

RAPTOR ETHERNET SWITCH

Rugged 8/12/13/14-Port Managed Ethernet System with 8 or 12 Gigabit Ethernet Ports and 2 Optional SFP Fiber Ports



Highly Advanced Gigabit Ethernet Switch

The Raptor Ethernet Switch is based on the Epsilon family of Gigabit Ethernet switches. It can be configured for 8, 12 or 14 ports and can be used standalone without any connection to a computer, or in conjunction with a host system.

Layer 2+ Management Capabilities

The standalone switch offers full layer 2 functionality and some features of layer 3. It also includes a built-in microcontroller for configuration and management which can be accessed either out-of-band through a RS-232 port, or in-band via one of the Ethernet ports.

Embedded Software

The Raptor switch comes with all required software and firmware, enabling immediate operation without any development effort. The embedded web-based management interface provides an intuitive GUI for use in configuring and managing switch functionality.

Rugged Design

The Ethernet server was designed with rugged applications in mind. Extended temperature operation of -40°C to +85°C is tested and guaranteed. The system is compatible with MIL-STD-202G for shock and vibration.

- ◆ Ethernet switch system in rugged enclosure
- ◆ 8 or 12 10/100/1000Mbps copper-twisted Ethernet ports with non-blocking wire-speed performance; 1 1GB and 1 2.5GB SFP fiber ports optional
- ◆ 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
- ◆ Operates autonomously or with a host SBC
- ◆ RS-232 serial port for out-of-band management
- ◆ +5 to +32V wide voltage input
- ◆ Extremely rugged with -40°C to +85°C (-40°F to +185°F) operating temperature
- ◆ Aluminum enclosure -- IP65 environmental protection
- ◆ Highly resistant to shock & vibration (MIL-STD-202G)

Epsilon-12G2™ 14-Port Gigabit Ethernet Switch
Software version 1.0.2

Port	Link	Speed		Flow Control		Maximum Frame Size	Excessive Collision Mode
		Current	Configured	Current Rx	Current Tx		
1	● 100fx	Auto	<>	×	×	9600	<>
2	● 1Gfx	Auto	Auto	×	×	9600	Discard
3	● 1Gfx	Auto	Auto	×	×	9600	Discard
4	● 1Gfx	Auto	Auto	×	×	9600	Discard
5	● 1Gfx	Auto	Auto	×	×	9600	Discard
6	● 1Gfx	Auto	Auto	×	×	9600	Discard
7	● 1Gfx	Auto	Auto	×	×	9600	Discard
8	● 1Gfx	Auto	Auto	×	×	9600	Discard
9	● 1Gfx	Auto	Auto	×	×	9600	Discard
10	● 1Gfx	Auto	Auto	×	×	9600	Discard
11	● 1Gfx	Auto	Auto	×	×	9600	Discard
12	● 1Gfx	Auto	Auto	×	×	9600	Discard
13	● 1Gfx	Auto	Auto	×	×	9600	Discard
14	● 1Gfx	Auto	Auto	×	×	9600	Discard

Save Reset

Raptor Ethernet Switch System

Specifications

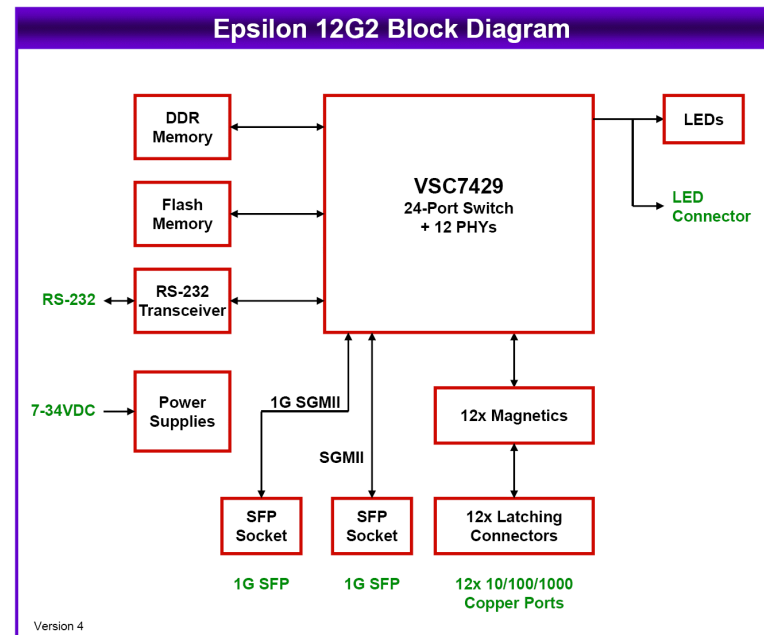
Ethernet switch	8, 12, or 14-port, layer 2+ switch Built-in 416MHz MIPS 24KEC microcontroller for configuration and management
Number of ports	8 or 12 10/100/1000Mbps Ethernet ports with non-blocking wire-speed performance 1 1GB SFP port and 1 2.5GB fiber port optional
On-board memory	4Mb packet memory Shared memory buffer with per-port & 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
RSTP	Rapid spanning tree protocol (IEEE 802.1W) and MTSP
MIBs	Support for WebStax and CEServices
Power management	ActiPHY and PerfectReach power management; VeriPHY cable diagnostics
Serial port	1 RS-232 for host interface, 230kbps max
Indicator LEDs	Up to 28 status LEDs, 2 per port 2 general purpose
Power input	+5V to +32V DC/DC power supply
Power consumption	1.8W + 0.45W per active port
Operating temperature	-40°C to +85°C (-40°F to +185°F)
Shock	MIL-STD-202G compatible
Vibration	MIL-STD-202G compatible
Environmental	500 hours salt spray resistance
Dimensions	7.0"L x 5.5"W x 3.5"H 8.5"L x 6.5"W x 2.9"H 10.0"L x 6.5"W x 3.9"H model dependent, not including mounting flanges
Weight	5.0lbs (2.3kg)
Enclosure	Sealed construction, IP65 rated
Connectors	MIL D38999 circular with plating options
Chassis	Aluminum T6061, HBW or anodized
RoHS	Compliant upon request

This rugged Ethernet switch system is packed with desirable features that provide enhanced performance and reliability. Layer 2 management capabilities provides advanced features such as VLAN, aggregation, jumbo frame support, programmable multi-layer classifier with four QoS classes, 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. A separate serial interface enables access to all management functions without occupying an Ethernet port.

A wide-range voltage +5 to +32VDC input provides extra flexibility, while the full industrial operating temperature range enables use in vehicle applications or harsh environments.

The standard system configuration includes MIL D38999 connectors with four 8-wire Gigabit ports per connector and one power connector. The serial port is available on the first Ethernet connector. The two optional SFP ports are provided on one additional connector for each port.

Custom connectors, cable configurations, enclosure modifications, and coatings are also available.



Ordering Information

RS-EG12F2	Raptor Ethernet Switch System with 14 Gigabit Ethernet ports: 12 copper, 1 1GB fiber, 1 2.5GB fiber
RS-EG12F1	Raptor Ethernet Switch System with 14 Gigabit Ethernet ports: 12 copper, 1 1GB fiber
RS-EG12	Raptor Ethernet Switch System with 12 copper Gigabit Ethernet ports
RS-EG8	Raptor Ethernet Switch System with 8 copper Gigabit Ethernet ports