

RAPTOR-EPSILON SWITCH Rugged
Embedded Gigabit Ethernet System with wide
voltage input and serial management port



FEATURES

Self contained Ethernet switch system in rugged enclosure

8 10/100/1000Mbps copper-twisted Ethernet ports with non-blocking wire-speed performance

Multiple protocol support: IEEE 802.1D, IEEE 802.1w, IEEE 802.1s, and IEEE 802.1X

Flexible link aggregation support based on Layer-2 through Layer-4 information (IEEE 802.3ad)

8K MAC addresses and 4K VLANs (IEEE 802.1Q), as well as 8K IP multicast group support

Jumbo frame support at all speeds

Dual leaky bucket policers with remarking and statistics

Multicast and broadcast storm control, as well as flooding control

Rapid Spanning Tree protocol (RSTP) and MSTP

8 priorities and 8 QoS queues per port with scheduling

Shaping/policing per queue and per port

Built-in 416MHz MIPS 24KEC microcontroller for configuration and management

RS-232 serial port provides out-of-band management interface

Wide input voltage range: +5 to +32VDC

-40°C to +85°C operating temperature

Highly resistant to shock and vibration

MIL-STD-202G tested

Aluminum enclosure, IP65 environmental protection

MIL-DTL-38999 connectors for all I/O

MIL-STD-461 compliant with integrated filter

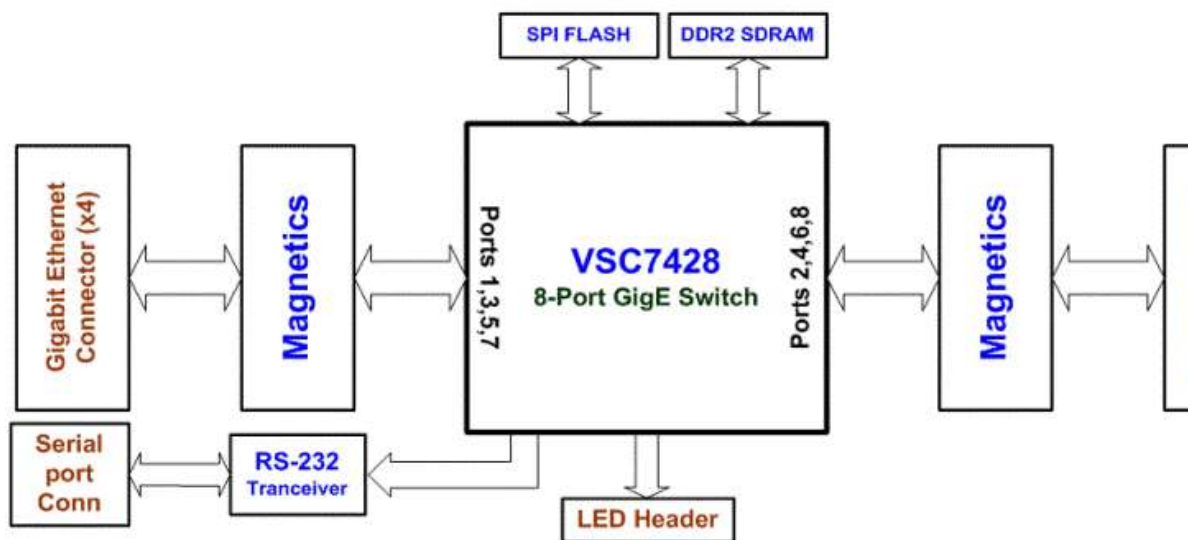
The rugged Raptor-Epsilon Ethernet switch system is packed with desirable features that provide enhanced performance and reliability. Layer 2+ switch capabilities provides advanced features such as VLAN, aggregation, jumbo frame support, programmable multi-layer classifier with 8 QoS queues per port, DSCP remarking for IPv4 and IPv6 frames, and multicast/broadcast storm control/flooding control. Automatic power savings intelligence powers down used ports and dynamically adjusts the power output on each active port based on cable length.

