



Case Study

CR Kennedy Raises Reliability and Capacity—But Not Cost—With First Surveillance-Specific Hard Drive Solution From Seagate

Challenge

Leading digital closed-circuit television (DCCTV) system wholesaler CR Kennedy needs robust video storage solutions that deliver around-the-clock availability, optimal performance and reliability for the surveillance applications it builds for high-profile Australian and international clients.

Solution

The Seagate® SV35 Series™ hard drive—the first specialized video storage solution designed and developed for the surveillance industry with features to optimise performance, save power and improve reliability in video surveillance applications

Benefits

- Risk mitigation and optimised performance through improved reliability, availability and quality
- Cost effectiveness
- Ease of deployment and optimised performance through use of industry standards
- Increased capacity for continuous recording and review long after the event, and ability to store many incoming feeds simultaneously

Crime and antisocial behavior come at great cost to business and the community. From graffiti, vandalism and theft, to recent world events that demonstrated the vulnerability to attack of public places, surveillance systems are playing an increasingly important role as both a deterrent and as a source of evidence to support investigations and prosecutions.

The introduction of the first hard disk drive specifically engineered for the video surveillance market, the SV35 Series drive, has given leading DCCTV system wholesaler CR Kennedy & Company a new ally in the battle to help protect people and property.

As Australia's largest distributor of photographic, surveying, surveillance, medical and digital audio equipment, CR Kennedy builds and supplies solution-based surveillance systems for many large, well-known corporate and government customers.

Eco-Partner
CR Kennedy

Location
Victoria, Australia

Contact
<http://www.crkennedy.com.au>

Primary Focus
Distributor of surveillance equipment

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CR Kennedy builds solution-based surveillance systems where expert staff tailor systems to meet specific project specifications. The systems need to be robust, reliable and available 24x7. Business owners expect crisp, smooth digital footage to be retrievable days or weeks after an event occurs, at an image quality that allows suspects to be identified beyond little doubt.

Seagate addressed the unique requirements of the video surveillance industry and DCCTV suppliers like CR Kennedy by developing a complete portfolio of hard drive solutions engineered to effectively, efficiently and reliably store video surveillance footage.

Although the advent of affordable digital video technology had fundamentally changed the surveillance industry, 24x7 recording was cost prohibitive.

After becoming a member of the Seagate Partner Program following the launch of the new SV35 Series drive for video surveillance applications, CR Kennedy began using the drives in the surveillance systems it builds for commercial and government customers.

“Seagate recognised that purpose-built video surveillance systems are an effective way of protecting both public and private institutions, people and property,” CR Kennedy’s Derek Barratt-Thompson said.

While server-grade drives have traditionally provided the reliability required for constant-use scenarios, they are significantly more expensive.

Using a less expensive option for surveillance purposes—desktop-grade hard-drives—brought other limitations and risks. The non-stop hard drive activity could cause drives to fail, and regular desktop drives are not tuned for video streaming performance. Therefore, desktop hard drives were not an option for professional DCCTV suppliers like CR Kennedy.

Premium Performance Without the Premium Price Tag

Purpose-built SV35 Series surveillance video hard drives overcome cost and performance limitations by including technologies that minimise the likelihood of failure in surveillance systems—without a price premium over lesser-quality desktop drives.

“CR Kennedy can now maximize video storage capacity and reliability for our customers with a cost-effective DCCTV solution,” Mr. Barratt-Thompson said.

“The Seagate SV35 Series drive is specially designed and developed for the surveillance industry with features to optimize performance, save power and, most importantly, to maintain and improve reliability in video surveillance applications.”

Seagate SV35 Series drives are easy to integrate into systems because they are built around standard PC interfaces but have features similar to high-end server drives to safeguard the drive’s longevity.

The drive’s cost is competitive against standard PC desktop drives (and represents a small fraction of the cost of solid-state storage), giving CR Kennedy customers a virtually cost-neutral upgrade to a higher level of reliability.

As with many critical technology environments, the biggest cost is not hardware. For example, if surveillance video needs to be recovered from a desktop PC drive found to be faulty, recovery costs could run into thousands of dollars, or, in the worst case, recovery may not be possible, and the cost could be an unsuccessful prosecution or failed insurance claim.

