MEMKOR

ADVANCE THE MISSION

OVERVIEW

MEMKOR specializes in providing cutting-edge storage solutions for Defense and Aerospace applications with our SECURE, HIGH ENDURANCE, and RUGGED Military-grade SSDs. Designed and manufactured with certified security parameters, our Commercial-Off-The-Shelf (COTS) solid state solutions are field-proven and feature-rich.

Manufactured with only high-reliability components, our own controller and standard or specialized firmware, we offer Locked BOM with obsolescence management, and a commitment to customer service throughout the program life cycle.

With the MEMKOR experience and engineering talent, we offer solutions in a wide range of form factors (standard and non-standard) and interfaces (SATA, PCIe, USB, and PATA), ensuring that we meet all your program's storage requirements.

Over the past 16 years, MEMKOR has been a trusted supplier for major Defense projects. Our mission is to fulfill your program's storage needs and ensure your success.

CURRENT DEPLOYMENTS

MEMKOR Military-grade Solid State storage solutions are trusted by numerous programs within the U.S. Air Force, Army, Marines, Navy, as well as NATO country Defense programs worldwide. Our devices have been deployed successfully in the harshest operating environments and situational conditions across the globe, providing secure storage with FIPS140-2 validated, CSfC, and Two-Factor Authentication solutions available.

Extremely rugged BLACK series SSDs deployed in:

- Advanced, rugged airborne targeting systems
- State of the art rugged situational awareness multi-domain data router for the airborne platforms
- Weapon control systems, and other high-security requirement applications that require FIPS140-2

Versatile ORANGE and BLUE Series SSDs field deployed in:

- Numerous program for the U.S Navy submarines and surface ships
- Several applications on UAVs, Tanks, and Combat Vehicle on multiple programs
- Navigation, data collection, high security requirements

SECURE — RUGGED — RELIABLE

MEMKOR

OPTIMIZED FOR YOUR APPLICATION

MEMKOR Solid State Storage families are optimized to target a wide range of Defense applications.

ORANGE Series
Standard form factor, feature set, and ruggedness levels suitable for harsh environments. ORANGE outperforms in:

- –40°C to 85°C Operating temperatures
- Up to 16.3 GRMS vibration load and 50G 11ms shock

Built with high-quality industrial grade MLC or the most reliable SLC NAND. Available in SATA, PCIe, USB, PATA interfaces. With carefully selected BOM and mature firmware, ORANGE is backed by 5 year/TBW warranty.

FIPS 140-2 validated and compliant solutions available.

3U VPX — Removable storage with deployment flexibility that can easily manage multiple self-encrypting drives in one system. Perfect for data recorders, our 3U VPX units have the fastest write speeds and can store up to 20TB. They offer rugged construction for convection or conduction cooled applications.

BLUE Series — Tailored and non-standard rugged form factors to enable maximum density and M+ Capacity. Support for SATA, PCIe, and USB interfaces. Available in increased height 2.5"/U.2, tailored mSATA, and M.2 boards compatible with standard mounting and physical interfaces, and proprietary form factors. *BLUE Series* SSDs are built using the most reliable industrial grade SLC or MLC NAND and are covered with 5 year/TBW warranty

BLACK Series
FRED and 2.5" SATA with standard and HiVibe connectors

BLACK Series — For EXTREME OPERATING environments, available in standard and non-standard form factors.
M+ Rugged BLACK series solutions perform in:

- –55°C to 95°C Operating temperatures
- Up to 30 GRMS vibration load
- Up to 100G 11ms shock

With a virtually unlimited number of insertions, a meticulously chosen BOM, *BLACK Series* SSDs are built using the most reliable SLC NAND or the latest industrial grade MLC NAND, and are available with rugged SATA or 38999 connectors.
BLACK Series backed by 5-7 year/TBW warranty.

FIPS 140-2 validated and compliant solutions available.

M+ SECURE

FIPS VALIDATED 140-2

https://www.memkor.com
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SELECTED STANDARD SSD's

Form Factor	Series	Capacity Range [1] [GB]	I/F	Read[2] [MB/s]	Write[2] [MB/s]	GRMS	Security (Validated)
2.5"	ORANGE	32 - 4,096	SATA	450-550	60-520	16.3	FIPS 197, FIPS 140-2
2.5"	BLUE[3]	8,192-20,480	SATA	520-550	500-520	16.3	FIPS 197
2.5"	BLACK	32-2,048	SATA	450-550	80-500	30.0	FIPS 197
mSATA	ORANGE	32-512	SATA	400-500	150-350	3.0	FIPS 197
1.8"	ORANGE	32-2,048	SATA	250-550	80-500	16.3	FIPS 197
M.2 2260	ORANGE	128-512	SATA	450-500	300-500	3.0	FIPS 197
M.2 2280	ORANGE	32-1,024	SATA	450-500	80-350	2.0	FIPS 197, FIPS 140-2
M.2 2280	BLUE[3]	2,048-4,092	SATA	450-550	450-520	2.0	FIPS 197
M.2 22110	ORANGE	1,024-2,048	SATA	450-550	450-520	2.0	FIPS 197
3U VPX	BLUE	1,024-20,480	SATA	450-550	450-520	2.5	FIPS 197, FIPS 140-2
U.2/2.5"	ORANGE	512-4,096	PCIe/NVMe	600-1200	1100-1200	16.3	FIPS 197, FIPS 140-2
U.2/2.5"	BLUE[3]	8,192-20,480	PCIe/NVMe	1000-1200	1100-1200	16.3	FIPS 197
M.2 2280	ORANGE	128-512	PCIe/NVMe	800-1000	300-600	2.0	FIPS 197
M.2 2280	BLUE[3]	1,024-4,092	PCIe/NVMe	900-1200	800-1000	2.0	FIPS 197
M.2 22110	ORANGE	1,024-2,048	PCIe/NVMe	900-1200	800-1000	2.0	FIPS 197
3U VPX	BLUE	1,024-20,480	PCIe/NVMe	900-1200	800-1000	2.5	FIPS 197, FIPS 140-2

