



Case Study

VT Miltope

Rugged-Militarized Laptop Relies on Seagate® EE25 Series™ Drives for Maximum Reliability in the Toughest Conditions

With tag lines such as “Built to outlast the civilization that created it,” VT Miltope memorably makes the case for its “hard wear” hardware. Offering a wide range of rugged computing products, Miltope caters to the toughest users operating in the most punishing physical environments. Not surprisingly, Miltope’s business predominantly comes from military customers.

One of the company’s most successful product lines is the TSC-750M rugged-militarized laptop computer, with more than 50,000 units ordered and almost 45,000 delivered to date. These impressive sales figures validate the supreme confidence Miltope has in the TSC-750M, which carries an extraordinary five-year warranty. With the latest generation of laptops boasting a miniscule failure rate of less than 1.2 percent, that confidence is fully justified.

Company

VT Miltope Corporation

Location

Hope Hull, Alabama

Contact

www.miltope.com

Primary Focus

Specializes in the design, development and production of rugged computers, servers, printers, mass storage devices and related peripherals that must operate in the most demanding environmental conditions

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Achieving such remarkable reliability in a product that must frequently endure the most brutal conditions imaginable does not come easily. Miltope rigorously tests every component that goes into the TSC-750M, and then continues testing each succeeding generation to ensure it still meets their needs—all while constantly searching for even better components from other vendors. Miltope's selection of the Seagate EE25 Series hard drive for use in the TSC-750M is a direct result of that relentless pursuit of quality and reliability.

Built Like a Tank

As one would expect, the TSC-750M rugged laptop is built like the proverbial tank—indeed, it can actually survive a truck being driven over it! But that anvil-like durability must not come at the expense of size or weight; this is, after all, a portable computer that is used by the military for unit-level, in-the-field maintenance of tanks, trucks, missile systems, aircraft and other equipment.

Miltope engineers had already incorporated sophisticated anti-shock and anti-vibration features in the TSC-750M's chassis, so the superior shock and vibration resistance of the EE25 Series drive was just icing on the cake. More significantly, the EE25 Series drive is capable of reliably operating at temperatures far below those tolerated by standard laptop drives, delivering a host of dividends to Miltope.

Explains Brett Smith, director of engineering, "We have to start the TSC-750M's drive as it's pulled out of cold storage. That cold storage can be as low as -57°C , for example, in Antarctica or environments like that. So while users will bring the laptop into a warmed environment, that drive just came from a very cold environment. And the Seagate® EE25 Series™ drive does better than other drives in adapting from that initial stress. That was one of the major reasons we decided to choose the EE25 Series drive."

The benefits of the EE25 Series drive go beyond reliable performance in frigid conditions, Smith continues. "With standard commercial drives, we've tried using heaters and other tricks to get the drive to start when it doesn't want to boot up at such a cold temperature. With the Seagate® EE25 Series™ drive, we don't have to use a heater, and that reduces both system cost and weight. It also helps extend battery runtime by consuming less power."

Storage Veterans

Founded in 1975, Miltope has a distinguished track record of supplying storage solutions to the military. The company began with tape-based products and soon transitioned into manufacturing its own hard drives. When commercially-available drives eventually made more economic sense than building its own, Miltope then turned its attention to delivering complete rugged hard drive solutions.

Julie Briggs, vice president of federal programs, recalls that, "At that point, we had a very keen understanding of what to do based on our drive-building experience. We changed our emphasis to the design and manufacture of the enclosures, the servers and the mass storage units in which those drives reside. Now we offer hard drive systems, that is, packaged hard drives that people can safely drop on the ground and use in extreme temperatures or in other demanding conditions."

With such an intimate understanding of both hard drive technology and enclosure design and manufacture, Miltope knows how to take full advantage of the EE25 Series drive's ruggedness. Smith notes, "Heat is always a problem, vibration is always a problem, but there are lots of things you can do with chassis design and isolation to help mitigate that. More robust drives like the Seagate® EE25 Series™ drives offer the opportunity to reduce the cost of that isolation. So you have to look at the whole picture to fully appreciate the benefits that those drives can deliver."

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Only the Best

Miltope's remarkable dedication to reliability extends to seemingly minor details. Chuckles Smith, "In the case of one of our suppliers with multiple manufacturing facilities, we even got to the point of saying, 'We won't buy from that facility,' because we could discern a difference in quality between the two sites."

According to Briggs, Seagate has stood the test of time for Miltope. "We have a long history of using Seagate® drives across our product line." Smith concurs, noting that, "Starting back in the late eighties, early nineties, we've primarily used Seagate® drives in the enterprise arena...that typically has meant fielding drives in servers for airborne applications."

Would it be safe to say that Miltope is very much satisfied with the current EE25 Series drives? "Yep," confirms Briggs, while a laughing Smith reminds that, "We're always looking ahead to the next generation."

To Learn More:

Seagate® EE25 Series™ Hard Drives

For more information on
utilizing EE25 Series drives,
visit www.seagate.com.

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