

ESW2200 Series

The Tactical Crew Station Switch

Engineered to operate as the primary Edge/Access layer for crew stations, tactical displays, and on-board software-defined radios. Seamlessly connecting local 1G devices into a wider tactical network, it brings an enterprise-grade managed Layer 3 architecture directly to the vehicle crew, protected by tactical zeroization and hardware-validated secure boot for high-risk forward deployments.

Key Features

Primary Network Role	Fully Managed Layer 3 Edge/Access Switch
Ethernet Interfaces	Up to 26 ports (24 x 1G copper access, 2 x 10G fiber uplinks)
Non-Blocking Throughput	Up to 44 Gbps line-rate capacity
Network Resilience	Sub 50-ms ring recovery via advanced resilience protocols
MACsec Encryption	Hardware-rated L2 encryption available on all 1G access ports
Secure Boot	Hardware-validated cryptographic boot protection
Tactical Zeroization	Wiping of encryption keys and configuration data during an emergency

Capabilities

The ESW2200 series bridges the gap between sophisticated enterprise-grade management and rugged, high-risk tactical deployments. Built around a fully managed Layer 3 switch architecture, it provides network engineers with advanced traffic shaping, comprehensive access control lists (ACLs), and intelligent policy-based switching.

Security is enforced directly at the hardware layer; a cryptographic secure boot process prevents the execution of unauthorized firmware, while a tactical zeroization trigger allows operators to wipe encryption keys and configuration data during an emergency. For high-availability topologies, it utilizes advanced sub-50ms ring resilience protocols, ensuring that communication lines remain active even if a physical cable is severed.

The capabilities of the ESW2200 series include:

- **Advanced L3 Management:** Enterprise-grade Layer 3 switching, traffic prioritization, and policy enforcement.
- **Tactical Panic Erase:** Zeroization trigger for data destruction.
- **Cryptographic Integrity:** Hardware-validated secure boot protects against malicious code injection.
- **Sub-50ms Recovery:** High-speed ring resilience protocols guarantee continuous network uptime.
- **Defended Tactical Edge:** Engineered for active military usage as a secure access switch in frontline armoured vehicles and mobile field deployments.

Form factors

The ESW2200 series offers different form factors depending on best fit for a particular use case.

Standard 19"/2 form factor	Customized form factor
	
▪ Form, fit and function over multiple generations ▪ Long-term roadmaps	▪ Project driven form factor

MilDef 19"/2 modular design

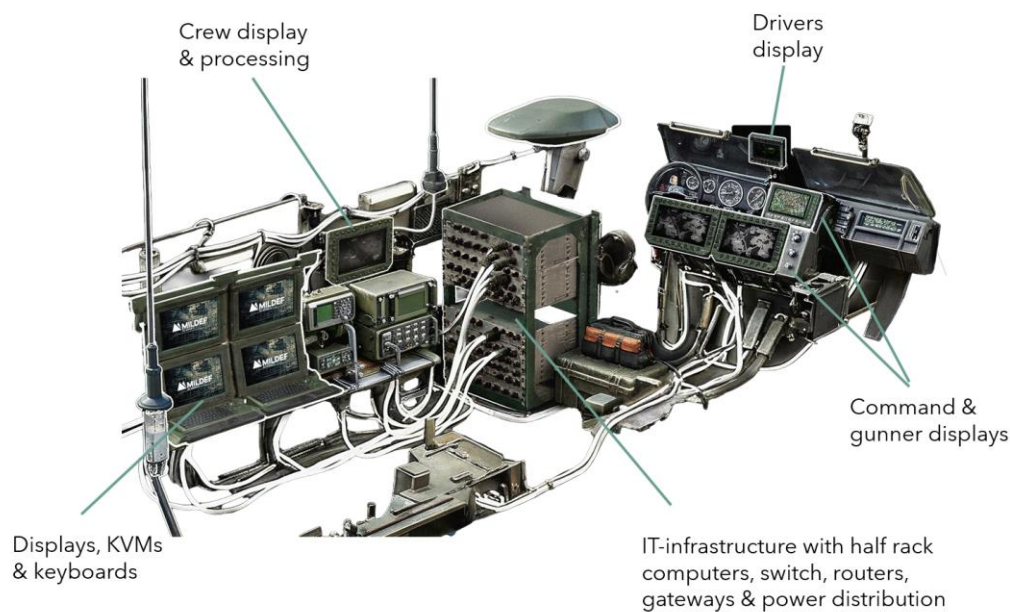
The MilDef 19"/2® addresses the requirements for small, high performance IT hardware. The modular design and broad product offering (computer, network, power and peripherals) enables the use of 19"/2® units as building blocks for creating built to purpose solution. Same form factor over multiple generations 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 offering including 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 ESW2200 series is a core component of many tactical platform designs. Some use case examples are:

- **Armoured Vehicles:** Provides secure Layer 3 networking for vetronics, mission systems, radios, sensors, and battle management equipment.
- **Remote Weapon Stations:** Connects fire control systems, EO/IR sensors, operator stations, and vehicle networks while enforcing secure access and network segmentation.
- **ISR & Surveillance Systems:** Integrates cameras, radar, sensor fusion processors, storage, and communications equipment with resilient networking and high availability.
- **Command Posts & Mobile Deployments:** Serves as a secure tactical access switch for command shelters, communication nodes, and field deployed networks.

Specifications

System & Interfaces			
Switch Platform	Cisco ESS3300	Switching Architecture	Managed Layer 3
Primary Network Role	Edge/Access Switch - Primarily device facing - Connects end-devices - Layer 3 capable but focused on subsystems	Boot-up Time (typical)	2-3 minutes
Ethernet Ports & Interfaces	Up to 26 ports 24 x 1G copper access ports 2 x 10G fiber uplinks	PoE Capability	- PoE (IEEE 802.3af) - PoE+ (IEEE 802.3at)
Switching Capacity	Up to 44 Gbps Non-blocking line-rate		
Core Capabilities			
Network Services	Layer 2/3 Switching, VLANs, Access Services	Secure Boot	Yes
Security Functions	802.1X, DHCP Snooping, DAI, ACLs	Zeroization	Yes
Traffic Prioritization (QoS)	Advanced QoS Policies	MACsec	Conditional 1G access ports only
Tactical & Mission Services			
Time-Sensitive Networking	- PTP (IEEE 1588v2) - NTP (RFC 5905)	Resilience Features	Cisco REP, HSRP, VRRP, MSTP
Multicast Services	Dynamic Layer 3 Multicast Routing		
Deployment & Architecture			
Primary Mission Use Case	Managed Access Switching for Platform Subsystems	Network Position	Access Layer
Typical Deployment	Vehicle Subsystems, Communications Shelters, Access Networks		
Environmental			
MIL-STD-810			
Shock operating	Functional Shock. 40G/11ms	Noise level	Max noise level of 40 dB SPL 1 m (3.3 ft)
Temp. operating	-40 to 65°C (-40 to 149 °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 8000 ft / 40000 ft		Ground vehicles - ground mobile tracked
	Operation/Air Carriage 15,000 ft		Ground vehicles - 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	CS118
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