

# CRYSTAL™ CAPABILITIES

## Trusted partner for rugged **AND** secure computer hardware

Autonomous vehicles. Critical power infrastructure. Military missions in austere and contested environments. Vastly different scenarios that all depend on real-time, seamless, secure data processing, storage and transmission from high-performing computer systems. These unpredictable, unmanned and unforgiving environments require proven solutions that protect both equipment and data while delivering unwavering performance. That's why defense and industry leaders choose Crystal Group.

Our reputation for designing and manufacturing the most trusted rugged, reliable and secure computer systems is built on delivering solutions that perform without fail in harsh conditions when safety, accuracy and efficiency are paramount.

Our commitment is to solve your most difficult challenges with solutions tailored to your specific needs. With the agility to collaborate swiftly, we incorporate emerging technologies, cybersecurity, environmental performance and unique requirements so you always have the latest, most reliable systems to achieve today's objectives for tomorrow's success. Because failure is not an option.

## About Crystal Group

Crystal Group, Inc. is a technology leader in rugged, high-performing computer hardware specializing in the design and manufacture of rugged servers, embedded computing, networking devices, displays and data storage for high reliability in harsh environments. An employee-owned and operated small business founded in 1987, we provide the defense, government, commercial and industrial markets with in-house customization, engineering, integration, configuration management, product life-cycle planning and support services.

Our products meet or exceed IEEE, IEC, and military standards, are backed by an industry-leading, 5-plus-year warranty with in-house support, and are manufactured in our Hiawatha, Iowa, USA, facility that is certified to ISO 9001:2015/AS9100D quality management standards.





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## A clear advantage

Our engineers have perfected system design and development techniques to help extend operational life, boost performance and increase reliability while effectively managing size, weight and power, bringing a clear advantage to our customers.

**Cyber secure hardware.** Tamper-evident hardware options coupled with our partners' government certified security features, like rugged FIPS 140-2 SAS solid state drives, NIAP-certified IPsec encryption, key management, intrusion detection and instant data destruction, your critical, confidential data is secure from attempted breaches.

**Rugged chassis.** Milled, not bent, 6061-T651 aircraft-grade aluminum exterior and interior support structures bonded and fastened to the base plate enhance vibration performance, limit weight, and improve thermal and electrical conductivity. Chassis are coated with a hexavalent chromate to maintain electrical conductivity, creating low impedance interfaces.

**Thermal management.** We have decades of experience solving the toughest thermal-management challenges to protect critical components and systems from hot and cold temperature extremes. Using innovative liquid, fan and fanless sealed chassis cooling techniques, we specialize in optimizing thermal performance to extend reliability and operational life.

**Shock isolation and vibration resilience.** We design and develop systems to withstand extreme levels of shock and vibration with solutions that meet or exceed military specifications.

**Rigorous performance standards.** We design and test our systems to meet or exceed a wide variety of strict requirements, standards and specifications, including:

MIL-STD-810	MIL-STD-1275	MIL-STD-461	IEEE 1613
MIL-S-901	MIL-STD-704	MIL-STD-464	IEC 61850
MIL-DTL-901E	MIL-STD-167-1	RTCA DO-160	IEC 62368-1

**State-of-the-art manufacturing facility.** Located in the heart of the USA, our 200,000 square-foot campus houses three buildings with the construction of our new 111,500 square-foot facility in 2018. In addition to being NIST compliant and ISO 9001:2015/AS9100D certified, this factory increased production capacity by more than 50%, created more than 100 new jobs and added state-of-the-art equipment.

**Industry-leading warranty and 24/7 tech support.** Every product we deliver includes a standard five-year warranty and is supported around the clock and around the globe by our expert staff.



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