

Kingston SSDs Give Video Imaging Company Competitive Advantage



“ Our Vortex video System delivers the high-resolution capture, zoom-in and replay performance that make us a player in the sports broadcast industry. Without a doubt, Kingston SSDs have made our solution very attractive to our customers in government and industry too.”

*John Kerr
CEO,
PsiTech, Inc.*

Business challenge

Football fans can thank PsiTech Inc.'s Vortex™ video System for helping referees to make the right call. With 10 seconds to go, and down by 5, the Cowboys' Tony Romo threw a 37-yard touchdown pass against the Giants.¹ The Vortex-enabled replay showed that receiver Dez Bryant's hand touched out of bounds. Void touchdown. Giants win.

PsiTech's Vortex System provides customers' 4K cameras with image capture, retrieval and processing capabilities. The performance of those features are reliant upon quality RAM and storage drive components.

"All of our customers work with high-resolution and/or high-frame-rate video data," explains John Kerr, CEO for PsiTech of Fountain Valley, California. "And in order to get the level of detail that can differentiate between a hand and an end-zone boundary, we have to use an uncompressed format."

As a result, the Vortex System consumes terabytes of data to store a complete game. That required a battery of 30 spinning disks which drove up the solution's footprint to a bulky 5 RUs. "Broadcasters are always on the move," says Kerr. "So having to set up, move, and tear down the heavy Vortex

SUMMARY

Managers needed a shock-resistant, high-capacity, high-performance SSD to quickly store and retrieve video data in an uncompressed format. In-house benchmark tests led them to choose Kingston SSDs and RAM.

- Vortex™ product captures, stores and processes high-resolution data in uncompressed format
 - Is a competitive advantage for high-resolution and high-frame-rate camera user customers
- Standardized on solid state drives to:
 - Shrink video product by 60 percent (from 5RUs to 2RUs)
 - Enter new markets: helicopter/ship/drone-borne opportunities
 - Significantly increase reliability in harsh environments



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"Our Vortex System is entirely solid state now due to the capacity and performance of the Kingston SSDs. Our solution is more reliable, more mobile and better performing for our customers."

John Kerr
CEO
PsiTech, Inc.



throughout the season was not ideal."

Neither was the spinning disks' performance. "Our customers use and transport our systems in rough environments, like launch sites, dirt roads and on poor-suspension trailers," recalls Kerr. "We wanted our System to be fully solid-state to better handle the harsh conditions."

Technology solution

Kerr's team evaluated a number of solid-state drives (SSDs) to find a suitable replacement for roughly-treated disk drives.

"The Kingston SSDs were the first to pass our battery of performance tests," recalls Kerr. "They allow us to store data without losing any image data. And they have the added advantages of using less power and being able to better withstand a lot of mechanical vibration."

The higher density and performance of the Kingston SSDs allowed Kerr's design team to shrink the Vortex' chassis by 60 percent—from 5RUs housing 30 spinning disks to 2RUs hosting 14 SSDs.

"The Vortex is smaller, lighter and travels better than it ever has," says Kerr. "It's truly the ideal, mobile video solution for our customers."

The Vortex System also uses Kingston RAM in 32, 64 and 128 GB configurations. "To meet our customers' requirements, the Vortex needs to buffer large amounts of data to augment the disks," explains Kerr. "One of the things that we like about our partnership with Kingston is that we can get reliable, high-performance RAM and SSDs from one place."

Business results

The Kingston-equipped Vortex System delivers a number of benefits to PsiTech.

Performance that delivers a competitive advantage

The Kingston SSDs deliver sustained write speeds that are essential for broadcasters to provide an engaging viewer experience.

"One of the things that differentiates our product from the others in the marketplace is the sustained write throughput that we get," recalls Kerr. "You can't interrupt, or throttle down the flow of massive amounts of image data during a football game because you risk missing a critical play. So the Kingston SSDs' sustained throughput really gives us a competitive advantage."

As huge data volumes are captured, editors need to process it in real time. To Kerr, "That makes the Kingston SSD's read speeds the second most important feature because our client editors can quickly queue up replays and zoom captures."

The high-capacity Kingston SSDs also allows the Vortex to store video data in an uncompressed format. "That enables our customers to extract much more detail from video footage in a way that is much more enjoyable to watch," says Kerr. "That capability is what makes our System uniquely-suited for a number of different applications."

- **A superior sports broadcast experience.** The Vortex allows sports broadcast replay editors to

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zoom in on tiny details to settle contested plays. Moreover, it can manipulate the data to change the camera's perspective and make replays more visually interesting. "The ability to re-edit and replay images seconds after a play allows our customers to deliver a much more exciting viewing experience," states Kerr.

- **Enables revenue-generating product-placement opportunities.** The Vortex' high-resolution, uncompressed-storage capability allows editors to zoom in on features that were not previously discernable. "After a big play, an editor can zoom in on his shoe with such detail that viewers can read the manufacturer's logo," says Kerr. "That feature gives our customers all sorts of lucrative product placement options."
- **Ideal for fast frame-rate applications.** A Vortex System captured and returned high-frame rate images of a shuttle Discovery launch. "Because we were capturing at such a high frame rate, we had about 13 frames that showed a detached piece of foam trailing past the wing and engines. That compares to the one or two which they had before. The uncompressed format allowed NASA engineers to determine that the foam caused no damage."
- **Unleashes the creative potential of directors and editors in post-production.** "By filming sequences in uncompressed format, creative types can zoom in, and make adjustments to the camera perspective with no noticeable loss in resolution," says Kerr. "Suddenly, directors need fewer cameras and takes because they have this huge leap in their ability to manipulate post-production content."

As video-industry technologies advance, Kerr is confident the Vortex System can keep pace. "The more that camera resolutions and frame rates increase, the more interest we get in our System. The ability to capture and process ever-increasing amounts of uncompressed data has maintained our competitive advantage in the marketplace. And the performance and capacity of the Kingston SSDs have been key contributors to our success."

To find out how solid state drives and RAM from Kingston Technology can help your organization, visit us at kingston.com

1 Borden, Sam, "Giants Hang On to Victory, by a Finger," The New York Times, October 28, 2012.

Please note: Some of the listed capacity on a Flash storage device is used for formatting and other functions and thus is not available for data storage. As such, the actual available capacity for data storage is less than what is listed on the products. For more information, go to Kingston's Flash Memory Guide at kingston.com/flashguide.

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