Capacity and Quality

Hard-drive based recording is the key to capturing many camera feeds at full quality simultaneously, according to Mr. Barratt-Thompson.

“The surveillance industry needs massive hard drives which allow the storage of huge quantities of digital video data whilst also providing unprecedented fast access and review of recorded video not possible on legacy tape-based systems,” he said.

The high-capacity SV35 Series drives—which range from 160 GB to 500 GB—are ideal for storing many incoming feeds at once while preserving image quality and frame rate.

“With the large capacity of the SV35 Series drive, CR Kennedy can offer solutions to our customers with massive storage capacities but fewer drives. This brings benefits of less cost, less generated heat, less noise and—very importantly—less

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maintenance,” notes Mr. Barratt-Thompson. “Customers always want more storage and we don’t see this changing. We can offer customers 1 TB of storage with just two drives!”

The massive storage capacity not only allows weeks of uninterrupted high-quality video recording, it enables workflow efficiencies in analysing historical footage, such as the pattern-recognition software and event retrieval.

Engineered to Reduce Heat

SV35 Series drives overcome heating issues that can hamper reliability of systems using standard desktop drives. They produce less heat, consume less energy and are more resilient to external heat sources than regular hard drives.

This is crucial for surveillance systems, which are usually recording 24 hours a day, constantly writing to the hard drive, and sometimes housed in concealed positions where airflow is not ideal.

Desktop PC hard drives, in comparison, are designed around the assumption that a PC will frequently sit idle, allowing the hard drive time to cool down. Constant overheating can affect data integrity, because expansion of air and metals in the drive can cause head fly height to fluctuate, which in turn causes variation in the magnetic field used to write data. In extreme cases, the physical media can degrade, leading to catastrophic hard drive failure and expensive data recovery costs.

Seagate surveillance hard drives are resilient toward these risks. The large capacity of the SV35 Series drive means fewer drives need to be installed in a system chassis, further reducing heat and power consumption and providing additional benefits, such as lower server cooling costs.

Industry Streaming Standard Optimized Video

The Seagate SV35 Series drive is among the first in the industry to include support for the new ATA-7 industry standard that allows software to tune drive performance for video streaming.

A time limit can be set on certain drive operations, ensuring video is smoothly saved to disk and played back. For example, while a desktop drive might spend seconds reading and rereading a few bits of data, it is far more important in a video capture scenario to keep the stream moving, so that whole frames of video are not dropped.

Perhaps surprisingly, complete data integrity for video is not of utmost importance, because a small error introduced into a video stream does not compromise the overall integrity of the image.

Traditional desktop PC hard drives place a high priority on error correction even if the errors are extremely minor. That creates problems when a video stream needs to be recorded continuously; delays caused by minor error correction can result in dropped frames. The end result may be crucial moments not being recorded, simply because a drive was trying to perform minor error-correction tasks.

A video-optimized drive such as the SV35 Series drive will try briefly to correct the error, but after a software-defined period, it will simply provide the data stream with minor errors. Either software-based error correction overcomes the error or a tiny visual glitch passes by the viewer in a fraction of a second, which is preferable to dropping vital seconds of video.

SV35 Series drives are a natural choice for surveillance solution suppliers like CR Kennedy, who want to offer customers the assurance that their surveillance storage is expertly engineered for reliability and performance, without the price tag usually attached to application-specific hardware solutions.

To Learn More

Seagate SV35 Series drives

For more information on utilizing Seagate SV35 Series drives for video surveillance operations, visit www.seagate.com.

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ASIA/PACIFIC
EUROPE, MIDDLE EAST AND AFRICA

Seagate Technology LLC 920 Disc Drive, Scotts Valley, California 95066, United States, 831-438-6550
Seagate Technology International Ltd. 7000 Ang Mo Kio Avenue 5, Singapore 569877, 65-6485-3888
Seagate Technology SAS 130-136, rue de Sully, 92773, Boulogne-Billancourt Cedex, France 33 1-4186 10 00