



Boost Desktop Performance the Easy and Affordable Way

SSDNOW  SERIES

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**PCW Test
Center**

 **Kingston**
TECHNOLOGY
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SSDNOW V SERIES

Are you tired of waiting around while your pokey desktop PC performs routine tasks like booting up, running applications or scanning for viruses? If you are, you're likely the victim of a too-slow hard disk drive or aging PC. While components such as processors, RAM and video cards have improved exponentially, traditional hard drives lag behind. Even today's most powerful CPU is forced to wait for data from a comparatively sluggish mechanical disk.

What's more, magnetic hard drives have many moving parts, which makes them susceptible to failure and puts your data at risk. There must be a better way – and that way is the SSDNow V-Series solid state drives from Kingston Technology.

With no moving parts, the V-Series solid state drives are more reliable and consume less power. Kingston SSD's use NAND chips to increase speed and performance on a wide range of desktops, from high-end gaming systems to budget PCs. Adding the V-Series can make a cheap system feel like an expensive one, or it can help a high-powered system rocket to new levels of performance.

The Case for SSDs

With speeds many times faster than a typical hard drive, solid state drives (SSDs) can blast through the data bottlenecks slowing down most desktop computers.

SSDs are faster than hard drives because of the way they store and access data. Traditional hard drives use a spindle to read a rapidly rotating magnetic disk, similar to a turntable. SSDs store data on an array of NAND flash memory chips and contain no moving parts. With an SSD, there's no need to wait for the arm holding the read/write head to move to the proper track and the right sector of the disk to rotate under the head. The result is better performance through lower latency, the time between a request for information and the information beginning to be retrieved from the disk.

Another advantage is greater shock resistance and durability, because a solid state drive can survive jarring better than a delicate and complex hard drive. And no moving parts means less power consumption and quieter operation.

The Kingston SSDNow V-Series reduces the risk and expense of upgrading your desktop to a better performing SSD. The cost of the V-Series, starting at less than \$150 for 64GB, makes upgrading affordable. And the included upgrade kit with easy-to-follow instructions makes installation and data transfer a snap. The drive is intended to be used in tandem with your old hard drive; you'll put applications and your operating system on the SSD, and use the hard drive for your data.

SSDNow V-Series: Making Any Desktop Better

The V-Series can breathe new life into an aging desktop's performance, making it seem new again or even better than new.

If you're like most PC users, in the beginning you were thrilled with the performance. But as your system ages, it can slow down. Sufficient RAM and CPU power don't necessarily solve the problem, as the issue often has to do with more resources utilized in the background as more information is stored on your PC.

If a new PC isn't in your budget, why not upgrade the hard drive to an SSD? For less than \$150, you can extend the life of your system for one to two years with a Kingston SSDNow V-Series SSD.

The blazing fast V-Series SSD can supercharge a budget PC so it outperforms systems costing hundreds of dollars more. Even high-end machines can benefit from the switch, as we will see from lab tests performed by PC World's Test Center. (See "PC World's Test Center Confirms V-Series' Performance Gains.")

The benefits of a V-Series SSD are evident the second you turn your system on. A low-end eMachines desktop running Windows XP Home booted up more than 25% faster with the V-Series installed, compared to the standard hard drive. Virus scanning performance was more than 35% better using Panda Anti-Virus Pro 2009, and shutting down an Adobe Photoshop session was more than 20% faster.

Both high-end and midrange test systems showed gains across different tests, but perhaps most interesting was the system-boot test of a high-end Gateway system running Windows Vista Home Premium 64-bit. Using the V-Series instead of the stock hard drive, performance improved more than 30 percent, higher than the gains in the low-end desktop.



SSDNow V-Series
Desktop Kit

continued on back >>

PC World Test Center Confirms V-Series' Performance Gains

To test the performance of the Kingston SSDNow V-Series SSDs, PC World Test Center conducted a number of tests on budget, moderate and high-end desktops equipped with both the V-Series drives and stock hard drives from the factory. The tests were hand-timed to the nearest tenth of a second. Each test measured the speed of the total system when engaged in heavily data read-oriented tasks.