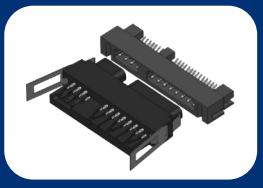
(1) Capacity range covers SLC and MLC NAND based SSDs.
(2) Performance depends on drive capacity and also on the computer system. Typically, the smaller drive capacity, the lower the performance.
(1) SSD has an increased height as compared to the standard to provide more capacity.

PLEASE CONTACT US FOR MORE INFORMATION ON PRODUCTS, OR IF YOU HAVE OTHER REQUIRMENTS THAN LISTED ABOVE.

SELECTED SPECIALTY PRODUCTS

HiVibe© SATA Connector

Standard SATA connectors are rated for 6g RMS vibration and 100-300 insertions. The traditional approach to address these limitations requires extra hardware, space, and cost. With the M+ Ruggedized strategy, MEMKOR offers HiVibe and Nebula, drop-in replacements for standard SATA connectors. Both HiVibe and Nebula are rated for more than 30G RMS vibration, and 20,000-100,000 insertion/removal cycles.



Straddle and Cable HiVibe SATA

MAAD© 192TB 1U SSD

MEMKOR Anything Attached Drive (MAAD) is a 1U, short depth, 19" rack mounted solid state storage that can be configured as a standard SATA, PCIe/NVMe or NVMeoF/ROCE2 storage device. It offers up to 192TB of capacity, reliable operations in extended temperatures and security features that may include FIPS 140-2 applications.

BLUE Series: 1U 19" SSD

FRED© Add-on ATR Storage / Data Loader

Flash Rugged External Drive (FRED) is an up to 4TB storage module that offers high performance, extreme durability, and ease of deployment. It can be connected via cable or directly to ATR or ATR-like enclosures using 38999 connectors. FRED is an excellent replacement for storage cards, freeing up valuable slots for other functions, and extending the life of existing systems. FRED supports MEMKOR standard data-at-rest (DAR) security features, and is available in a FIPS140-2 validated model.

BLACK Series FRED

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MEMKOR

MEMKOR *SECURE, HIGH ENDURANCE, and RUGGED Military SSDs*

Custom Solutions/Rugged connectors available

LIFE CYCLE SUPPORT

MEMKOR specializes in designing and building products for Defense and Aerospace applications, with a focus on ensuring long-lasting deployment. Products are crafted using high-reliability components and firmware customization to deliver exceptional performance. We are dedicated to delivering outstanding support to our customers throughout the entire product life cycle.

FIELD PERFORMANCE AND DFR

MEMKOR closely monitors its reliability performance through our Field MTBF Key Performance Indicator (KPI). This involves tracking the reliability of each series, form factor, and major firmware branch, allowing for the computation of field MTBF for any part number or firmware version. Regular reviews of the MTBF enable continuous improvement of our products. Additionally, MEMKOR incorporates field reliability data into our Design for Reliability (DfR) process, utilizing a proprietary database of field-proven components, including ROHS non-compliant parts and processes when required. To mitigate technical risks associated with heat generation or structural integrity, Finite Element Analysis (FEA) is conducted on all critical SSD designs.

PRODUCTION TESTING

Rugged design and specialized BOM are required for Defense. Every MEMKOR SSD must pass rigorous functional and Acceptance Testing to eliminate risks such as infant mortality, and machine/human errors. This approach guarantees the highest level of reliability and durability, right out of the box.

DESIGN SUPPORT

Creating new computer and computer storage solutions for Defense applications frequently requires pushing the systems' operational envelope beyond industry standards, presenting a significant challenge in the detailed design phase. At MEMKOR, we understand these challenges from firsthand experience, and we are pleased to provide our expertise and experience to assist you through the design process.

LOCKED BOM MANAGEMENT

MEMKOR Locked Bill-of-Materials (L-BOM) management provides customers with reliable Obsolescence Management by regularly scrubbing L-BOM components to identify early warning signs of obsolescence and/or recalls. If such a risk or issue is detected, MEMKOR notifies L-BOM owners through a Product Notification Change (PCN) and offers a Last Time Buy process. Furthermore, MEMKOR collaborates with customers to recommend an updated drop-in replacement and/or alternative solution.

MEMKOR® is an American engineering company specializing in solid-state storage solutions for defense and aerospace applications. Our mission is to provide secure, reliable, and innovative solutions that meet the unique requirements of our customers. We are committed to delivering solutions that are tailored to your technology investment objectives, and we pride ourselves on our ability to deliver on our promises. Your satisfaction is the key to our success.

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WE SUPPORT OUR TROOPS

ISO 9001:2015 Certified