

Thermite®

High-Powered Ruggedized Computing Solution

Ruggedized Computing System Engineered for Mission-Critical Deployment, Providing Support to both Autonomous and Operator-Controlled Deployments.

Thermite® is a high-performance, ruggedized embedded GPU computing system engineered for mission-critical deployment across air, land, and maritime domains. Designed with a compact, SWaP-optimized architecture and powered by NVIDIA® PASCAL GPU technology alongside multi-core Intel processors, Thermite® delivers exceptional data and graphics processing capability in the harshest operating environments.

Qualified to MIL-STD-810G standards and proven across established defense and autonomous systems programs, Thermite® combines commercial off-the-shelf configurability with defense-grade reliability. From wearable deployment to integration within manned and unmanned vehicles, it provides a scalable, AI-ready computing platform built for demanding operational performance.

Thermite® supports both autonomous and operator-controlled deployments, functioning as a headless processing core for unmanned and remotely operated platforms including AUVs, ASVs, RCVs, and remote-controlled construction systems. It is equally suited for infrastructure inspection and environmental monitoring applications such as bridge surveys, waterfront assessments, and oceanographic buoy stations. Where direct human interaction is required, Thermite® can be paired with a ruggedized, waterproof display and keyboard to provide reliable onboard control in demanding marine environments, including RHIBs, survey vessels, small open boats, and breakwater construction operations. This flexibility enables seamless integration across autonomous systems and field-operated platforms without compromising performance or durability.



Some of the innovative *Thermite®* features available are:



Customizable, High-Powered, Small Form Factor

A compact, highly configurable computing platform that combines powerful processing performance with a small footprint, making it ideal for applications where size, weight, and power efficiency are critical.



Designed for Harsh and Rugged Environments

Engineered and qualified for demanding operational environments, the Thermite® features a ruggedized design tested to military environmental standards, ensuring reliable performance in extreme temperature, vibration, and shock conditions.



Headless Processor

Designed for autonomous and embedded deployments, the Thermite® can operate as a headless processing unit, delivering high-performance computing capabilities without requiring a dedicated display or user interface.



Suitable for Manned/Unmanned Vehicles

Optimized for deployment across airborne, maritime, and land-based platforms, the Thermite® is equally suited to manned and unmanned vehicle applications, including drones, robotics, autonomous systems, and mission-critical sensor payloads.

Thermite can be used as a 'Headless' processor for many autonomous or remotely controlled Applications, such as:



Autonomous Underwater Vehicles (AUV)



Remote Controlled Vessels



Remote Control Construction Machinery (Excavators)



Monitoring Buoys (Ocean, Wave and Tidal Stations)

CPU Intel® 6th generation Xeon® E3-1515M v5 with 8MB Cache

Graphics NVIDIA® Quadro® Embedded P2000
4GB 128BIT GDDR5
768 CUDA cores

Memory 32GB DDR4 ECC SO-DIMM
64GB DDR4 ECC SO-DIMM Configurable

Storage 256GB M.2 iSLC SSD
Optional removable SSD

Video Output Two HDMI 1.4 Ports

Standard Interfaces (High Configurability) Four USB 2.0 ports
Two USB 3.0 ports
Two Gigabit Ethernet (GigE) ports
Two configurable serial I/O ports: RS-422, RS-485, or RS-232
Audio I/O
Fan Connection (power and status ports)

Operating System Linux or Windows

Power 18 V to 33 V Input, MIL-STD 1275E compliant
Optional power button with indicator
Optional MIL-STD-704 power supply
Max. - 150W
Nom. - 35W

Ruggedization IP67
Designed to MIL-STD-810G Environmental
Designed to MIL-STD-461F EMI/EMC

Thermal Standard Conduction Cooled or forced air-cooling
Storage Temp: -55o to 85o C
Operating Temp: -40o to 71o C

Dimensions 210 mm x 130 mm x 85 mm
(8.3" x 5.2" x 3.4")

Weight 4.8 lbs (2.2 kg)

Echoscope®, Echoscope4G®, Echoscope PIPE®, Echoscope® Ping Pong, Echoscope® 5D, Echoscope® 6D, Ping-Pong Sonar®, Ping-Pong Echoscope®, Echoscope PIPE Nano Gen Series®, 4G USE®, CodaOctopus®, F180 Series®, F280 Series® (Reg, Us Pat & TM off) are trademarks of Coda Octopus. The information in this publication was correct when it was published but specifications may change without notice. Photos are included for illustrative purposes only and actual items may differ in appearance. Coda Octopus does not assume responsibility for typographical or photographic errors.

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