The three configurations were as follows:

Budget Test Bed

Vendor: eMachines EL1200-05W
Operating System: Windows XP Home
Processor: AMD Athlon 2650e @ 1.6-GHz
RAM: 1 GB
Hard Drive: 160GB Hitachi Deskstar, 7200rpm SATA

Moderate Test Bed

Vendor: Velocity Micro
Operating System: Windows Vista Home Premium 32-bit
Processor: Intel Core2 Duo E6550 @ 2.33-GHz
RAM: 2 GB
Hard Drive: 500GB Western Digital RE3 WD5002ABYS, 7200rpm SATA 3 GBits/s

High-end Test Bed

Vendor: Gateway
Operating System: Windows Vista Home Premium 64-bit
Processor: Intel Core i7 920 @ 2.67-GHz
RAM: 6 GB
Hard Drive: 750GB Seagate Barracuda 7200.11 ST3750630AS, 7200rpm SATA 3 GBits/s

Each system was initially tested with the original hard drive in place. After removing the original drive, tests were performed with a 64GB Kingston SSDNow V-Series drive, and then with a 128GB V-Series drive.

Test Results

The boot time test resulted in significant differences in performance between hard disk-equipped systems and those with SSDs installed. Table 1 shows the results of the three systems in their tests:

TABLE 1

System	Hard Drive	Bootup Time (in seconds)	V-Series Performance Gain
eMachines	Hitachi 160GB	48.8	
eMachines	Kingston 64GB	35.7	26.8%
eMachines	Kingston 128GB	36.0	26.2%
Velocity Micro	Western Digital 500 GB	45.9	
Velocity Micro	Kingston 64GB	41.0	10.7%
Velocity Micro	Kingston 128GB	41.0	10.7%
Gateway	Seagate 750GB	68.4	
Gateway	Kingston 64GB	46.3	32.3%
Gateway	Kingston 128GB	47.0	31.2%

Tests of the time required to scan selected folders using Panda Anti-Virus showed similar patterns, as listed in Table 2:

TABLE 2

System	Hard Drive	Scan Time (in seconds)	V-Series Performance Gain
eMachines	Hitachi 160GB	406.7	
eMachines	Kingston 64 GB	260.8	35.9%
eMachines	Kingston 128GB	261.3	35.8%
Velocity Micro	Western Digital 500GB	170.7	
Velocity Micro	Kingston 64GB	135.8	20.4%
Velocity Micro	Kingston 128GB	136.6	20.4%
Gateway	Seagate 750GB	340.4	
Gateway	Kingston 64GB	242.4	28.8%
Gateway	Kingston 128GB	243.4	28.5%

What the Results Mean

The tests indicate that the Kingston SSDNow Series V drives have significantly better read performance than do the traditional spinning-media drives shipped with systems at various power/price points. In each case the V-Series drives outperformed the factory drives regardless of the power of the underlying system.

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A No-brainer Investment

The V-Series is easy to install, even if you don't have much technical experience. The desktop upgrade kit comes with the drive, power and data cables, mounting rails, and a CD-ROM with installation instructions and hard-drive cloning software. Very clear instructions, complete with screen shots and tables, explain the process. Once the SSD is in place, it's easy to copy all the files from your old hard drive, including your operating system, programs and data. You'll even be able to continue using your old hard drive for your overflow data files.

For added peace of mind, the V-Series is backed by 24 x 7 tech support, three-year warranty and legendary Kingston reliability, making it an excellent investment.

Whether your PC is new or old, budget or high end, you can benefit from the better performance, higher reliability and energy efficiency of the Kingston SSDNow V-Series. It's a no-hassle, low-cost way to improve your desktop computing experience.