The standard system configuration includes MIL D38999 connectors with four 8-wire Gigabit ports per connector, one RS-232 configuration port connector, and one power

connector. The serial port is available on the first Ethernet connector. Custom cable configurations, enclosure modifications, and coatings are also available.

An RS-232 serial port enables communication between the system's on-board management microcontroller and a host processor for out-of-band management. The built-in microcontroller is also accessible via a web management interface over any of the Ethernet ports. Input power is provided through the wide-range +5-32VDC power supply and feature MIL-STD-461 compliance. To support the temperature extremes of fixed and mobile applications in both indoor and outdoor environments, the switch supports operation over -40°C to +85°C.

Raptor-Epsilon's advanced Ethernet switch includes two innovative features that enable automatic power savings. The switch can detect unused Ethernet ports on network devices and power them down or place them in stand-by mode. Additionally, the switch actively adjusts the power level needed based on cable length, saving energy on links shorter than the 100m maximum specified length. The system is loaded with all required firmware, enabling its immediate operation without any development effort. The included web interface provides an intuitive GUI for use in configuring and managing switch functionality.



◆ Specifications

Gigabit Ethernet Switch

Switch Type	8, 12, 13 or 14-port, layer 2+ switch Built-in 416MHz MIPS 24KEC microcontroller for configuration and management
Number of Ports	8 or 12 10/100/1000Mbps Ethernet ports with non-blocking wire-speed performance 1 1GB SFP port and 1 2.5GB SFP port (optional)
On-board Memory	4MB packet memory Shared memory buffer with per-pot and CoS memory management
MEF	Hierarchical MEF compliant policing & scheduling MEF E-Lane, E-Line, and E-Tree services
Frame Buffer	Jumbo frame support at all speeds
VLAN	IEEE 802.1Q VLAN switch with 8K MACs and 4K VLANs Push/pop up to two VLAN tags Independent & shared VLAN learning (IVL, SVL)
Multicast	IPv4 and IPv6 multicast group support
Remarking	Dual leaky bucket policers with remarking and statistics
Classifier	8 priorities and 8 CoS queues per port with strict or deficit-weighted round robin scheduling Shaping/policing per queue and per port
Storm Control	Policing with storm control and MC/BC protection
Link aggregation	IEEE 802.3ad
Security	Advanced security and prioritization available through multistage TCAM engine
Rapid Spanning Tree Protocol	IEEE 802.1W and MSTP
Power Management	ActiPHY and PerfectReach power management VeriPHY cable diagnostics
Serial Port	1 RS-232 port for host interface, 230kbps max

Standalone Capable	Standalone network switch, or in combination with a host computer
Indicator LEDs	Up to 28 status LEDs, 2 per port 2 general purpose LEDs
General	
Power Input	+5 to +32V DC/DC power input
Power Consumption	1.8W plus 0.45W per active port at +5VDC
Dimensions, not including mounting flanges	7.5"L x 6.5"W x 2.8"H without SFP ports 9.5"L x 6.5"W x 2.8"H with 1 SFP port 11.0"L x 6.5"W x 2.8"H with 2 SFP ports
Operating Temperature	-40°C to +85°C (-40°F to +185°F)
Weight	Up to 5.0lbs (2.3kg)
Shock	MIL-STD-202G compatible
Vibration	MIL-STD-202G compatible
Enclosure	Sealed construction, IP65 rated
Chassis	Aluminum T6061, HBW or anodized
Connectors	MIL-DTL-38999 Series III TV K-finish passivated stainless steel, service rating M
Cooling method	Conduction cooling or add-on heat sink
RoHS	Compliant
Customization	Various chassis & connector configurations available

Models and Accessories

Raptor-Epsilon Switch

Available Models:

RS-EG8-002 Raptor Ethernet Switch System with 8 copper Gigabit Ethernet ports and Layer 2+ management software Available

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