

CS3100 Series

High-performance computer platform for the tactical edge

CS3100 is the next-generation rugged computing platform, engineered for applications requiring enhanced performance, graphics acceleration, and system scalability. Compared to the CS2200, the CS3100 is built on a modern COM-HPC architecture that enables greater expansion capabilities, higher data throughput, and support for more powerful NVIDIA GPU configurations. Designed to handle increasingly demanding edge workloads, the CS3100 combines rugged reliability with future-ready architecture, making it the ideal choice for computing intensive mission systems.

Key features

Customizable design	Modular design for use case optimization.
Compact form factor	SWaP optimized design
High-speed storage	High speed SSD solutions
Remote management	Integrated remote management
Secure Boot	Hardware-validated cryptographic boot protection

Capabilities

CS3100 is a rugged high-performance computing platform designed for data-intensive operations at the tactical edge. Engineered to support demanding mission workloads, it provides the processing capacity required for advanced analytics, sensor integration, AI-enabled applications and real-time decision support in challenging operational environments.

The capabilities of the CS3100 series include:

- **Designed for future scalability**, with increased power budget, expansion capabilities, and support for newer interface technologies.
- **Compact form factor**: The 19"/2 form factor enables half-rack integration, which saves space and allows mounting in any orientation or angle.
- **Versatile connectivity**: Equipped with a wide range of rugged interfaces, including fiber Ethernet, USB, and video outputs.
- **Remote management**: iKVM for system administration and support.

Form factors

The CS3100 series offers different form factors depending on best fit for a particular use case.

19"/2 Half Rack



- Efficiency optimized performance
- Standard or customized configurations
- Form, fit & function over generations

Customized form factor



- Efficiency optimized performance
- Project driven offering and form factor

MilDef 19"/2 modular design

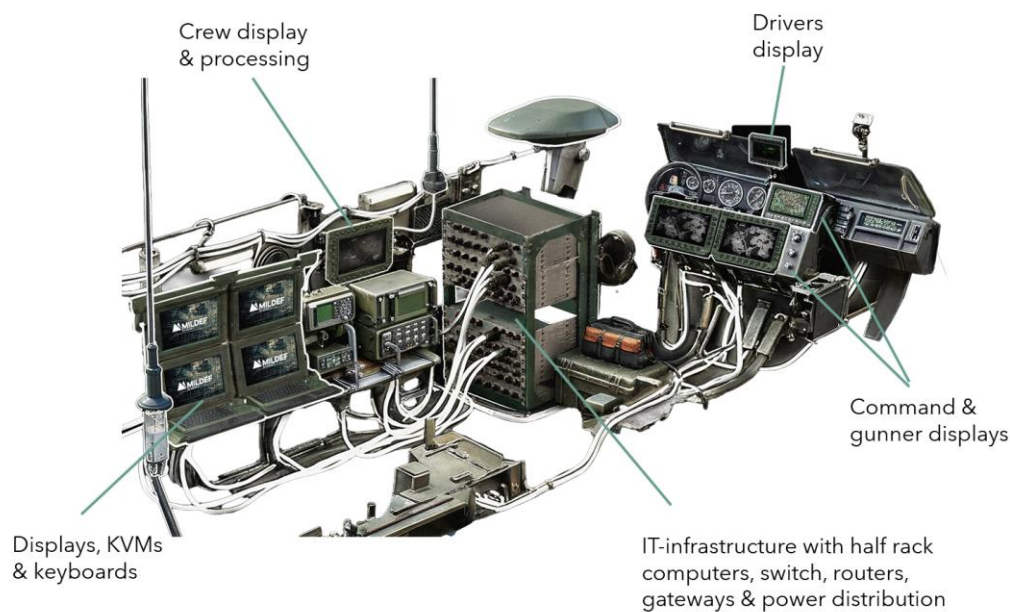
The MilDef 19"/2® addresses the requirements for small, high-performance IT hardware. The modular design and broad product offering (computer, network, power and peripherals) enables the use of 19"/2® units as building blocks for creating built to purpose solution. Same form factor over multiple generations enable reuse of cable, mounting solution etc for midlife upgrades along the system life cycle.

Solution provider

MilDef offers solution and integration delivering seamless, end-to-end solutions by integrating hardware and software into complete systems that meet customer requirements. Managing integration projects/programs to ensure alignment with mission objectives/business strategy and technological capabilities.

Hardware ECO-system

Our hardware offer includes all the building blocks for complete IT infrastructure for the tactical edge, such as displays, network products, power products, docking stations, mounting solutions etc.



Use case

The CS3100 series is a core component of many tactical platform designs. Some use case examples are:

- Tactical Command and Control** Acts as the primary computing node in mobile command posts, tactical operations centers or vehicle-based C2 systems.
- **Counter-UAS and Air Defense** Processes radar, EO/IR, RF, and tracking data to detect, classify, and track aerial threats. GPU acceleration enables advanced target recognition and real-time analytics.
- **Autonomous and Unmanned Systems** Functions as the mission computer for UGVs, USVs, and UAVs, performing sensor fusion, route planning and vehicle control while processing data locally.

Specifications

Computing capability			
Processor	Intel i7-13800HRE 14 Core (6P+8E) / 20 threads	Security	Error Correction Code (ECC), Intel vPro, TPM2.0, Secure Boot.
Memory	Up to 96GB DDR5 ECC	Video	Options for DVI, HDMI, DP, VGA and SDI
Graphics	Intel® Iris® Xe Graphics eligible or NVIDIA GPU	Communication Interfaces	RS232/422/485, CAN, USB 3.2 Gen 1, USB 2.0
Storage	M2 NVME SSD or 2.5" SATA SSD Hardware RAID options	Remote Management	iKVM
Network	1G or 10G Ethernet NICs Built in switch options	Other	Integration of PCIe card available at request as well as customizable BIOS
Environmental			
MIL-STD-810			
Shock operating	Functional Shock. 40G/11ms	Noise level	Max noise level of 60 dB SPL 1 m (3.3 ft)
Temp. operating	-40 to 55°C (-40 to 131 °F)*	Salt fog	5 ± 1%
Temp. storage	-40 to 71°C (-40 to 160 °F)*	Temp. shock	55 °C (131 °F) / -40 °C (-40 °F)*
Humidity	Aggravated, 95 ± 4% RH	Vibration	Rotary wing aircraft - helicopter
IP Class	IP65*		Truck/trailer - loose cargo
Low air pressure	Rapid Decompression - 2 438 m/12 192 m (8000 ft / 40000 ft)		Ground vehicles
	Operation/Air Carriage - 4 572 m (15,000 ft)		- ground mobile tracked - ground mobile wheeled
Optional standards			
RTCA/D0160, VG, DEFSTAN, MIL-STD, etc can be included on request.			
EMC			
MIL-STD-461			
EMI/EMS	Ground Army	ESD	EN61000-4-2:2009 Level 3 EN55024:1998 Performance criteria B
Optional standards			
RTCA/D0160, VG, DEFSTAN, MIL-STD, etc can be included on request.			
Power			
Vehicle Power	MIL-STD-1275		
Optional standards			
VG, DEFSTAN, MIL-STD, etc can be included on request.			

*Higher available on request