 9% (max)
- Read/Write: <250 mA typ

OS Support

- Microsoft Windows®
  Vista™, XP™

Configuration

- Fixed disk

Capacity Range

- 8, 12, 16 GB[3]
  (Vista compatible)

Warranty

- 3 years

1. Vaulter Disk 16GB; Desktop Pentium D 3.41Ghz Asus P5LD2-SE with 2G DDR2 RAM OS - Vista Premium

2. Winsat IO size 65536

3. 1 gigabyte (GB) = 1 billion bytes; 1 megabyte (MB) = 1 million bytes; speed based on internal testing; performance may be lower depending on host device. Some of the listed capacity is used for formatting and other functions, and thus is not available for data storage.

4. Winsat 4096 IO size

5. Preliminary

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